



**A BOTTOM-UP PARTICIPATORY GOVERNANCE
INSTITUTIONAL FRAMEWORK FOR
SUSTAINABLE COMMUNITY DEVELOPMENT
IN A MALAYSIAN SUB-URBAN AREA**

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List of Abbreviations

AIM	Amanah Ikhtiar Malaysia (Endeavour Trust Of Malaysia)
AUC	African Union Commission
CBOs	Community Based Organizations (Organisasi Berasas Komuniti)
CCC	Community's Capability and Capacity
COP	Conference of Parties
COP2	Conference of Parties 2
COP3	Conference of Parties 3
COP4	Conference of Parties 4
COP5	Conference of Parties 5
COP6	Conference of Parties 6
COP7	Conference of Parties 7
CSD	Commission on Sustainable Development
DANCED	Danish Cooperation on Environment and Development
DBKU	Dewan Bandaraya Kuching Utara (Kuching North City Hall)
DETR	Department for Environment Transport, and Regions
DOQOL	Diamond of Quality of Life
EC	European Commission (Suruhanjaya Eropah)
ECOSOC	Economic and Social Council of the United Nations
ED	Education Department (Jabatan Pendidikan)
EPA/	Environmental Protection Agency/
USDA	United States Department of Agriculture
EPU	Economic Planning Unit (Unit Perancangan Negeri)
EPU, PMD	Economic Planning Unit of Prime Minister's Department
EPSM)	The Environmental Protection Society of Malaysia
EU	European Union
EW	Egan Wheel
FELDA/	Federal Land Development Authority
(LKTP)	(<i>Lembaga Kemajuan Tanah Persekutuan</i>)
FO/FA	Fisherman Organisation/ Fisherman Association
(PN)	(<i>Persatuan Nelayan</i>)
GAP	GAP Analysis

GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Green House Gases
GIF	Governance Institutional Framework
GNP	Gross National Product (Produk Negara Kasar)
GSCE/ (SPMA)	General Certificate for Secondary Education (Sijil Pendidikan Menengah Awam)
IUCN	International Union for the Conservation of Nature and Natural Resources
JKKK/ (VSDC)	Jawatankuasa Kemajuan dan Keselamatan Kampung (Village Development Safety Committee)
JP	Jabatan Perikanan/ (Fishery Department)
JPA	Jabatan Perkhidmatan Awam (Public Service Department)
JPM-EPU / (PMD-EPU)	Jabatan Perdana Menteri- Unit Perancangan Ekonomi / (Prime Minister's Department- Economic Planning Unit)
JPOI	Johannesburg Plan of Implementation
JPN	Jabatan Pendaftaran Negara (State Department of Registration)
JPNIN	Jabatan Perpaduan Negara dan Integrasi Nasional / (Department of National Unity and National Integration)
KeTTHA/ (MEGTW)	(Kementerian Tenaga, Teknologi Hijau dan Air)/ Ministry of Energy, Green Technology and Water
KB	Komuniti Bestari
KJM	Kejiranan Mesra (Caring Neighbourhood)
KNCH	Kuching North City Hall (DBKU)
KOPERDESA	Koperasi pembangunan Desa (Rural Development Cooperative)
KPG	Kampung (Village)
KPKT-JPBD	Kementerian Perumahan dan Kerajaan Tempatan (Ministry of Housing and Local Government - Department of Town and Country Planning)
KPM (MEM)	Kementerian Pelajaran Malaysia/ Ministry of Education Malaysia
	Kuching Rural District Council (Majlis Daerah Luar Bandar)
KRDC	Kuching)

KRT	Kejiranan Rukun Tetangga (Neighbourhood Watch Area)
KSCC	Kuching South City Council (Majlis Bandar Kuching Selatan)
KWB	Kuching Water Board (Lembaga Air Kuching)
LA 21	Local Agenda 21 (Agenda Tempatan 21)
	Land Custody and Development Authority
LCDA	(Lembaga Pembangunan dan Lindungan Tanah)
	Lembaga Kemajuan Ikan Malaysia
LKIM	(Fisheries Development Board, Malaysia)
LESTARI- (UKM)	Institute for Environment and Development- (Universiti Kebangsaan Malaysia)
LUDA	Local Urban Distress Area
	Majlis Amanah Rakyat
MARA	(Council of Trust for the Indigenous People, CTIP)
MBKS	Majlis Bandaraya Kuching Selatan (Kuching South City Council)
	Ministry of Housing and Local Government
MHLG	(Kementerian Perumahan dan Kerajaan Tempatan)
MKN	National Security Council (Majlis Keselamatan Negara)
MLGCD/ (KKTPK)	Ministry of Local Government and Community Development / (Kementerian Kerajaan Tempatan dan Pembangunan Komuniti)
MOF	Ministry of Finance (Kementerian Kewangan)
MP	Member of Parliament (Ahli Parlimen)
MURNInet	Malaysian Urban Rural National Indicators
NC	Natural Capital
NGO	Non-Government Organization (Pertubuhan Bukan Kerajaan)
NRE	National Resources and Environment
ODPM	Office of Deputy Prime Minister (Pejabat Timbalan Perdana Menteri)
PBB	Pesaka Bumiputera Bersatu (United Traditional Bumiputera Party)
PhD	Doctorate of Philosophy (Doktor Falsafah)
PIBG	Persatuan Ibu Bapa dan Guru (Parent-Teacher Association)
PLI	Poverty Line Income (Pendapatan Garis Kemiskinan)
PMC	Padawan Municipal Council (Majlis Perbandaran Padawan)
PN	Persatuan Nelayan (Fisherman Association)

POA	Plan Of Action (Pelan Tindakan)
PTA	Parent Teacher Association (Persatuan Ibu Bapa dan Guru)
PTPTN	Higher Education Fund Corporation
R & DO	Resident and District Office (Residen dan Pegawai Daerah)
RCT	Randomized-Controlled Trial (
RELA	Jabatan Sukarelawan Malaysia (Malaysian Peoples' Volunteer Corps)
ROS	Registrar of Society (Pendaftar Pertubuhan)
RPD	Rich Picture Diagram
RT	Rukun Tetangga (Neighbourhood Watch)
SABERKAS	Sarawak United National Youth Organisation (Pertubuhan Belia Kebangsaan Sarawak)
SALCRA	Sarawak Land Consolidation and Rehabilitation Authority (Lembaga Pemulihan dan Penyatuan Tanah Sarawak)
SC	Sustainable Community
SCD	Sustainable Community Development
SCDC	Sustainable Community Development Committee
SEB	Sarawak Energy Board
SECURE	Socio Cultural, Economic, Community and Institutional Capacity, Urban Structure and Environment
SEDC	Sarawak Economic Development Corporation (Perbadanan Pembangunan Ekonomi Sarawak)
SLDB	Sarawak land Development Board (Lembaga Kemajuan Tanah Sarawak)
SMK	Sekolah Menengah Kebangsaan/ (National Secondary School)
SO	Strengths-Opportunities
SPSS	Statistical Package for the Social Sciences
ST	Strengths-Threats
SWOT	Strengths Weaknesses Opportunities Threats analysis (Analisis Kekuatan, Kelemahan, Peluang dan Kelemahan)
TEKUN	Tabung Ekonomi Kumpulan Usaha Niaga (Economic Business Group Fund)
TOWS	Threats Opportunities Weaknesses Strengths analysis

U & I	Urgency and Importance
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development (Persidangan Bangsa-Bangsa Bersatu mengenai Perdagangan dan Pembangunan)
UNECA	United Nation Environmental Commission of Africa
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention On Climate Change
UNCED	United Nations Conference on Environment and Development
UNIMAS	Universiti Malaysia Sarawak
UOW	University of Wisconsin
USA	United State of America
	Village Development and Security Committee
VSDC	(Jawatankuasa Keselamatan dan Kemajuan Kampung, JKKK)
VSCDC	Village Sustainable Community Development Committee
WCED	World Commission of Environment and Development
WI	Women's Institute (Perkumpulan Wanita)
WO	Weaknesses-Opportunities
WT	Weaknesses-Threats
WWF	World Wide Fund (Tabung Sedunia)

Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

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Dedication

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ABSTRACT

The concern in governance institutional framework for a sustainable community development has been recognised as being a major social, economic and environment concern which has been a focal point of the United Nation and deliberated in Rio+20 summit. The UNEP (2012) report recognised that the present governance institutional framework is weak and UNECA (2012) claimed that it did not permeate sustainability. This has led to the development of this framework to guide practitioners to deliver higher and improved sustainability standards for their sustainable community development initiatives at the local level in Malaysia. This study explores the level of sustainability in seven suburban villages under the jurisdiction of Dewan Bandaraya Kuching Utara (DBKU) in Sarawak, Malaysia. In particular, the study attempts to determine to what extent its current governance and the organizational structure facilitate sustainable development. The aim of the research is to develop a participatory bottom-up governance institutional framework for a sustainable community vision that can be implemented to attain sustainable communities in the villages. To answer the research questions, aim and objectives were set out for the study a mixed method approach was adopted combining a qualitative and quantitative methodology. A qualitative data was collected through semi-structured interviews with seven community leaders from seven villages involved in the delivery of community development at the villages. A quantitative data collected through a questionnaire survey from 300 household heads at the villages. This was analysed using Thematic Analysis, SWOT and triangulated using TOWS Matrix. These villages are classified into sustainable and unsustainable (self-sustaining and sustentation. The study identified the key causal factors that hinder the sustainability. The GAP Analysis carried out with the experts revealed that the governance institutional framework is the key causal factor hindering the attainment of sustainability. This finding led to a development of a participatory bottom up governance institutional framework using Delphi Method. The framework outlines thirteen strategies needed to naissance the sustainable community development in a suburban setting. To implement the strategies, a guideline is needed and a workshop needs to be conducted involving the community leaders, officers of the local authority and other stakeholders.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter will discuss the background and rationale of the research, clarifying its aims and objectives followed by a discussion of the research questions and a brief explanation of the methods used and their limitations. It will also discuss about sustainable community development (SCD) and the conditions necessary to achieve SCD. Finally, this chapter presents the structure and organisation of the thesis and its content.

1.1 Research Background

This section discusses the global scenario of the global institutional framework and also the situation in the developing countries with reference to Africa and expounds on the concept of sustainable development governance. The current policy and practices of sustainable development and sustainable community development in Malaysia, Sarawak, Local Government and at the village level is also explained. The research study area is described in detail. The justification and rationale for conducting this research and finally the structure of this thesis is presented.

1.2 Global Governance Institutional Framework and Sustainable Development

IUCN Report (2012) stated that the United Nations has long been an active player in shaping frameworks for global sustainable development and environmental governance, beginning in Stockholm. This display of concern is also recognised as the after effects of the Rio Conference. The conference initiated the formation of the United Nations Environment Program (UNEP), which was made through United Nations General Assembly Resolution 2997 (XXVII) on 15 December 1972 as the United Nations System's environmental authority. The conference additionally established the Commission on Sustainable Development (CSD) which highlights the concern for governance institutional framework. The CSD is planned essentially to

monitor, implement and finance the Agenda 21, set up another United Nations Department for Policy Coordination and Sustainable Development and also an Inter-Agency Committee on Sustainable Development (UNEP, 2012).

This concern for institutional structure was supplemented by the establishment of the Earth Council (an autonomous, non-governmental association intended to advance and further the execution of the agreements made at the Earth Summit) and the formation of the special funding entity known as the Global Environment Facility. In this manner, the institutional issues were considered by the World Summit on Sustainable Development in 2002. Consecutively, the Johannesburg Plan of Implementation (JPOI) includes a section on "Institutional structures for sustainable development". The JPOI presents a progression of duties that strengthen and enhance the institutional frameworks administration at all levels thus increasing the effectiveness and efficiency by curtailing overlap and duplication of exercises of worldwide associations, inside and outside the United Nations framework (UNEP, 2012).

UNECA (2012) reported that the Institutional and Strategic Framework for Sustainable Development's main purpose is integrating the three Pillars of Sustainable Development. Furthermore, the Rio +20 Side Event Brief suggested that an effective and well-coordinated institutions and strategies are essential to achieve a balanced integration of economic, social and environmental interests, central to accelerating progress towards sustainability.

1.3 Sustainable Development Governance in Developing countries

The experience in Africa is a relevant example in addressing the issue of sustainable development governance in developing countries (UNECA,2012). Al-Dahir, Bisley and Kang (2009) described poor governance and corruption to be the root cause of the unsustainable situation in developing countries. In addressing this issue, the components that comprised governance need to be elaborated. Sustainable development governance constitutes the sum of institutions, concepts, norms, principles and processes that govern sustainable development at global, regional, sub-regional and national levels. It is suggested that the avenues for reform are

strengthening existing institutions, merging institutions, improving coordination among existing institutions, establishing new institutions, changing mandate(s) of institution(s); and streamlining institutions. The link between governance and sustainable development has not only been recognized, it has also been demonstrated by several studies. The UNECA Sustainable Development Report on Africa (2012) cited studies that estimate that when governance is improved by one standard deviation, incomes rise three-fold in the long run. The impact of improved governance is needed to transform the community toward achieving sustainability. This can be achieved by means of strengthening the existing institutional framework, improving connections among existing institutions and the processes that govern sustainable development.

1.4 Sustainable Development and Sustainable Community Development (SCD) in Malaysia / Sarawak

Like other developing countries, Malaysia recognized the concept of sustainable development and has embedded this concept in its policies, vision, mission, and plans (Halimaton & Benson, 1994); (Bakhtiar & Ibrahim, 2010); Saadatian, Mat & Sopian, 2012). Malaysia is amongst the 178 countries that adopt the Local Agenda's 21 (LA21) principles outlined in the 1992, Rio de Janeiro Conference on Environment and Development organised by the United Nations. Many programmes and initiatives have been developed in response to the needs identified in LA21 as well as those identified through its own development planning and monitoring systems. An example of this is the Malaysia Development Plan and the Long-term Outline Perspective Plans (Nordin, 1998; LESTARI, 1999; Hassan & Adnan, 2001).

The Local Agenda 21 (LA 21) is intended to translate sustainable development principles and objectives into practical action. It is a voluntary local community consultation with the aim to create local policies and programs that work towards achieving sustainable development. It encompasses raising the community awareness, capacity building, participation and the formation of partnerships.

It works on the premises that many environmental problems can be traced back to local communities and that local governments have an important role in implementing environmental programs and mobilising community support (Srinivas, 2015).

Even though the adoption of Local Agenda 21 is voluntary, it requires the local government to consult with the local community, minority groups, businesses and industrial organisations to create a shared vision for sustainable development and to develop integrated local environmental plans, policies and programs targeted at achieving sustainable development (Srinivas, 2015). Hence, Agenda 21 recommended that local authorities develop a consensus on a Local Agenda 21 for their communities by 1996.

According to the Ninth Malaysia Plan, Malaysia has been ranked ninth among 133 countries by an Environmental Performance Index Study based on efforts taken to reduce environmental stress on human health and ecosystem protection vitality (Prime Minister Department, 2006). The Malaysia National Vision Policy too has embedded the concept of sustainable development. This is depicted in its second, fourth and last articles which are, encouraging more equitable society; sustaining economic development, and pursuing environmentally protection respectively (Hassan, 2004).

Malaysia is also very active in international sustainability activities such as its participation in the 13th session of the commission on sustainable development in New York in 2005 ((Bakhtiar & Ibrahim, 2010)). Since 1995, work on sustainable development indicators (SDIs) has been undertaken by the Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia which has provided the conceptual-theoretical basis for SDI development in Malaysia (Hassan & Adnan, 2001).

Federal and State government and non-government agencies such as the Economic Planning Unit of Prime Minister's Department (EPU, PMD), the Town and Country Planning Department of the State of Selangor, the Socio-economic and Environment Research Institute (SERI) of Penang, have developed more practical initiatives and approaches to establish indicators for sustainable development in the urban areas of Malaysia. Additionally, The Danish Cooperation on Environment and Development (DANCED) has funded projects to develop set of indicators to reflect sustainability in Malaysia. (Hassan & Adnan, 2001)

In Sarawak currently, various government and non-government agencies have carried out programmes intended to develop the community and achieve sustainability while at the same time eradicate poverty and consequently, to improve the quality and well-

being of the community. However, this effort has been largely piecemeal in nature. No integrated effort has been initiated to mobilise the suburban community for sustainable development. The communities see development as essentially the government's responsibility. For example, the community expects the government to provide infrastructures for the villages. This top-down rather than a bottom-up approach philosophy to development has led to overreliance and dependence on the government. To encourage the community to practice a bottom-up approach requires the residents to understand and embrace the needs to achieve a sustainable community status.

This is a typical scenario in Commission of the City of Kuching North area or locally known as Dewan Bandaraya Kuching Utara (DBKU). The concept of sustainable community development is a new but desired goal for the communities. The effort in developing the community initiated by DBKU is based on 'as and when required'. A more sustainable and strategic programme need to be put in place.

1.5 Sustainable Community Development (SCD)

The concept of sustainable community development was initially defined by the WCED as

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987 pp 8).

Based on this definition, the central element in sustainable community development is the development of the people who interact, utilize and benefit from the development programme. The essence of sustainable community development is the mutual benefit because of the interaction between the members of the community and the environment. This includes the economic activities carried out to meet the community's basic needs (Maser, 1997). A sustainable community helps to empower people to develop their own capability to aspire for a better quality of life and the capacity to sustain living through collective effort.

Sustainable community development is like sustainable development except that the former only focuses on issues within the community. Bridger and Luloff (1999) stated that to achieve sustainable community development, there is a need to strike a balance

between environmental preservation and attaining the appropriate developments' objectives and at the same time meeting the community economic needs. Kline (1994) commented on the importance of technological resources to ensure that all members of both the present and the future generations can attain good health and well-being, as well as economic security. Due importance is given to the ecological systems on which all life and production depends. Egan (2004) looked at factors that assist in achieving a sustainable community. His report summarized the complexity of these factors in the 'Egan's Wheel' (Refer to Figure. 1.1).

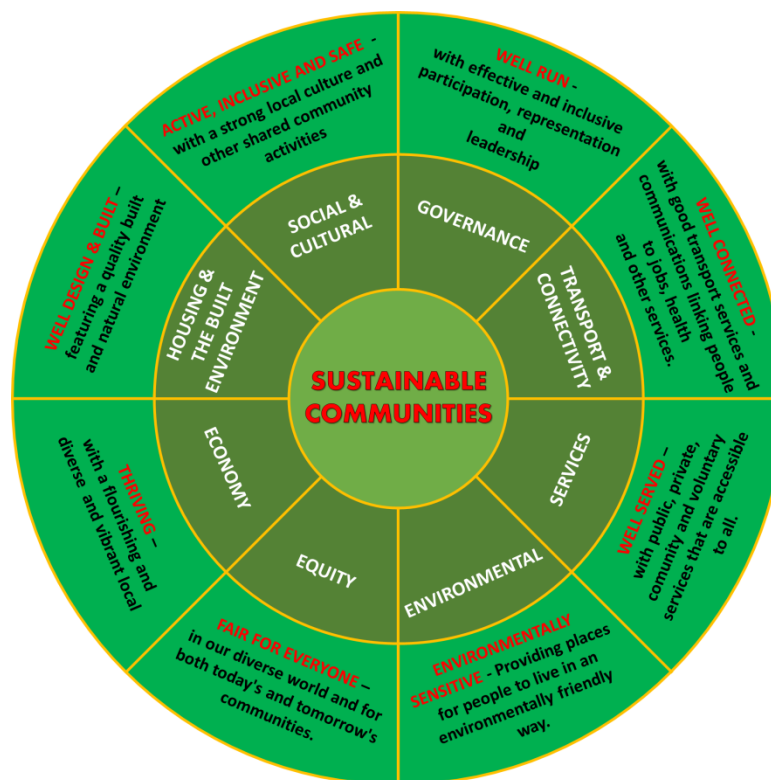


Figure 1.1: Egan's Wheel

Egan identifies eight components, namely governance, transport and connectivity, services, environment, economy, housing and built environment, society and culture, and equity as factors that underpin the identification of indicators for the sustainable communities.

Egan (2004: 4) suggests that sustainable communities must meet the diverse needs of existing and future residents, their children and other users. In order to achieve sustainability, the community must make optimum use of its natural resources,

conserve the environment, promote social cohesion and inclusion and strengthen economic prosperity (Refer to Figure 1.1).

All the eight components must be addressed simultaneously to enable the current shortcomings to be rectified so that the community is well managed, connected and well served. Such a community would be fair to everyone, thriving, well-designed, well-maintained, safe, adaptable, environmentally sound and cost effective. These indicators are used to assess any planning that will promote the sustainability of a community. Egan emphasised that developing a community is a team effort and its success depends on the total involvement of the community. The integrated planning process involves all members of the community hence will enhance the intrinsic qualities of a community.

1.6 Good Governance and Sustainable Community Development – A Community Based Approach to SCD

Biermann et. al. (2015) defined governance as a purposeful and authoritative steering of social processes by the stakeholders which include government and non-governmental organisations, civil societies, action networks, partners, and private-sector entities at multiple levels both local and international. Governance is a main area of concern of this study and is confined to the institutional framework involving the social processes.

In order to bring about changes in the approach toward sustainable community development, a pragmatic approach towards participation and involvement at the onset is vital. The approach should be able to initiate and catalyse the change process through a community-based approach at the local level.

The community-based approach calls for the development of an integrated strategy based on equal opportunities and the right to access at an acceptable standard of living. It should provide a collaborative platform, consensus decision making, capacity building, strategic alliances and the coalitions needed for all stakeholders to work together with one another and voice their views on the problems such as any local deprivation, and suggest appropriate solutions.

1.7 The Locality of the Study

The area in this study is in the suburb of Kuching, the capital city of Sarawak which is about 560 miles from Kuala Lumpur, the capital city of Malaysia. Malaysia comprises Peninsular Malaysia and the states of Sabah and Sarawak on the island of Borneo. Eleven states and two federal territories - Kuala Lumpur and Putrajaya - form Peninsular Malaysia which is separated from East Malaysia by the South China Sea. The two states of Sabah and Sarawak and a third federal territory, the island of Labuan, form East Malaysia. Thailand lies to the north of Peninsular Malaysia and neighbouring Singapore in the south.

This research will also focus on the relationships between the village associations and their links with organisations including the government, non-government organisations, the private sector, politicians and other stakeholders in the community development. The village associations such as Jawatankuasa Keselamatan dan Kemajuan Kampung (JKKK) or Village Security Development Committee (VSDC) is the vital link between the villagers and these stakeholders. These associations could play a vital role in ensuring the community practise sustainability as discussed by Egan. Thus, this study will explore the current situation, achievements and challenges faced by the suburban communities based on these eight components namely social and cultural, economy, social, governance, transport and connectivity, services, housing and built environment, and equity by focusing on the 'governance' of the agencies involved.

Kuching City is mostly administered by four local authorities, The Commission of the City of Kuching North or Dewan Bandaraya Kuching Utara (DBKU), Kuching South City Council (MBKS), Padawan Municipal Council (PMC) and Samarahan Municipal Council. DBKU's area of jurisdiction comprises much of the central inner city of Kuching and the area across the Sarawak River. Before the declaration of Kuching as a city in 1988, the vast area of DBKU was administered by Kuching Rural District Council (KRDC) Most of this area was classified as a rural area which has little access to the villagers. Urbanisation has brought roads and other basic infrastructure turning them into suburban area. The descriptions of the coastal villages are explained in detail in Appendix 1a.

McManus and Ethington (2007) described the variables for suburban such as location which is peripheral from urban centre; relationship which is functional dependence to

urban core; relationship to the countryside which is romantic, picturesque movement and aspirations of country living; Low density with housing type most commonly single-family dwellings with gardens; distinctive social (class, race, ethnic) segregation while in term of transportation, having commuting relationship to the urban core.

Most of the variables as described by McManus and Ethington fit the descriptions of the study area such as the locations of the villages in the study area is 20 kilometres from the urban centre with a picturesque landscape along the seaside and sprawling dominantly residential houses. The houses are segregated between one another and low density with garden surrounding it. In exception for the predominant ethnic group being the Malay race and are distinctive in adhering to their culture and religion.

1.8 The Coastal Villages of DBKU Suburban

The suburban communities of DBKU consists mainly of those formed by the early settlers along Sarawak River as early as when Sarawak was under the Brunei Sultanate. This is a fishing community that depends also on agriculture as a source of livelihood. In previous times, transportation was difficult and at that time not accessible by land. The only access to the coastal villages was by means of boats along the Sarawak River (Anderson, 1995).

Utilising Kuching city status, DBKU had improved the quality of life of the community through development of infrastructures and economic activities. Thus there were improvements in the quality of life in the city's suburbs. All the coastal villages within the study area such as Kampung (Kpg.) Santubong, Kpg. Buntal, Kpg Sejingkat, Kpg. Senari, Kpg Gobeilt, Kpg. Bako and Muara Tebas are no longer isolated due to the network of roads and the availability of public transportation and basic amenities. Below is the map showing the locality of the study area as in Figure 1.2.

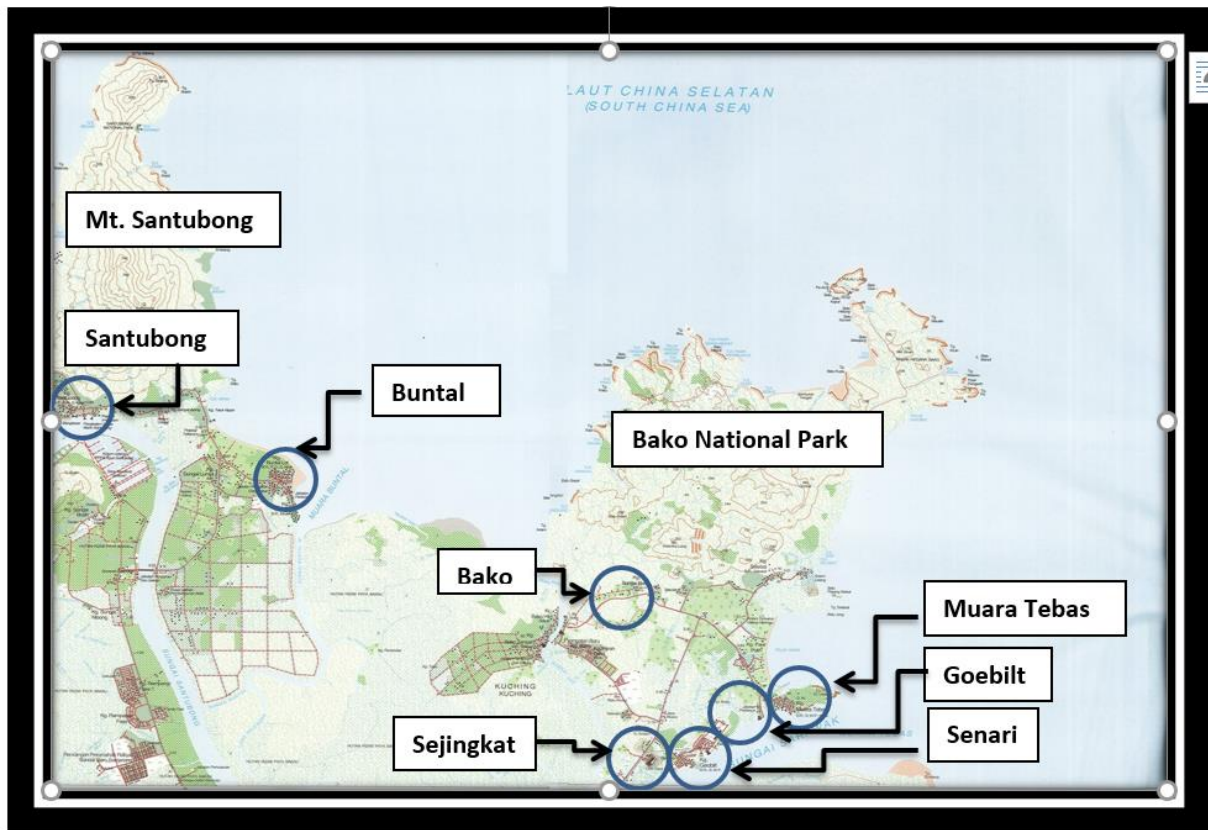


Figure 1.2: The Study Area (Source: Google Map)

The traditional fishing villages are now transformed into city suburb villages. Small fishing boats are now replaced by fishing trawlers and downstream economic activity such as cottage industries dealing in 'shrimp paste' and salted or dried fish. Seafood restaurants have started to emerge within the villages. The villages' population has not increased drastically due to migration of the younger generation to the city.

Most of the older generations are still dependent on the traditional methods of fishing and cultivation. The younger generations are working either in government agencies or in the private sectors. Tourism-based industries have emerged due to the accessibility of roads and the availability of transportation.

An economy sector based on the fishing, agriculture and tourism has created good employment opportunity among the locals and has a good socio-economic impact. In addition, many peoples have begun to explore or even exploit the opportunities available within the villages. Newly found industries such as fresh water fish pond culture, tiger prawns' pond culture and other types of aquaculture along with the usage of a vast amount of agricultural land for poultry farming have begun like mushrooms.

It is likely that such activities will deplete local natural resources. This will not assist in achieving SCD. Proper planning is needed to ensure sustainable community development and benefit the local economy as well.

If local resources are not managed properly, the future generation will be adversely affected. The economic cake and wealth are not equally distributed and the social ills arising from these factors will increase. Under the 8th Malaysia Plan (2001-2005), urban poverty has become one of the priorities of the Federal Ministry of Housing and Local Government. The responsibility to eradicate urban poverty is delegated to the local authorities. DBKU is responsible for identifying the hard core poor and those below the Poverty Line Income threshold and also for providing the types of assistance or programmes to help them to get out of this vicious circle. There are also various programmes targeted on eradicating poverty such as schemes to develop entrepreneurship skills and manage small business. Basic accounting and book keeping courses are conducted by other agencies for example the Sarawak Economic Development Corporation (SEDC), the Chief Minister's Department and even the Land Custody and Development Authority (LCDA).

1.9 DBKU and its Role in SCD

DBKU was officially formed on 1 August 1988. Covering an area of 369.48 sq.km, it has a population of 190,000 (2006) and in 2016 the population reached 223,700. It administers 40,843 units of properties within its jurisdiction (Valuation Division, DBKU). DBKU is headed by a government's appointed mayor, and under his leadership there is a vision to make Kuching a liveable city as enshrined in the city's vision and mission statement.

DBKU's vision and mission is

‘Kuching ... A Vibrant Liveable City Of Choice’ ; and the city’s mission statement is ‘To Enhance The Quality Of Life By Creating A Conducive Environment, Citizens’ Engagement And Best-In-Class Service Delivery’. (www.dbku.gov.my)

Since 1994, Kuching city has participated in World Health Organization’s programme such as the Healthy City Programme and has attained the status of a Healthy City. DBKU together with MBKS were given the task of monitoring and implementing cleanliness programmes and activities within the city to ensure full commitment in maintaining the standard of a Healthy City (Public Relation Division, DBKU, 2014 unpublished).

DBKU is the first local authorities in Sarawak to place an emphasis on community development. The Community Development Division was set up to encourage community participation by planning, implementing, coordinating, monitoring, assessing the impact and empower community development programme which includes the following scope: environment, social, public health, infrastructure, economic, security, housing, application and practice of positive values in youth development, sports and education.

In their effort to raise the community awareness on environment issues, DBKU also organised the recycling campaign of 3R that is the Reduce, Reuse and Recycle of waste and also educate the urban residents on composting and also tree planting.

Through its Health Division section, DBKU also conducts program to raise community awareness on public health issues such as the spread of communicable diseases through Anti-Dengue Campaign, community cleaning campaigns in villages or residential areas known locally as ‘gotong royong’, health education, and health screening programs. DBKU provides Library services to community within their area of jurisdictions, and organises activities such as Traffic Education, colouring & reading contest for school children besides delivering the normal library services. DBKU also provides business infrastructure and opportunity to help business and those new entrepreneurs to increase their economic standing and briefed the community on cooperative.

Alike other local authorities in Malaysia, DBKU also participated in building and repairing houses for the low income groups among the community and provide rental assistance under the Federal Ministry of Housing and Local Government funding. Other programmes organised by DBKU are social development programmes such as Safe City programme, parenting courses, youth inspirational programme, sports programme such as Siol Mountain Bike International Event, motivational programme for students preparing for public exam . Other activities involve youth doing street art such as painting murals on walls, etc. The activities organised are presumed to be part of the community development programme. In order to extend its outreach to the community, DBKU also created a community based volunteer group known as '*Kejiranan Mesra*' or Caring Neighbourhood.

DBKU has given new emphasis to Sustainable Community Development through various programmes designed to create awareness for its need and motivate their participation. The residents are also given the opportunity to be heard and get involved in the decision-making on issues which have direct impact on their life.

Recently, DBKU was accorded an international recognition for organising a prestigious event '*Urban Thinkers Campus*' together with United Nations University, World Urban Campaign, Think City and the State of Sarawak. This workshop is known as 'Principles for Healthy and Sustainable Places', 2016. It come up with the declaration known as the 'Kuching Principles, 2016. The principles discussed are relevant to creating sustainable community especially those related to the citizens participation in governance. These two principles expound on the need to mobilise the citizens and involve them in the local governance. With all these principles in place, the health and wellness of the community will enhance and enable the holistic approach in achieving a sustainable community (UN University, 2015).

1.10 Institutional Structure for Implementation of Community Development Programmes

As mentioned earlier, Malaysian government initiatives and policy with regards to community development and SCD are implemented at Federal, State and also at local levels to individuals, households, village leaders channel through agencies and association as shown in the diagram below (Figure 1.3.).

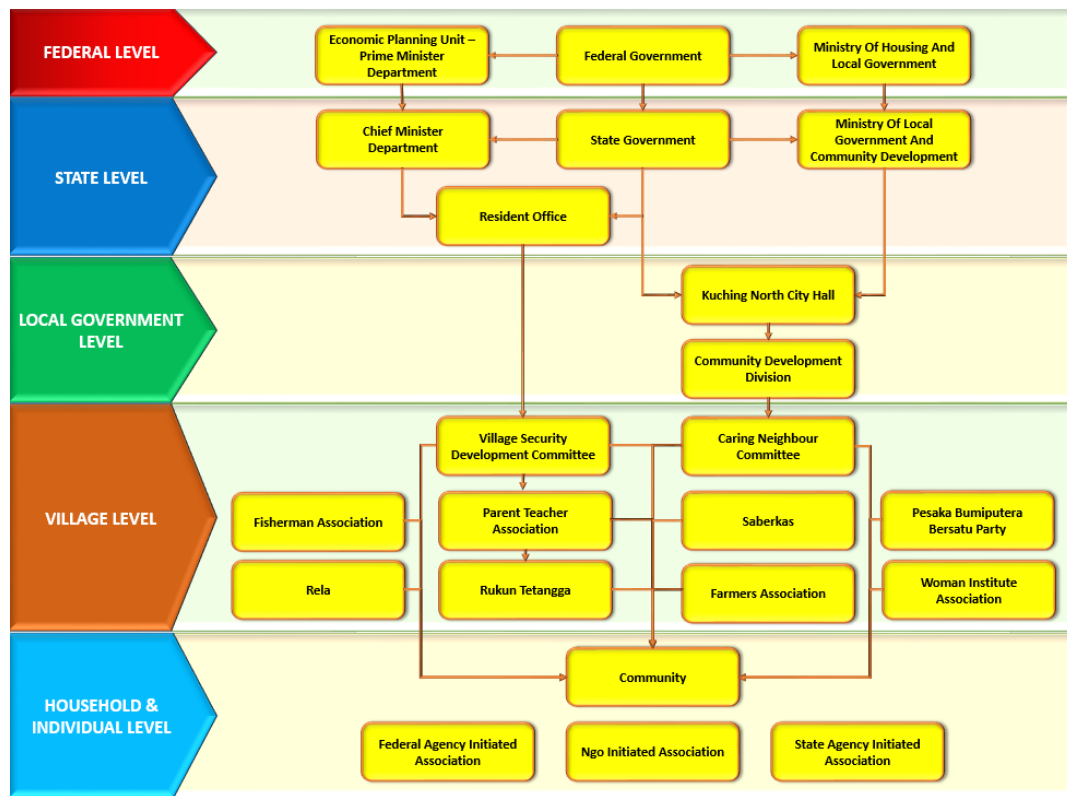


Figure 1.3: Institutional Structure from Village to Federal Government

At the Federal level, policies are formulated and cascaded through Ministry of Housing and Local Government and Economic Planning Unit, at the Prime Minister Department. At the State level, State Government directive and policies flows from Chief Minister Department and the Ministry of Local Government and Community. Chief Minister Department later channels the information to the Resident Office while at the Local Government level, or Kuching North City Hall (DBKU) gets its mandate either directly from State government or through the Ministry of Local Government and Community Development.

At the village level, there are various associations sponsored or initiated either by Federal Government agencies; NGO initiated association and State agency initiated association. Other Federal Agency initiated associations are Fisherman Association,

RELA, and Parent Teacher Associations. The most prominent formal association recognised is the Village Security and Development Committee (VSDC). The village chieftain heads the committee and he reports on activities and problems faced in the village in a monthly meeting with the Resident or District Office. Examples of State Agency initiated association are Parti Pesaka Bumiputera Bersatu, a local based political party, Farmers Association and Women Institute Association; while SABERKAS is an example of NGO initiated association.

The funding of government programmes or projects is either channelled through the Resident Office or through another implementing agency. Normally, in the study area the originator of project will request DBKU to implement the projects on their behalf. The role of the community in determining the course of development implemented is minimal.

The present community development implemented structure is hierarchical; operating from top down. A report by Cohen and Uphoff (1980) stated that the United Nations Economic and Social Council recommend that government should adopt community participation in national development strategies. Freire (1970) strongly affirmed that the key to development is that the community are empowered to determine their own destiny by having great say in their own development and in the development processes.

With regard to sustainable development, the emphasis was on environmental stewardship through environmental management and land use planning. All these were monitored by comparing established sustainable indicators, continuous environmental auditing and the use of pressure-response based models to monitor sustainable development in Malaysia. The sustainable development effort within Malaysia can be summarized, as shown in Figure 1.4.

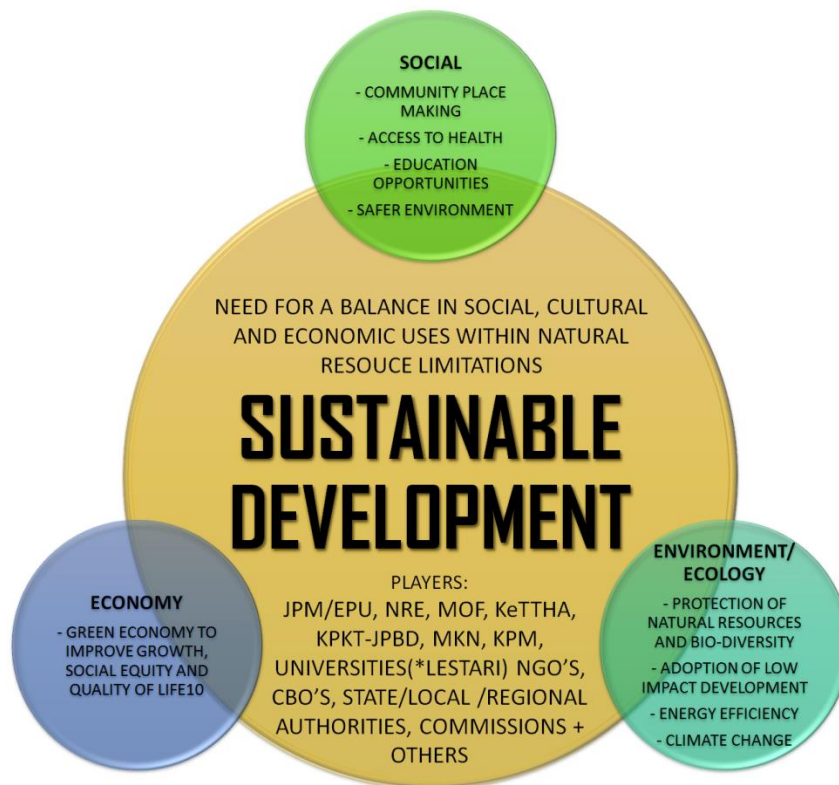


Figure 1.4: Summary of Sustainable Development in Malaysia.
Source: Rosly, 2012

1.11 Malaysia Commitment to SCD

Malaysia's 'Commitment towards Sustainable Development VISION 2020' initiated by the former Prime Minister, Tun Dr. Mahathir Mohamed, included the following:

"We must also ensure that our valuable resources are not wasted. Our land must remain productive and fertile, our water unpolluted, our forest resources capable of regeneration and able to yield the needs of our national development. The beauty of our land should not be desecrated; for its own sake and for our own economic advancement." (Mohamed, 1991)

Subsequently, sustainable development has been further incorporated into the 9th Malaysian Plan (2006-2010) known as the National Sustainability Development Plan encompassing Thrusts 1, 3 and 4.

1.11.1 Thrust 1: Economy

This thrust is intended to move the economy up the value chain, strengthening agriculture and agro-based industry, through new land development, the replanting programmes and land consolidation, and rehabilitation. The up scaling of the manufacturing and related services for agricultural produce was intensified. Other economic generating activities such as tourism (including sustainable tourism, tourism products and services, and domestic tourism) were stimulated.

1.11.2 Thrust 3: Social

This thrust addresses persistent socio-economic inequalities constructively and productively. The issue of poverty eradication and unfair income distribution was addressed. This thrust was aimed at attaining balanced development by implementing regional development, narrowing the rural-urban divide, encouraging central growth development and by hierarchically fostering conurbations and safe cities. To realise this, a National Physical Plan, a Structure Plan and a Local plan were incorporated with a continuous sustainability assessment monitoring using a MURNInet network.

1.11.3 Thrust 4: Environment and the Built Environment

This thrust serves to improve the standard and sustainability of the Quality Of Life by improving built environment facilities such as infrastructure, utilities, urban transportation, better health services, and by providing quality housing and urban services.

To implement the sustainable development plan, various agencies or players needed to work together. This effort is spearheaded by the Economic Planning Unit (JPM-EPU) of the Prime Minister's Department with key players from the Ministry of Finance (MOF), the Ministry of Energy, Green Technology and Water (KeTTHA), the Ministry of Housing and Local Government - Department of Town and Country Planning (KPKT-JPBD), the National Security Council (MKN), the Ministry of Education Malaysia (KPM), Community Based Organizations (CBOs), the State Government, Local Authorities and Commissions.

The Federal agencies formulated the strategies and allocated the budget to be implemented by the respective agencies. Ironically, the agencies from the Federal

Government had implemented many projects circumventing the State Government and even the local authorities.

1.12 State Government Sustainable Development Effort

The State Government commitment to community development is reflected in changing the name of the Ministry of Local Government and Public Health to the Ministry of Local Government and Community Development. Since then, community development has been put under this Ministry to give greater emphasis on developing the community. This action by the State Government has led the Ministry to transform the local authorities into a five-star organisation with a mission, committed to ensuring sustainable development and active community engagement through efficient and effective local authorities. (KKTPK, 2016)

Various seminars and workshops have been held on community development with participants from the local authorities' (officers and councillors) in order to create awareness concerning community development. Interestingly, with the exception of the Miri Municipal Council, prior to the workshop the understanding of community development amongst other local authorities was still at the infancy stage and the seminar participants were still grasping to understand the concept. An initiative by the Community Development Division of the Ministry to streamline the understanding of community development comes in the form of a guideline known as the 'Guideline for the Implementation of Community Development and Relations for Sarawak Local Authorities'. It was launched in 2015.

In addition to the State Government agencies, federal government departments are also implementing projects and funding activities directly to the community-based organisation (CBO) and participants at the village level. The village security and development committees are usually side-lined in such projects and this creates problem for every local leader.

1.13 Local Government Level

Due to the legal limitations placed on local authorities in Sarawak, their respective jurisdiction is confined to providing municipal services, licensing, enforcement, and landscaping and infrastructure projects. The State Government allocates fund for the local authorities to implement activities relating to community development and other infrastructure projects in lieu of rates.

Most of the smaller local authorities depend on the structure established by the Resident Office to outreach to the community, and later from the Ministry of Local Government and Community Development. In DBKU, an informal organisation has been formed known as 'Caring Neighbourhood' or 'Kejiranan Mesra'. This informal organisation or community-based organisation (CBO) committee is appointed by the DBKU and operates voluntarily. Activities organised depend entirely on the committee and at the local leadership discretion. (Community Development Division, DBKU, unpublished).

1.14 Village Level

The general structure and functions of the local village level institution are the same as those at the state level. It acts as a liaison between the Government and the people. The Federal Ministry of Rural and Regional Development established the VSDCs throughout the nation but, at the state level, the VSDC chairman reports to the Resident or District Office. Ideally, at village level the chieftain or 'penghulu' heads the VSDC. Besides the VSDC, there are also other associations and societies in the village. The other associations report to other government agencies sponsoring and funding their activities. This creates a chaotic situation at the local level. The village associations and the other members of the associations in the village including the VSDC are illustrated in the Figure 1.5.

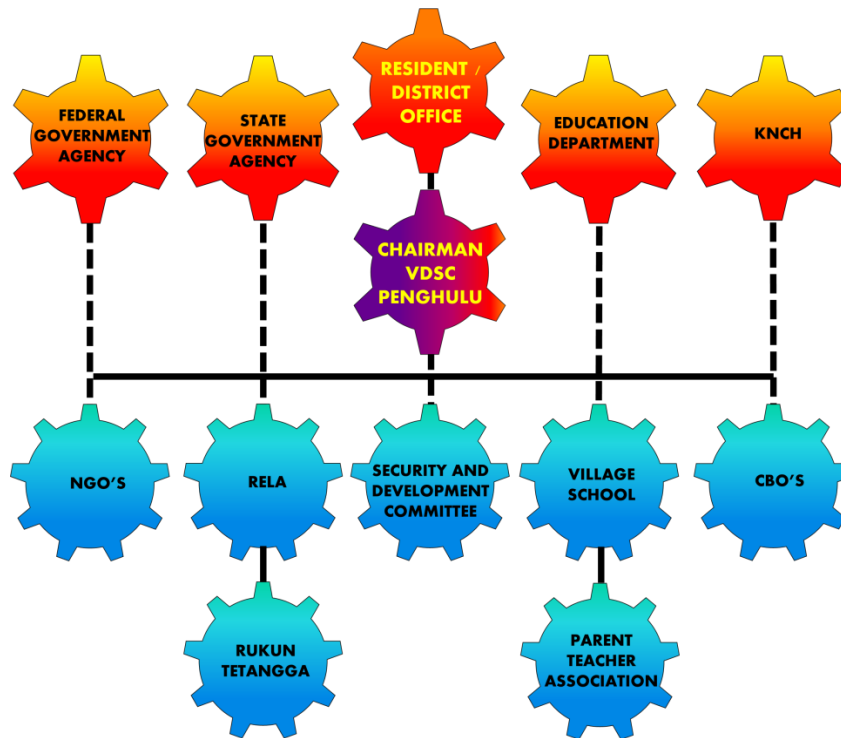


Figure. 1.5: Structure of Village Level Associations

A study by Ahmad et al. (2014) recommended ways to strengthen the VSDC. He suggested that this Government should establish a special budget for them, provide better training and development for the leaders, and create a permanent post for their chairpersons.

1.15 Research Rationale and Significance

Despite economic development, the quality of life among the people in the rural areas has not much improved much. This is partly because they have not adapted to the changes designed to help improve their livelihood. Apprehensions surfaced due to a lack of information and ignorance. Faced with these problems, willingness to adopt sustainable economic development was extremely low.

Since the Rio Earth Summit in 1997, the implementation of the sustainable development concept in Malaysia as popularised by WCED has been carried out through Local Agenda 21 (Nordin, 1998). This was initiated by the Federal Government through the Ministry of Housing and Local Government and the Economic Planning Unit of the Prime Minister's Department by providing financial grants to the states.

Initially, four cities were selected, namely Miri (Sarawak), Petaling Jaya (Selangor), Kerian (Perak) and Kuantan (Pahang) to implement the LA21 (Yunus, 2006) under their respective City Council. In Sarawak, almost all local authorities (except DBKU, MBKS and Bintulu Development Authority) are under the purview of the Ministry of Local Government and Community Development (MLGCD). Miri City Council is one of the local authorities selected to pilot the LA21 programme. This is monitored jointly by the Federal Ministry of Housing and Local Government and the state ministry. The LA21 approach differed from the normal top-down approach whereby the programme involves training the community to initiate the programme and the activities via a bottom-up approach through community participation with the aim of infusing environmental awareness into the community for the future (UN, 2002).

Since the awareness on sustainable community development has become popular, various stakeholders such as government and non-governmental agencies have carried out awareness programmes in the villages but their effectiveness has yet to be evaluated. Programmes to be implemented are channelled through the village associations. These associations are the link between the village communities and the stakeholders.

Utilising the Local Agenda programme necessitates a bottom-up approach which involves community participation. However, the LA21 concept has not been implemented in the area of study. As the local authority, DBKU envisions to initiate and spearhead the implementation of a holistic concept of sustainable community development within its jurisdiction. As the leading agency DBKU had incorporated a strategy to encourage other agencies and the community to participate in all the development programmes especially in the sub urban areas.

Another issue addressed in this research is the integration of effort required in developing a synergy among the stakeholders and main players. Could the present governance institutional framework in the villages' mobilise the communities to develop a common vision for a sustainable development? The governance of the institutions that act within the villages with the assistance of the stakeholders need to be examined as to what extent do they contribute to sustainability.

In an effort to develop a bottom-up governance model for the SCD in suburban villages communities, the right approach was needed to be taken so that the progress achieved

will not neglect or disregard the most important legacy to the future generations: ecological and environmental preservation. The sustainable development approach needs to be adopted in order to instil the community with vision guided by SCD as its objective. This research attempts to study the nature of the current institutional framework and its ability in promoting SCD. To this end, the study will also examine the strength and weaknesses of the governance of the village associations and identify the main causes that slow down or hinder the progress towards achieving sustainability.

1.16 Research Questions/Problems

This study seeks to investigate the needs and practices required for the sustainable community development within these suburban villages. The study aims to assess the present level of sustainability by means of a set of sustainable community development indicators. These indicators are identified for the study area based on the standard practices in other places. The aspects that will be included in the indicators are basic needs, the governance aspect of the village, and the social, economic and environmental aspects. The governance aspect will expound on the relationship between village associations and agencies within the study area and their relationship with DBKU.

This research also focuses on the relationships between the local level associations and their links with organisations including the government, non-government organisations, the private sector, politicians and other stakeholders in the community development. These associations play a vital role in ensuring the community practice sustainable development. This study will explore the current situation, achievements and challenges faced by the suburban communities based on these eight components namely social and cultural, economy, social, governance, transport and connectivity, services, housing and built environment and equity but the focus of this study is on the 'governance' of the agencies involved. This chapter discusses the conditions necessary to achieve SCD. It also discusses the aims and objectives, the design of the research and the formulation of the research questions.

This research explores the level of sustainability in seven suburban villages under the jurisdiction of Dewan Bandaraya Kuching Utara (DBKU) in Sarawak, Malaysia, with an

emphasis on the role of governance in relation to the institutional structure of government and non-Government organisations in the villages. It further explores to what extent sustainable community development is practised in these villages. In particular the study attempts to determine to what extent its current governance and the organizational structure facilitate sustainable development.

The research questions that will be investigated in this study are:

1. How governance and institutional structure related issues influence attainment of sustainable community in sub-urban villages within Malaysia?
 - What are the factors that hinder the village community to achieve sustainability?
2. What is the suitable method to develop the community so as to attain sustainability in their village?

1.16.1 Aim and Objectives of the Research

In order to obtain the answers to the research questions, the aim and objectives of the study are as follows:-

The aim of the research is to develop a bottom-up governance institutional framework for a sustainable community vision that can be implemented in order to attain sustainable communities in the villages of Kuching, Malaysia.

The objectives of this research are as follows:-

- Objective 1: To build contextual knowledge on sustainable communities and sustainable development from a global context.
- Objective 2: To identify and establish sustainable community development (SCD) indicators suitable for suburban villages' within Malaysia;
- Objective 3: To assess the present village sustainability and the community desired future sustainable vision for the village;
- Objective 4: To identify the key factors that hinders the community to achieve sustainability;

Objective 5: To improve the present framework and develop a participatory governance institutional framework with the help of local experts

1.17 Structure of the Thesis

This thesis is organised into eight chapters. Chapter Two discusses in greater length and depth, the definition, meaning and concept of sustainable development and sustainable community development. These fundamental tenets justify the social, economic and environmental dimensions and the human-human relationships as the core elements of sustainable development. The literature review discusses the global perception and the evaluation of the concept of sustainable development from its inception to this day. This is deliberated upon in-depth as well as the principles, policies and objectives of sustainable development are expounded. This concept of sustainable development will provide the guidelines that are required to establish the sustainable community development. A set of indicators are henceforth formulated.

These indicators are the means of measuring the sustainability of community. This chapter looks at the process of identifying and establishing the indicators. Based on the literature review and observations, a hypothetical conceptual framework is developed.

Chapter Three describes the design and methodology of the research, the processes by which data was collected, the philosophy and rationale of methods employed and the methodological challenges encountered in the development of this project. Specifically, it focuses on the methodological stance and issues that guided the research and the rationale for the choice of using the mix-method approach.

Chapter Four presents the findings and describes the sustainability status of the villages by using a SWOT and GAP Analysis. The strengths and weaknesses of the communities are categorised. From this analysis, the actual institutional framework that is currently being observed and utilised were captured and then an improved version of the framework was developed, an improvement over the existing framework.

Chapter Five presents the analysis of the village sustainability based on the finding in Chapter Four and a GAP analysis is carried out to identify what is yet to be done to achieve the desired sustainability status. This GAP analysis identifies the potential

main factors that hinder attainment of sustainable status. In order to achieve the desired status, the interventions required are generated using triangulation of the data for the quantitative survey and qualitative interview. The data are grouped into themes. The themes are categorised based on SWOT analysis and a triangulation using TOWS matrix which produces a list of potentials interventions for achieving a sustainable community.

Chapter Six continues discussing the findings in chapter 4 and 5. The new improved framework is presented to the experts. Their views and comments are incorporated into the new version of the framework and this will be validated. The final validated framework is discussed in detail in this chapter. A summary will be drawn up from the research findings and of the final version of the institutional framework.

Chapter Seven summarises the findings and the suggestion for a possible institutional framework based on the findings.

This study hopes to provide useful input to the Local Authorities in Malaysia by evaluating current practices and planning for the future in community development.

It should enable the local government to create an appropriate governance model to achieve a sustainable development within the communities. Generally, the research hopes to add to a wider body of research regarding local level sustainable community development in a developing country.

1.18 Summary

This chapter has presented the background and rationale of the research. The research aims and objectives were clarified whereas the main research questions have been identified. The parameters for the study have also been identified. Indicators of sustainable community development and factors that assist in achieving a sustainable community have been discussed based on various definitions and models. Finally, the chapter outlines and discusses the contents of each chapter to give an overview of the thesis.

CHAPTER TWO : LITERATURE REVIEW

2.0 Introduction

This chapter discusses the theoretical framework of the research by exploring the concept of sustainable community development (SCD) from different perspectives, policies and dimensions of sustainability. The evolution of the concept of SCD derived from the sustainable development concept of economic growth, social and environmental concern at global, regional country and local scenarios. These provide a contextual background to the current development of the concept in the study area.

This section also compares the different programmes and initiatives carried out by the government and non-government agencies in the United Kingdom and Malaysia with respect to SCD. However, as the concept was cascaded from the top, this chapter will also discuss on the possible causal factors affecting its implementations and its effectiveness at the local level. Therefore, this chapter will also examine the sustainable development strategy including its appropriate technology that can enhance SCD in a developing country and a participatory bottom up approach in achieving SCD.

As the concept of SCD is initiated and championed from abroad, the second part of the chapter examines the international literature on the sustainability assessment principles and approaches in assessing sustainability in a suburban setting, initiative and programmes on SCD, the experiences of global communities in achieving sustainability, current trend of sustainable initiatives and programs, also the possibilities causal factors affecting SCD. It also includes the literature on the governance and institutional framework related to SCD.

In addition, this chapter will examine and compare the global governance delivery system and institutional framework with regards to SCD especially in developing countries. Also it expound on the challenges and ways to implement a good governance and institutional framework at the local level. Also it describes the benefits in implementing a participatory bottom up institutional framework for the community. The final part the chapter explains the contributions of this study to our knowledge and understanding of SCD in the Malaysian context.

2.1 Sustainable Development and Sustainability

The concept of sustainable development (SD) means differently to different people and organizations. Thus the way SD is interpreted will be influenced by personal experiences and the world views of the individual. Robinson (2004) stated that the literature is rife with attempts to define the term and there is a disagreement between those who prefer the three pillars' approach which incorporates social, ecological and economic dimensions and those who prefers a dualistic typology. The latter emphasizes on the relationship between humanity and nature. These differences have prompted an exploration of different definitions from various sources and perspectives in order to arrive at a consensus of the concept.

Definition of Sustainable Development	Sources
Development that meets the needs of the present without compromising the ability of future generations to meet their own needs	World Commission on Environment and Development, 1987
Something which must improve the quality of life, improve the living and working environment of all people, provide adequate shelter for all. It should create sustainable energy, transport and construction activities and stimulate human resources development and the capacity building required to achieve the goals	Rio Earth Summit, 1992
The enhancement of the natural and built environment in ways that is compatible with the requirement to conserve the stock of natural resources and with the need to achieve greater social equality without imposing added costs or risks on succeeding generations.	Blowers, 1992
Development that meets the criteria of affordability, accountability and reliability. It relates to improving and maintaining health and social status, standards and the level of living as well as equity.	The World Bank, Washington, 1994
Sustainable development is about ensuring a better quality of life for everyone, now and for generations to come.	DETR, 1998
Sustainable development is the process of reconciling society's development goals with its environment limits over the long term.	The National Research Council. Board on SD Report, 1999
Sustainable development is a dynamic process in which communities anticipate and accommodate the needs of current and future generations in ways that reproduce and balance local social, economic and ecological systems and link local actions to global concerns.	Berke, 2000

Table 2.1: Definitions of Sustainable Development

The term sustainable development was first defined by WCED in 1987. It has been given a number of interpretations and undergone several improvements. This is followed by other definitions such as the one formulated at the Rio Earth in 1992, Blowers in 1992, The World Bank in 1994, DETR (1998), The National Research Council Board on SD Report, (1999) and Berke, (2000). The list of definition can be seen in Table 2.1. Each definition depends on the place, time and situation which in turn will affect peoples' world view on their perceived essential needs. Wheeler & Beatley (2008) stated that human being main concern for sustainable development is to ensure that the environment can support our future generations.

Thus, this study defines sustainable development as a process of change (Brandon, 2009) whereby the human being is the core concern (Wheeler & Beatley, 2008), meeting the needs of the present generation without compromising the ability of future generations to meet theirs. There are other conceptions like WCED, (1987) that give emphasis for a better quality of life (DETR,1998) for a balance of social, economic and ecological systems and a link of local actions to global concerns (Berke, 2000). Based on these definitions, the two main interactions that need to be discussed is the human needs-aspiration and human-environment aspect.

2.1.1. Human Needs-Aspirations

Sustainable development is about meeting the basic needs of all and extending them the opportunity for a better life. The human potential addresses their basic needs is described by Bruntland (1987) as the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs.

The human-human relationship in society demands a social system which is of paramount importance. Humans have basic needs including food, shelter, clothing, homes and etc. while perceived needs are socially and culturally determined (Wheeler & Beatley, 2008). Their ability to meet their essential needs depends on the ability to achieve full potential and sustainable development. This clearly requires a level of economic growth to meet the ever-increasing demand. Humans also have legitimate aspirations for an improved quality of life while their needs may be unlimited. Sustainable development emphasis on the inculcation of values especially the consumption standards must be ecologically permissible (Wheeler & Beatley, 2008).

Hence sustainable development requires that societies meet the individual needs both by increasing productivity potential and ensuring equitable opportunities for all. There is no compromise on the human-environment aspect. The environmental degradation must be minimised.

2.1.2 The Human-Environment Aspect

The future human-environment aspects need to be balanced to achieve sustainability and not as practised presently. The Bruntland Report (1987) stated that many of the present efforts to guard and maintain human progress are simply unsustainable in both rich and poor nations. There must be a more comprehensive effort of ensuring a balance of the human- environment aspect. Currently, the human-environment aspect is viewed as the readiness and ability of residents to utilize and benefit from the environment whilst ensuring that it is sustainable for the future generations. Sustainable development ensures that the natural systems support life on earth, the atmosphere, its waters, the soil and the living beings. Melamed and Ladd (2013) emphasised on combining both the human and environment aspects especially the needs and aspirations of people with the imperative to protect the natural resources on which human lives highlighted two most important trends in recent years, the growing wealth and at the same time, causing environmental degradation.

The Bruntland Report (1987) also warns of the unsustainable efforts to guard and maintain human progress to meet human needs and to realise human ambitions and these have continued since 1987 until post 2015. There is still the environmental degradation committed while in pursuit of economic wealth. Nevertheless, Melamed, & Ladd (2013) identified some human development objectives that can be met with minimal degradation of the environment. They identified education and healthcare, the rule of law and provision of political freedoms, or the increase of incomes to a basic minimum level to be central in addressing human needs (eradicating poverty) and can be met with little impact on overall global resource use. Hence, the effort to minimise the impact on the environment lies in the ability of the human themselves. Bruntland (1989) also feels that human has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations.

Without doubt, every aspect of human life is affected by the changing environment. The urgency of achieving both ends becomes increasingly obvious (Melamed & Ladd 2013). This urgency to implement the worthwhile concept of sustainable development to ensure that the human needs and the preservation of the environment for future generation is achieved. Humans at the local level are the nearest to and most intimate with the environment they live in. The issues relating to humans and its environment can be addressed through the implementation of Local Agenda 21. It is a programme that involves the people at local level to participate in ensuring that the environment they are living in is sustainable for the future generation.

2.2 Local Agenda 21

Local Agenda 21 (LA21) is defined as a voluntary process of local community consultation with the aim to create local policies and programs that work towards achieving sustainable community development. Local Agenda 21 encompasses awareness raising, capacity building, community participation and the formation of partnerships (Srinivas, 2015).

Local Agenda 21 conceptualized in chapter 28 of Agenda 21 is a global sustainable development action plan. This action plan consists of 40 chapters explaining the actions needed to be implemented towards the sustainable development. Chapter 28 of Agenda 21 states that the roots of the problems and solutions lies at the local level thus requiring the participation and cooperation of local authorities as a determining factor in achieving its objectives.

Kipli (2012) in the article 'The Implementation Of Local Agenda 21 Programme By Miri City Council, Malaysia, added that Local Agenda 21 (LA21) is a programme to forge partnership between Local Authority, private sector and the local communities that serve to work together, planning and caring for their environment towards sustainable development. Agenda 21 recognises that many environmental problems can be traced back to local communities and that local governments have an important role to play in implementing environmental programmes and governing community support (Srinivas, H 2015).

In implementing Local Agenda 21 at the local levels the dimensions of sustainability must be maintained. The underpinning principles specified in the dimensions of sustainability that form the thrust of sustainable development must be upheld and practised in tandem with Chapter 28 of Local Agenda 21.

2.3 Dimensions of Sustainability

Researchers have expounded the fundamentals relating to sustainable development that encompasses the human, environmental and social aspects as laid down by the United Nations Conference on Environment and Development (UNCED) in 1992. These have inspired others to examine and speculate on a number of related issues.

Various principles were discussed and this formed the bedrock of sustainability. Haughton and Hunter (1994) mooted the Principle of Inter-Generational Equity stipulating that any human activity must consider its effects on the needs and aspirations of future generations. This is also known as the principle of futurity. The 'Principle of Social Justice' or intra-generational equity expounds on the prerequisite of the current generation in the distribution of resources. In particular, it demands that basic needs and common aspirations must be respected. In order to achieve this, wider community participation in sustainable development strategies and policies as integral elements of sustainability is required.

The Principle of Trans Frontier is concerned with the responsibility for the trans-frontier pollution of the global environment which needs to be recognized and discharged (Satterthwaite, 2004). Where feasible, the impacts of human activity should not involve an uncompensated geographical displacement of the environment. Rich nations should not exploit the resources of others and sabotage regional economies and ecosystems. Similarly, the environmental costs of urban activities should not be shared across metropolitan boundaries but there should be compensation for those subsidizing urban development.

Satterthwaite (2004) stated that the 'Principle of Procedural Equity' demands that regulatory and participatory systems should be devised and emplaced to ensure that everybody is treated fairly. In its narrowest interpretation, this concerns procedural equity which is applied solely within a particular legal jurisdiction. Otherwise it could

create problems in an increasingly globalized economy where environmental impacts are felt across political boundaries. These principles assure that the community at local level is given equal opportunity and access to all facilities and amenities provided.

Beside human as the core focus, 'The 'Principle of Interspecies Equity' places the survival of other species on an equal footing with that of man. This is not to equate of humans with other life forms but rather to highlight the importance of preserving the ecosystem and maintaining our biodiversity. At the local levels, the community need to ensure that their local ecosystem is protected from the physical development within their locale.

All these principles form the foundation of sustainability without which, the effort to establish a sustainable development will be futile. In the planning and implementation of any sustainable initiative, there must be a provision that the dimensions of sustainability are secured and the ideals of sustainability achieved.

2.3.1 Environmental Sustainability

Inter-generational equity necessitates that the activities or development carried out presently must take steps to ensure that the future generation will inherit the environment that can sustain their living. This equity defines environmental (ecological) sustainability as the maintenance of good supporting ecosystems that are the sole source of all the necessities of life. According to Goodland (2002), environmental sustainability is needed by humans to improve their welfare by protecting the natural resources. Sutton (2004) describes environmental sustainability as the ability to maintain the qualities that are valued in the physical environment or the natural capital (Goodland, 2002) such as land, water and clean air.

Equally important is the ecosystem for supporting life processes. This includes the regeneration of soil, the pollination of plants and the circulation of carbon dioxide and oxygen and other elements necessary for natural life (Munro, 1995). In the urban environment these elements include the physical resources like buildings, roads and other built resources. In contrast, the rural environments are made up of the farms and living areas natural capital, and also the biological elements including species utilised by agriculture like some pest and native species, and the ecological communities (Sutton, 2004).

The concern for the ecosystem is further emphasised especially in urban area by Ryn and Calthorpe (1986). They reiterated that sustainability implies that the use of energy and fuels in an urban area should be in balance with what the region can supply continuously through natural processes such as photosynthesis, biological decomposition and the biochemical processes that support life. There is a wide range of spectrum of environmental sustainability; ranging from urban, suburban and rural settings. This is greatly dependent on the activities that are carried out in a particular area which affect the environment. Sutton (2004), posed the question, as what constitutes to the sustainability issue? In answering this question, Sutton (2004), affirmed that the sustainability issue is highlighted whenever something of value is at risk. Sutton (2004) feels that the elements in the environmental sustainability agenda are constantly changing. It is detected by the local condition and scenario. The need to take into account of the local condition is to avoid any disruption to the ecological system as it will impede the achievement of sustainable development. Hence, the local community is in the best position to detect any threat to its local environment.

2.3.2 Economic Sustainability

Economic sustainability is usually measured in term of cost benefit. Munro (1995) explained that economic sustainability depends upon a healthy relationship between benefit and cost. It requires that the benefit to exceed or balance the cost. However, economic sustainability is dependent on the cost-benefit view of assessing sustainability that is popular among economists. One view of economic sustainability is based on the economic benefits rendered by a programme for the beneficiaries on how it improves their living condition. Pearce et al. (1994) stated that a program is said to be economically sustainable if it increases income, improve health and nutritional status. There must also be corresponding educational achievement, improve access to resources and a fairer distribution of projects over time. At the local levels, economic sustainability must not solely measure based on 'tangible' factors such as increase income, improved built environment but rather more holistic including the 'intangible' factors like improvement in health and no incidence of communicable diseases.

Economic sustainability goes alongside human resources development through which the capacity and ability of people to generate income and spurring economic activities is enhanced. Economic development includes opportunities to increase income,

business development, industrial recruitment, enterprise zones, physical infrastructures, agriculture programmes, human resources' development, education, health care, housing, income generating programmes and other social services. Unless both economic development and human resource development operate in a concrete, systematic approach to address rural problems, all these initiatives may fail (Wimberly, 1993).

In tandem, with economic sustainability is 'sustainable livelihood'. Chambers (1986) defined sustainable livelihood as the 'level of wealth and stocks, and the flow of food and cash which provide for physical and social well-being and the absence of poverty. These are the basic needs of the community. This is addressed in LA21 principle 5, emphasising on the eradication of poverty in the community. Out of desperation for survival, the poor will frequently exploit the environment for food and shelter. At the suburban areas, sustainable livelihood can include foraging food in the jungles and cutting timber in the forest which is practiced for food and shelter.

2.3.3 Social Sustainability

Barbier (1987) defined social sustainability as the ability to maintain the desired social values, traditions, institutions, cultures and other social characteristics. This must not only be confined to individual but also organizational and community awareness pertaining to sustainable issues in relation to the environment (Norgaard, 1988). Social sustainability also embraces the transformation of values and belief systems so that the beneficiaries of development programmes ensure their own development needs are met. Du Plessis (2009) further elaborated that the definitions and practices of sustainability and sustainable development need to be responsive not only to individualistic development need but to the larger society need. This is due to new knowledge, new pressures and new understanding arising from technological development and the successes and failures of preceding sustainable interventions.

Social sustainability as one of the pillars of sustainable development was incorporated in Principle 1 of LA 21. This principle 1 stipulates that 'human welfare is the main concerns of sustainable development'. It also indicates that humans within the environment are entitled to a healthy and productive life. To achieve this and social sustainability need in depth understanding on the way human interact. Human interactions within the community are regulated by norms, culture, beliefs, religion and

others which evolve to establish the social system. All these need to be balanced and harmonised. Munro (1995) mentions that social sustainability means harmony of development with the current norms. An activity is said to be socially sustainable if it conforms to social norms or community's tolerance for change. Social norms are based on local religion, tradition and customs. These have to do with ethics, value systems, language, education, family and other interpersonal relationships, work attitudes, tolerance, and all other aspects of individual or group behaviour that are primarily motivated by economic considerations (Munro,1995). Hence, in assessing social sustainability the social system, norms and values form the indicators to reflect the local character of the community.

Finger and Kilcoyne cited in Trzyna (1995), stated that the indicators of social sustainability comprised of individual beneficiaries' involvement or participation in projects and their readiness to change. It also involves community building activities such as collaboration among critical actors, individual beneficiaries and organizational and societal transformation. The readiness to transform and change among the community for betterment in tandem with their beliefs, values and norms is a prerequisite to social sustainability and thus achieving sustainable community development.

Goodland (2002) believes that only with systematic community participation and a strong civil society and government can the societal transformation be achieved. Community participation can happen depending on the cohesion of the community for mutual benefit, connected between groups of people, reciprocity, tolerance, compassion, patience, forbearance, fellowship, love, commonly accepted standards of honesty, discipline and ethics are the necessary ingredients of sustainable community. Also common rules, laws and information promote social sustainability. All these ingredients put in place will enable the community to achieve social sustainability.

The attainment of social sustainability in a community is desired as any breakdown of socially shared values, rules, laws and lack of investment in social capital may be costly and counter to sustainability. Goodland (2002) warned that violence is a massive social cost incurred in some societies because of inadequate investment in social capital. Violence and social breakdown can be the most severe hindrance to sustainability.

2.4 Contemporary Policies for Sustainable Development

The Rio Declaration was reaffirmed and adopted at The United Nations Conference on the Human Environment in Stockholm on 16 June 1972. This sought to build upon the Rio Declaration with the goals of establishing new and equitable global partnerships through the creation of new levels of cooperation among states and key sectors of the society, working towards international agreements which respect the interests of all and protect the integrity of the global environmental and developmental system, recognizing the integral and interdependent nature of the earth, our home.

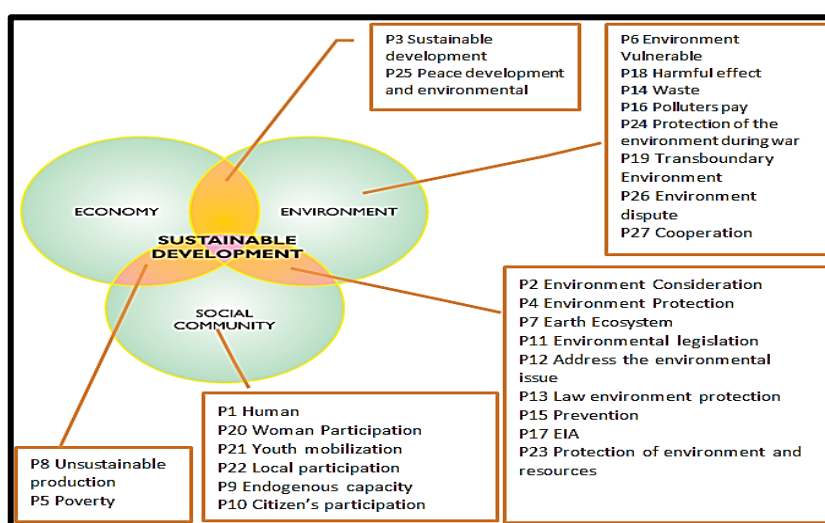


Figure 2.1: Principles of SD in respect to Social Community, Environment and the Economy of SD

The conference agreed that the key issues that need attention are the twenty-seven principles which form the basis of sustainable development policy as tabulated in Appendix 2 (Refer also to Figure 2.1).

Based on Figure 2.1, the distribution of the principles under the headings of social, environmental and economic components of sustainable development are unevenly distributed. Of this, 66.7% addressed the environmental aspect, the social aspect is 22.2% and only 11.1% addresses the economic aspect. This scenario is more apt for developed countries. This trend reflects the concern of the developed nations of the deteriorating environment.

In developing countries, the pertinent issue that needs attention is the generation of opportunities to spur the economy. However, for any economically and environmentally related development, special care must be taken to mitigate any potential

environmental degradation. The developing nations need economic growth to sustain a living. Malaysia is a developing nation, need to balance and give due emphasis to all the three aspects. It needs to ensure continuous economic growth and at the same time maintain a sustainable environment for the future generation and that there are social justice and fairness for all.

Saadatian et al (2011) studied the efforts and initiatives of sustainable development focusing on Malaysia policy, plan and assessment tools for the past 20 years. The study suggested a lack of focus on sustainability which might expedite achievement of the goals of Malaysia. Nabiha et al. (2009) discussed the problems pertaining to sustainable tourism development in Malaysia and the policies, regulations, and strategies to achieve sustainable tourism was examined and the paper concludes with the arguments for having the local agenda for sustainable tourism in Malaysia. Local Agenda 21 warrants the community participation to mobilize the community towards a balanced achievement of all the three pillars of sustainable development that is social, economic and environment sustainability. The process of developing the community in attaining sustainability is known as '*sustainable community development*'.

2.5 Evolution of the Concept of Sustainable Community Development

To understand the evolutionary process of the concept of sustainable community development, the basic meaning of the words sustainable, community and development need clarification. The meanings have evolved over time. The words '*sustainable community development*' carries a unique meaning entirely of its own. The Cambridge Dictionary online (2015) defines sustainable as being able to continue over a period of time and/or causing little or no damage to the environment and therefore able to continue for a long time.

The term community can be explained as people living in one particular area who are considered as a unit because of their common interests, social group or nationality. Development is described as 'When someone or something grows or changes and becomes more advances. In the context of this thesis, it can be said that development is the ability of people to grow or change for their advancement continuously over a period of time. The sustainable development concept evolved around two aspects

namely socio-economy and the environmental economic. The main developmental rationale relating to Sustainable Development can be summarised in Figure 2.2.

Figure 2.2 depicts the development phase with economic and industrialisation growth given prime focus during the; *economic* phase. This phase had brought about social and quality of life concern and this issue was addressed during the 'social and economic; phase. The 'environmental and economic' phase arises from the impact on the environment from the industrial sector. This developed with the social, economic and environmental concern forming the pillars of sustainable development as discussed in the dimensions of sustainability. Expounding from the three pillars of social, economic and environment aspects of sustainable development, the Egan wheel was developed with eight component of sustainable community development established.

The discussions in the preceding sections form the foundation in understanding the characteristic of sustainable community development and identify the suitable indicators for the study area. This section reviews the meaning of community and their concept of community development, sustainable community development and the relationship with sustainable development.

The components of sustainable community development expounded in the Egan Wheel (2004) will be discussed in this with regards to the governance and institutional structures. From the Egan wheel components, indicators are developed to measure and assess the sustainability of suburban village. These indicators form the central part of the development of questionnaires used for measuring the status of sustainability of the villages.

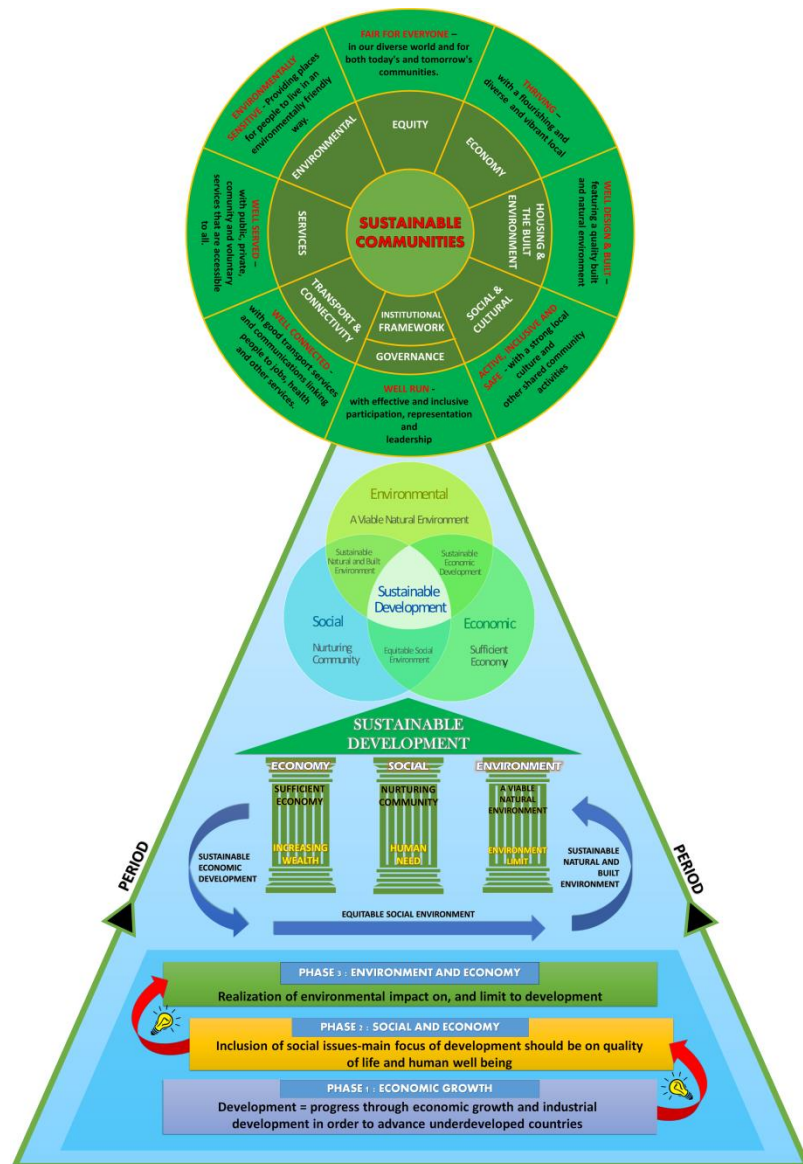


Figure 2.2: Phases of Development of Sustainable Development
(Adopted and modified from <https://www.google.com/sustainable+development+diagram>)

2.6 Definition of Community

The community is defined as a web of personal relationships, group networks, traditions and patterns of behaviour that develop against the backdrop of the physical neighbourhood (Flecknoe & McLellan, 1994). Inherence in this is the interaction among people and place with a common feeling and the people working together (Warburton, 1998) towards a socio-economic situation (Flecknoe & McLellan, 1994). Jacobs (1995) acknowledged that individual or people are not just individually but accumulatively form a community or society to which we belong without which a true human does not

flourish. Within a society, social interaction delineates a territory as the community locale. It includes the associations that comprise the local society as well as the source of community identity (Wilkinson, 1991). To define community in terms of just social interaction and argue that the local community remains a relevant unit of social organization does not lead directly to a useful approach to sustainable development, (Bridger and Luloff, 1990). The definition of community must also include an environmental and economic consideration (WCED, 1987) in order to achieve a sustainable community status.

Some definitions relate the characteristics of the members of a community and the common interest which bind its members together and these definitions give these characteristics a shared significance. Such shared characteristics can be based on origin, religion, ethnicity or even sexual orientation. Ideally, in a multiracial and multi-religious society, shared characteristics need to be beyond any racial and religious divide and the key shared characteristic for Malaysia should be 'unity and harmony'.

Wilkinson (1991) emphasised that, although the community thrives on interaction, the mode of interaction differs depending on the level of technological sophistication and if this relationship amongst people is suppressed the community is limited. In practice, the community is always bounded because there are inevitable barriers to social interaction such as sharp divisions along racial, ethnic, class and gender lines. Of course, groups are constantly being formed, disbanded and reformed along diverse interests. All these factors affect patterns of interactions (Bridger and Luloff, 1999).

Maser (1997) described the community in the context of sustainability. Maser referred a community as a group of people with similar interests living under, and exerting some influence over, the same government in a shared locality. He further emphasized that the community as a whole interacts with the local environment, moulding the landscape within which it rests and is, in turn, moulded by it. At the local level, changes are seen and felt in a much more immediate manner where the consequences of environmental degradation are most keenly felt and where successful interventions are most noticeable.

Wijayaratna (2002) stated that the community at local or village level is one with which we are most familiar. It is because it has a very visible manifestation: a set of dwellings, and associated residents, clustered together or at least designated by common

agreement to 'belong' to a particular village. Such communities are usually to some extent self-governing, with designated persons in roles of authority, formal or informal. Furthermore, Warburton (1998) stated that a community comprise of people sharing and working together in a dynamic way with the intention of achieving the same commitment, creating and recreating for a better life by strengthening the capabilities for local level development, which involve more than just one local level, is crucial for advancing people's productivity and well-being. By drawing on the interactional approach to community development, one can demarcate a conceptual framework for the design of strategies which will enhance local capacity and strengthen local forms of social organization (Kaufman, 1959).

2.7 Definition of Sustainable Community

The definition of sustainable community development is parallel with sustainable development except that the former specifically focuses on issues concerning the community. Bridger and Luloff (1999) gave the opinion that the definition of sustainable community development should stress the importance of striking a balance between environmental concerns and development objectives while simultaneously enhancing local social relationships. Sustainable communities' meet the economic needs of their members, enhance and protect the environment and promote more humane local societies.

Egan (2014) reiterated that

"Sustainable communities meet the diverse needs of existing and future residents, their children and other users. They contribute to a high quality of life and provide opportunity and choice. They achieve this in ways that make effective use of natural resources, enhance the environment, promote social cohesion and inclusion and strengthen economic prosperity." (Egan 2004: 1)

With reference to this definition, is the well-being of the people in the community. The three components of sustainable development are social, economic and environmental aspects coalesced in a balanced whole. Gruder et al. (2007) recognised the significance of sustainable communities in building better places for the future by not

only creating effective environmental policies and economic equality but also a long-term societal benefit. The community being the stakeholders or client of any developmental effort must enjoy the benefits and be involved in determining the future of their own environment, and the societal and economic activities in their own place.

Bridger (1997) stated that the definition of the ideal typical sustainable community can be defined along five dimensions:

1. Increasing local economic diversification.
2. Self-reliance entailing the development of local markets and production, the processing of imported goods and greater cooperation among local entities which would better protect them from the whims of big corporations.
3. A reduction in the use of energy coupled with the careful management and recycling of waste.
4. Protection and enhancement of biological diversity and careful stewardship of the natural resources.
5. Commitment to social justice in terms of housing and the basic needs of all regardless of race and class, access to public services and striving to create an empowered community.

At the village level, the endogenous generation of economic activity within the community, cooperating to produce goods for local markets and protecting the environmental biodiversity, practicing recycling and reducing energy usage, living a harmonious interactive life both socially and culturally will provide the essence of a sustainable community. Such a community will form the bedrock of SCD.

2.8 Definition of Sustainable Community Development

Kline (1994) defined sustainable community development as the ability of the community to utilize its natural, human, and technological resources to ensure that all members of present and future generations can attain a high degree of health and well-being, economic security, and the right to shape their future while maintaining the

integrity of the ecological systems on which all life and production depends. The EPA/USDA Partnership to Support Community-Based Education in 1998 recognizes that a common definition of community development is not easy to formulate, nor is it universally agreed upon. Yanarella and Levine (1992a) observed that sustainable community development may ultimately be the most effective means of demonstrating the possibility that sustainability can be achieved on a broader scale, precisely because it places the concept of sustainability in a context within which it may be validated as a process. The EPA/USDA Partnership (1998) reported that part of the confusion concerning SCD rests with the fact that community development is both a process and a product. As a process, community development is a continuous and integrated effort to achieve the final product which is a sustainable community.

Jones and Silva (1991) considered an integrated model of community development must include problem solving, community building and systems' interaction. Stated in another ways a truly integrated approach assesses the problem and goes on to build community capacity and more importantly, addresses the problem. Wijayaratna (2002) agreed that, in the past, rural development in developing countries has always adopted a top-down approach to development and has become "*supply-driven*". However, recent developments in decentralization advocate a "*demand-driven*" strategy and have the merit of considering the specific demands and potential of each locality. Such an approach will increase the community consciousness. Arousing public consciousness is important for community development as this consciousness activates the "*felt needs*" of respective local communities as opposed to "*needs*" which have been identified by "*outsiders*". This '*felt need*' will motivate the community to strive towards transforming their village into adopting a sustainable community development approach.

Amir et al. (2015) focused on the resiliency of the rural communities in Malaysia using sustainability planning in rural tourism. The research has covered three concepts of development background, community resiliency elements and the role of the local government. The finding also suggests a sustainable tourism development in the rural area contributed to an improved resiliency within the local community. A more friendly community-based rural tourism a type of framework was proposed by Kayat, K. (2014). With this framework, the managers or planners can understand the criteria of a

sustainable development. Thus ensuring that the community–based rural tourism fulfill the sustainability requirement.

Adnan et al. (2014) focused on a gated community, a form of residential community of housing estate containing strictly-controlled entrances and often characterized by a close perimeter of wall or fences. The authors believed that gated communities are able to prevent crime, increased sense of security and provide self and family protection against unwanted intrusion. Recent studies show that most purchasers who buy such houses are looking for privacy and do not want to get involved with their neighbourhood. The authors claimed that this phenomenon created an isolated and unsustainable community in terms of social segregation.

Based on the above and summarizing the term sustainable community development used for this study is defined as:

“as a process (Yanarella and Levine 1992a) and product (EPA/USDA Partnership,1998) of activating consciousness (Wijayaratna, C.M. 2002) of a community’s ability to utilize its natural, human, and technological resources (Kline,1994) and striking this process/product strikes a balance between environmental concerns and development objectives while simultaneously enhancing local social relationship (Bridger and Luloff, 1999), to ensure that all members of present and future generations can attain a high degree of health and well-being, economic security, in addition to shaping their future while maintaining the integrity of the ecological systems on which all life and production depends (Kline,1994)”.

The process of building the community from the present status to a sustainable community one is the 'development process' that involved the community themselves guided by the Egan’s Wheel and ensuring that all the components of sustainable community components is followed and achieved.

2.9 Components of Sustainable Community Development

Egan (2004) in Table 2.2 summarized that there are eight components of sustainable community development, namely governance, transport and connectivity, services,

environment equity, economy, housing and built environment, and social and cultural aspects. Based on these components, a comparison has been made between the UK experience and the Sarawak (Malaysia) experience. The gaps between both practices indicate the level of sustainability in the community development practiced in both countries.

Components of the Egan's Wheel	United Kingdom	Malaysia (Sarawak)
Governance	Well run communities with effective and inclusive participation, representation and leadership.	Still at the stage of awareness
Transport and Connectivity	Well-connected communities with good transport services and communications linking people to jobs, health and other services.	Not a function of the local authority
Services	Public, private, community and voluntary services that are accessible to all.	Instilling good service delivery
Environmental	Providing places for people to live in an environmentally friendly way.	Environmental concern of the local authorities are confined to municipal waste management,
Equity	Fair for everyone in our diverse world and for both today's and tomorrow's communities.	Nil
Economy	A thriving and vibrant local economy	Motivating community to address economy issue
Housing and the Built Environment	High-quality buildings.	Nil
Social Aspects and Culture	Active, inclusive and safe with a strong local culture and other shared community activities	Establishing a social interaction with the community
	Source: Academy for Sustainable Communities (undated)	Source: MLGCD Guideline (2014)

2.10 Sustainable Community Development – UK versus Malaysia (Sarawak) Experience

In 2003, the UK government launched the 'Communities Plan' (Sustainable Communities: Building for the Future). The UK plan defined sustainable communities as places where:

'People want to live and work, now and in the future. They meet the diverse needs of existing and future residents, are sensitive to their environment, and contribute to a high quality of life. They are safe and inclusive, well planned, built and run, and offer equality of opportunity and good services for all'.

(Source: <http://webarchive.nationalarchives.gov.uk/>: pg. 1)

The emphasis of the United Kingdom plan is that the communities must be sustainable. People must have decent homes at prices they can afford, good public transport, schools, hospitals, shops and a clean and safe environment. Comparatively, the Ministry of Local Government and Community Development, Sarawak, Malaysia in their 'Guidelines for Implementation of Community Development Programmes for Local Authorities in Sarawak' (Othman, A, 2014) defines sustainable communities as:

'A process or effort to establish a condition or economic and social development for the entire community through an active participation and total commitment from the community. Also, it is a process of synergy between the community and government to improve the economy, social aspect and culture of the community to contribute to national development'. (Othman 2014 pp 3)

The objectives of community development in Sarawak as stated in the guidelines are:

1. To motivate members of community to work collectively for a common need (Flora et al., 1992 cited in Othman, A, 2014).
2. To build community capacity to overcome problems and to create opportunities (Aspen Institute, 2000 cited in Othman, A, 2014).
3. To develop a better quality of life through holistic community participation.
4. To achieve harmony in the community.
5. To improve the socio-economic status of the community.

6. To integrate the community into the national mainstream and to enable its members to contribute to the national development.
7. To improve the service delivery of the local authority for the community.

The UK definition of SCD is similar to that used by WCED. It has a better definition compared to Sarawak as it incorporates the eight pertinent elements of the social setting, the economy and the environment, governance, transport and connectivity, services, equity, housing and built environment. There is also more emphasis on the need for the future generations. In Sarawak a comprehensive definition of sustainability is yet to be reached.

The UK fulfilled all the components of SCD and conforming to the Egan Wheel and ODPM (2004) elements. As for Sarawak only the socio-cultural aspects and the services provided by the local authorities conform to the elements while the rest is either at infancy stage or it is not a function of the local authority. (See Table 2.2). This vast difference need to be narrowed down to enable the community to achieve sustainability.

To narrow down the gap between the UK (developed) and Sarawak, Malaysia (developing) countries in term of sustainable community development a participatory approach or community participation needs to be put in place. This can be achieved through the implementation of Local Agenda 21. In Sarawak, the Miri City Council is one of the councils under the charge of the Ministry of Local Government and Community Development that had embarked on the implementation of Local Agenda 21 as a pilot project of the Malaysian Government (Kipli, A. 2012). The participation of Miri City Council is exemplary for other local authorities. With more involvement of the local authority participating in Local Agenda 21 will accumulatively boost the implementation of SCD. Local Agenda emphasize on the participatory or bottom up approach to achieve sustainable community development.

2.11 Participatory Bottom-Up Approach to Achieve Sustainable Community Development

The Local Urban Distress Area (LUDA) regeneration programme in Europe emphasis on a community based approach to improve the quality of life of the community. The

community-based approach calls for the development of an integrated strategy incorporating various stakeholders based on equal opportunities and the right of access to an acceptable standard of living. It creates a collaborative platform, consensus, capacity, strategic alliances and the coalitions needed for cooperation among stakeholders in solving local problems. There is a need to take the lead in representing their views on the problems any deprivation has caused and on what actions are required to solve them (E-Compendium: Handbook E1).

In a developed nation community-based approaches in sustainable community development are practiced via regeneration programmes. Even though the study area in this research is a suburban setting at a developing stage, the experience from a developed nation can be a guide in developing a community based programme. LUDA is a good example of a community-based approach in developed countries, especially in Europe. Such an approach is relevant to the study area with some modifications to meet local needs.

The LUDA integrated strategies developed in the Urban II programme (2002-2006) to handle urban distress involving communities was viewed by the European Commission (EC) as a major step in the right direction (LUDA e-compendium handbook 3).

The key elements of the URBAN II initiative are to support integrative solutions for large urban problems are:

- An integrated approach to tackling numerous social, economic and environmental problems in urban areas.
- Clear targeting of a well-defined area or neighbourhood.
- Whole hearted commitment to citizen involvement and the solving of urban problems at grass root level, and
- The commitment to innovation and the enhancement of the exchange of ideas and experience in relation to sustainable urban regeneration and development in the European Union (EU) (LUDA e-compendium Handbook 2).

The elements in URBAN II are applicable to the study area, addressing as they do issues relating to social aspects, economic aspects and the environment aspects with regard to a well-defined neighbourhood. The main emphasis of the community-based

approach as expounded in the LUDA e- Compendium handbook is to achieve good quality of life for the community. Sustainability Compass Bern, Switzerland, is a good example of the application of the Diamond of Quality of life (each dimension within the Diamond is further directed to a number of objectives and indicators (E-Compendium handbook E7). The holistic 'Diamond of Quality of Life' covers five dimensions, namely socio-cultural conditions, environmental conditions, economic conditions, urban (Built) structure and community and institutional capacity (E- Compendium: Handbook E1).

LUDA (2006) described the 'diamond of quality of life' in terms of the well being and life-chance opportunities offered to improve the quality of life based on five dimensions. These five dimensions are Socio-cultural, Economic, Community and Institutional Capacity, Urban Structure and Environment (SECURE) dimensions as shown in Figure 2.3.

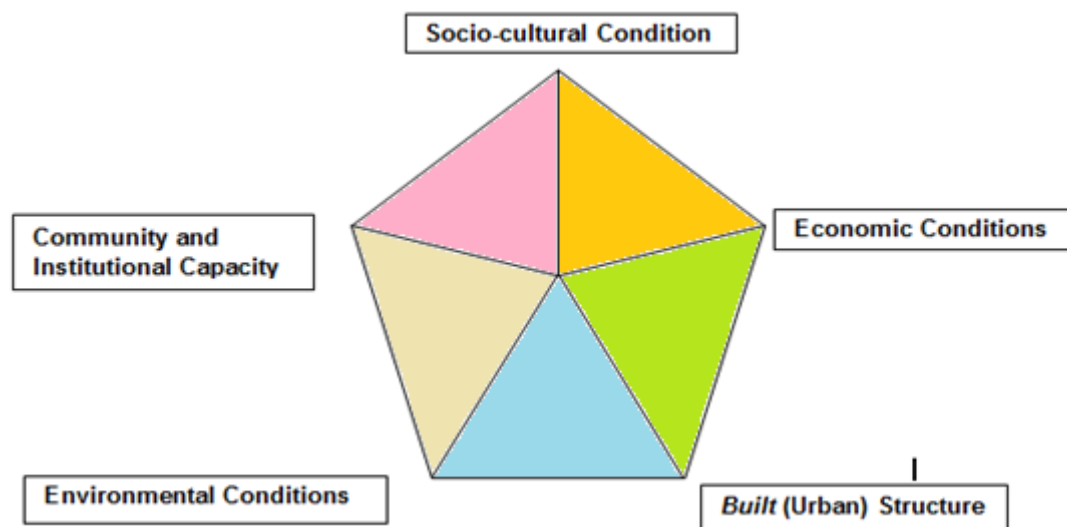


Figure 2.3: Diamond of Quality Of Life
(Source: LUDA Compendium, Handbook 1)

The five dimensions have to coalesce proportionately to enable people to achieve good quality of life. This 'diamond of quality of life' is the main framework used for this study as the five components are used to indicate the sustainability of community development. In the urban setting, there is additional components known as 'built environment'. The term urban structure connotes a complex urban infrastructure and facilities whereas, in a village, the term built structure is deemed more appropriate for

a local village situation. Furthermore, the five dimensions of the diamond of quality of life is expanded into additional issues (Refer to Table 2.3).

Each of the dimensions contains issues pertinent to each locality. This will help to identify issues needed to be included in for the establishment of the questionnaire. These issues are central to the formulation of indicators that are required to assess the level of sustainability at the local level. The following section discusses on the pillars and the method used to assess the level sustainability.

DIMENSIONS	ISSUES
Socio-cultural Conditions	Population Structure; Household Income; Local Employment; Knowledge and Skills; Health Conditions; Safety and Security; Culture.
Economic Conditions	Economic Base; Investment; Housing and Property Market.
Urban Structure	Urban Design; Services and Infrastructures; Housing Quality; Modes of Internal Connection; Land Use.
Environmental Conditions	Soil Quality; Air Quality; Water Quality; Open Spaces; Waste Management and Recycling; Natural Hazards.
Community and Institutional Capacity	Participation and Involvement; Social Justice and Equity; Institutional Capacity; Political Capacity; Land Use Context.

Table 2.3: The Dimensions of Diamond of Quality of Life (DOQOL)

In Table 2.3, the dimensions of Diamond of Quality of Life (DOQOL) are compared with the components in Egan Wheel (EW) (2005). The common dimensions or components are socio-cultural aspects, environmental aspects and economy. The DOQOL includes the urban environment which corresponds to the EW namely Housing and Built Environment, Transport and Connectivity. The UOW (University of Wisconsin) study looks more at the rural and suburban setting and the Agriculture and Natural Resources is more suited to the UOW study instead of urban environment. The

DOQOL dimensions of community and institutional capacity corresponds to the Governance, Equity and Services whereas the UOW had incorporated these into the other components such as social, economic and environmental components.

Dimensions Of Diamond of Quality Of Life (DOQOL)	Components of Egan Wheel(EW 2004)	University of Wisconsin (UOW 1998)
Socio- Cultural	Socio- cultural	Social
Environmental	Environmental	Environment
Economic	Economy	Economic
Urban Environment	Housing and Built Environment Transport and Connectivity	Agriculture and Natural Resources
Community and Institutional Capacity	Governance	Nil
	Equity	Nil
	Services	Incorporated in the social, environment and economy component

Table 2.4: Comparison between the dimensions of the Diamond of Quality of Life, the components of the Egan Wheel and University of Wisconsin SCD Indicators.

A study conducted by Egan and ODPM (2004) in “Skills for Sustainable Communities” measured all the components except Equity. Egan and ODPM (2004) mentions that equity demands fairness for everyone and access to services, jobs and education in the community. Fairness is not a luxury but a human right. Fairness means equal opportunity for all including the future generations in the study area, especially education accessibility for everyone and even the poor can attend school. Health service is also accessible to everyone.

Job opportunities are the same for all applicants’ based on qualifications and merits. Thus, this study had omitted measuring equity as the minimum requirement as described by Egan and ODPM (2004). A combination of DOQOL, EW and UOW components is more applicable to the study area due to the suburban nature of the villages.

2.12 Sustainable Development Strategy

An effective and sustainable development strategy must not be viewed simply as a document (George and Kirkpatrick, 2004) but must be translated into practice. It is a continuous and adaptive process of strategic and well-co-ordinated action. Clayton and Bass (2002) emphasised on developing an underlying vision through a consensual, effective and iterative process followed by setting objectives, identifying the means of achieving them, and then monitoring the achievement as a guide to the next round of this learning process. Once the basic fundamental are established, sets of coordinated mechanisms and the continuing processes of monitoring, learning and improvement can be put in place. The implementation need to be closely monitored and modified if necessary, to suit the local conditions through proper governance. Monitoring will enable relevant data to be collected and the outcome from the analysis will be used to improve the strategy.

Figure 2.4 depicts the aspects of strategic and coordinated action for sustainable development indicating that good and effective leadership are required to mobilise, coordinate and encourage community participation in ensuring that the right strategy and approach are planned, implemented and monitored. In the process, good leadership is most important to ensure that the principle of inter- generational and interdependency principle of sustainable development are observed. At the planning stage consideration in legal, institutional and policy assessment matters is a prerequisite to achieve the goal at the planning stage.

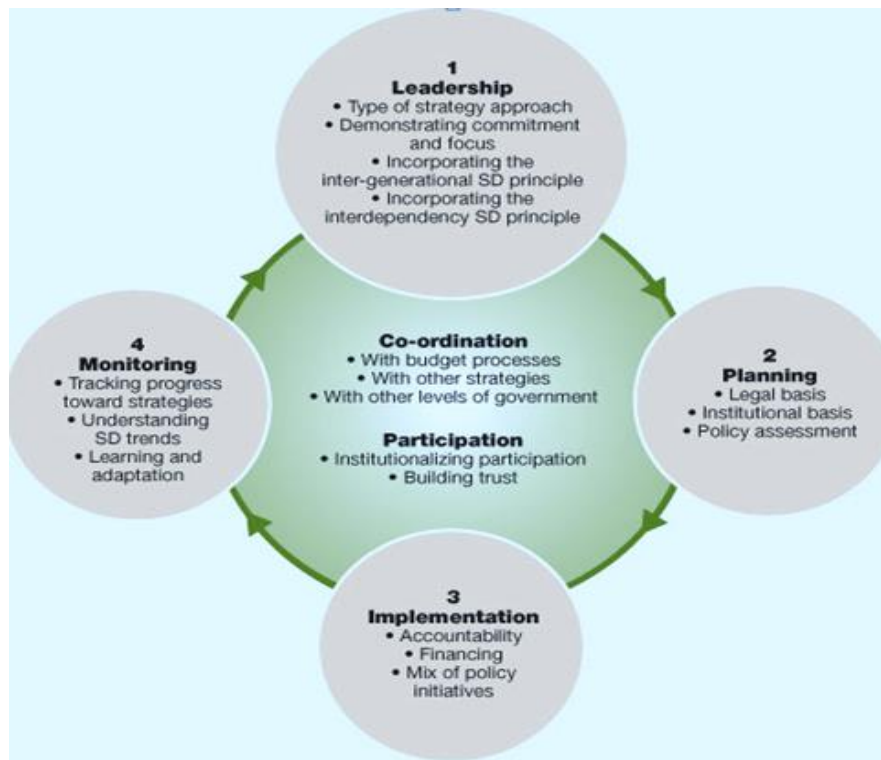


Figure 2.4: Aspects of strategic and coordinated action for sustainable development
(Source: Steurer & Martinuzzi, 2003)

The assessment of the institutional framework especially its capacity to carry out the planned programme is necessary. The implementation stage, require high level of accountability, proper financial control and ensuring that a mix of policy initiatives are implemented to benefit the community. Whilst implementation is in progress, all the initiatives need tracking. This is in line with the strategies collectively agreed. The leadership concurrently ensure that the coordination and participation are voluntary with strong teamwork among the community to achieve a sustainable development.

Steurer & Martinuzzi (2003) described a shifting pattern of governance away from the grand planning schemes to adaptive strategy processes, from authorities to competencies, from pure hierarchies to a combination of hierarchies and networks, from control to monitoring, evaluation and feedback, and from knowing to learning.

Translating a grand visionary idea into an effective do-able action plan needs a well-accepted framework at the local level which must be institutionalised and recognised as part of the governance network. This institutional framework must be in place at the village level to enable all programs or government effort channelled for the benefit of

the community. This will allow the residents to channel their complaints and participate in the decision-making directly which will also reduce the current bureaucracy.

2.13 Appropriate Technology for Sustainability at the Village Level

The National Center for Appropriate Technology (2011) described appropriate technology as the simplest level of technology that can achieve the intended purpose. It is also referred to as an engineering that takes adequate consideration of social and environmental betterment for the purpose of achieving vigour and sustainable living. Akube and Anthony (2000) in their study "*Appropriate Technology for Socioeconomic Development in Third World Countries*" elaborated that appropriate technology has been used to address issues in a wide range of fields. They gave examples of appropriate technology applications include: bike and hand-powered water pumps (and other self-powered equipment), the universal nut 'sheller', self-contained solar lamps and streetlights, and passive solar building designs. At the village level, the introduction of new technology that requires financing need government support to implement.

The consideration of suitable appropriate technology application in the village is normally related to the financial capability of the community. Todaro, and Smith, (2003) and Akube and Anthony (2000) agreed that appropriate technology is most commonly discussed in its relationship to economic development especially involving financial benefit. The technology must be cost-effective. In Malaysia, the government are supportive and receptive of any appropriate technology. It is willing to finance through their agencies if the proposal using the appropriate technology is a feasible venture that can eradicate poverty and encourage sustainable development.

The National Center for Appropriate Technology (2011) listed the potential application of appropriate technology around education housing, health, sanitation, water supply, electricity, transportation and others had been reported to enable the community to strive for a sustainable development.

2.13.1 Education

The application in education is wide and ICT would be able to provide education and knowledge in a wider reach, even with a limited amount of resource, unlike

conventional systems of education. In the area under study ICT is widely used in schools and its application can be applied locally.

2.13.2 Building and Construction

The application of appropriate technology in building and construction at the local village is important to assist the community in constructing affordable houses. Examples of the types of appropriate technology applicable in tropical climate are:

- Natural ventilation can be created by providing vents in the upper level of a building to allow warm air to rise by convection and escape to the outside, while cooler air is drawn in through vents at the lower level.
- Electrical powered fans (e.g. ceiling fans) allow efficient cooling, at far lower electricity consumption as air conditioning systems.

Other forms of natural building may be considered using appropriate technology though with the emphasis of attaining sustainability and self-sufficiency.

2.13.3 Water Supply

Appropriate technology options in water treatment can reach large numbers of low-income households on a sustainable basis. Some appropriate water technology supply measures applicable to the local coastal village includes:

- Deep wells with submersible pumps in areas where the groundwater (aquifers) are located at depths greater than 10 meters.
- Shallow wells with lined walls and covers.
- Rainwater harvesting systems with an appropriate method of storage, especially in dry seasons.
- Hand pumps and treadle pumps are generally only an option in areas is located at a relatively shallow depth around 10 meters.
- The Flexi-Pipe Pump is a notable exception reaching up to 25 meters.

- These technologies are applicable in remote areas without the pipe water supply but the rainwater harvesting is a simple yet practical option.

2.13.4 Sanitation

Village toilets are important to enhance the environmental sanitation. Some common systems which might be appropriate includes:

- Dry toilets as they save on flushing water and may allow the nutrients of the excreta to be reused in agriculture. Two examples of dry toilets are composting toilets and urine-diverting dry toilets.
- Constructed wetlands which can treat waste water and grey water and require only little electrical power.
- The 'Arborloo' which is a very simple low-cost type of composting toilet suitable for rural areas.

These affordable technologies can be used in the village to ensure waste is managed properly to safeguard the environment degradation.

2.13.5 Energy Generation and Uses

Sarawak Energy Berhad is a Government Link Company, is the sole supplier of energy to the whole state of Sarawak. Recent company initiative is the renewable energy production from the Bakun Hydro dam for the state. The village in the study area is supplied with electrical energy from this power plant. Efforts are also introduced to use appropriate energy such as:-

- Vegetable oils which can be used only in internal combustion (Diesel) engines. Biofuels are locally available in many developing countries and can be cheaper than fossil fuels.
- DBKU intended to introduce the aerobic digestion plant to produce gas and compost from the organic waste generated from the market. The gas generated is supplied to the food kiosk at a cheap rate.
- Biogas is another potential source of energy waste organic matter. A generator (running on biofuels) can be run more efficiently if combined with batteries and

an inverter. This adds significantly to capital cost but reduces running cost. This is a much cheaper option than the solar, wind and micro-hydro options.

- Biochar is another similar energy source which can be obtained through charring of certain types of organic material (e.g. hazelnut shells, bamboo, chicken manure) in a pyrolysis unit.

For the domestic use, various appropriate technologies can assist the community to reduce their electricity consumption such as:

- White LEDs and a source of renewable energy
- Compact fluorescent lamps (as well as regular fluorescent lamps and LED-light bulbs) can also be used as the appropriate technology
- The Safe bottle lamp is a safer kerosene lamp designed in Sri Lanka. This lamp allows relatively long mobile lighting. The safety comes from a secure screw-on metal lid and two flat sides which prevent it from rolling if knocked over.

2.13.6 Transportation

The community means of transportation to the city is either by cars or buses. Appropriate technology to improve this will be the introduction of the hybrid or electrical vehicle to enjoy the cheap renewable energy available. The introduction of light rapid transit or an efficient bus service using electricity can be introduced by the government.

2.13.7 Health Care

National Geographic Magazine (2008) in describing the 'Necessary Angels' that they are not doctors or nurses but illiterate women from India's untouchable castes. Yet as trained village health workers, they deliver babies, cure disease, and saving lives including their own. Health services can reach the community by training the community to be a resourceful person for the health personal like in India. In the study area, '*Klinik Desa*' serves the local needs like maternal and child care and paramedic services.

2.13.8 Food Preparation and Storage

DBKU in its effort to assist the community had introduced low-effort food-production systems such as 'fertigation'. This is a concept combining fertilization and irrigation using piping system and a control flow of fertiliser application using automated system. The application of an appropriate technology for Indoor cultivation may be set up using hydroponics with grow lights, while outdoor cultivation may be done using permaculture, forest gardening and no-till farming using poly bags planting.

Appropriate Technologies can greatly reduce the labour required to prepare food, compared to traditional methods, as well as being much simpler and cheaper than the processing as used in some countries. It is a matter of choosing the appropriate technology for the right task.

2.13.9 Information and communication technologies

The National Center for Appropriate Technology (2011) recommended the following technologies for developing countries:-

- Simputer, Asus Ee-PC, and other low cost computers for developing countries. Besides the low price, they are resistance to dust, reliability and use of the target language.
- The Appropriate Technology Library is a project that used CDs and DVDs to give access to development information in areas without reliable and affordable internet access.
- Mobile telephony is appropriate technology for many developing countries, as it greatly reduces the infrastructure for a wide coverage. In Malaysia, the service providers are actively promoting their services to customers with various kind of product.
- Internet use can be encouraged among the community using cooperative computer networks that run wireless provided by the government

2.13.10 Appropriate Technology for Sustainable Approach

Choosing the appropriate technology with features such as low cost, low usage of fossil fuels and use of locally available resources can contribute to sustainability (Sianipar et

al, 2013). The use of cities' waste material allows the gathering of a huge amount of building material at a low cost. When obtained, the materials may be recycled over and over in the own city/community, using the cradle to cradle design method. DBKU introduces the Eco-Depo concept in the city. This concept was mooted after increase cases of illegal dumping of waste in remote areas. The eco-depo received all types of waste besides domestic waste free of charge to encourage the community to discard their waste properly. This waste will be recycled or reuse by others who may need it. In other word DBKU is practicing '*One person waste is another person need*'. The use of the appropriate technology discussed above will contribute towards sustainability.

2.14 Sustainability Assessment Principles

In evaluating sustainability, a number of assessment principles must be adopted and strictly followed. Brandon and Lombardi, P. (2009) lists seven principles that should underlie all assessments in sustainability if they are to be used for maximum benefits namely holistic, harmonious, habit-forming, useful, hassle free, realistic and humanistic as follows:-

- 1. Holistic** They should encompass all the key aspects needed to establish sustainable development.
- 2. Harmonious** They should endeavour to balance or be used to balance criteria upon which sustainable development should be judged.
- 3. Habit forming** They should be a natural tool for all concerned and encourage good habits
- 4. Useful** They should assist in the process of evaluation and not confuse matters with further complexity or conflict.
- 5. Hassle free** They should be easy to use by a wide range of people and do not require extensive training unless they are to be used by experts and, even then, the results and their limitations should be simple to explain.

- 6. Realistic** They should point towards a possible solution and not leave the users in a state where there appears to be no answer.
- 7. Humanistic** They should seek solutions which, by their nature, assist the development of human beings without pain or suffering

The LUDA Handbook 1 outlines a wide range of assessment techniques that can be used to understand the social, economic and environmental sustainability of the regeneration process. Firstly, the Baseline Assessment is an analysis of the current conditions, usually carried out at the beginning of the regeneration as a diagnosis. Secondly, a Prospective (ex-ante) Assessment that looks forward in supporting the decision-making before improvements are improved. This includes predicting probable forthcoming events and devising different scenarios of the future in the Visioning Process. Thirdly, an analysis of the alternative development options pertaining to the environmental, social and economic components is carried out. The most suitable options are chosen by making a comparison between each option and bench marking against various criteria in the Programming (the plan options) and Implementation (individual project proposals) steps.

Formative Assessment is a continuous and an integral part of the process. It requires a range of assessment procedures to be undertaken throughout the life of the regeneration programme and/or individual projects (Luda, 2006). The outcome of this assessment provides means to modify the regeneration activities, to change situations on a routine basis, and adapting to the previously produced strategies.

Retrospective assessments involve reviewing the actual impacts of the chosen option that has been implemented. These methods are used in the Monitoring stage of the regeneration process. This discussion is not in the scope of this study.

2.15 Assessing Approaches of Sustainability

Assessing the level of sustainability of a community living in a built environment is a complex task as it involves measuring all of the three economic, social and

environmental components. The biggest challenge is the measurement of the social factors, especially those involving the intrinsic or inner feelings and perceptions of people. Nevertheless, there is a need to measure it and Brandon and Lombardi, (2009) emphasised that measurement involves the identification of variables relating to sustainable development and the utilization of technically appropriate data collection and data analysis methods. He further stated that assessment involves the evaluation of performance against a number of criteria or indicators for sustainable development.

Robinson (2004) discussed sustainability on a larger set of issues concerning both science and social science. With this connection, the distinction was made by Newby (1993) who compares between a science-based and a more problem-based approach to sustainability. Cohen et al. (1998) argued that sustainability unlike say, climate change, is an inherently problem-driven rather than a scientific concept. Robinson (2004) further emphasised that a good scientific analysis is crucial to address the problems of unsustainability as it examines the complexity of ecological, social and economic systems, how they interact and addresses various forms of action. Ultimately, sustainability is an issue of human behaviour, and how the human negotiate the future under conditions of deep contingency and uncertainty.

Robinson (2009) highlighted three aspects of this analysis

- A scientific analysis can inform but not resolve the basic concept of sustainability.
- A scientific analysis itself involves important value judgments and social commitments. These by themselves must be open to examination and discussion.
- Other forms of knowledge (e.g. traditional environmental knowledge, various forms of layman understanding of risk) may have significant contributions to the debate of sustainability.

The gap between these two views must be addressed in any attempt to develop a viable sustainable strategy. This research posits to study the sustainability issue both as science (quantitative) and social science (qualitative).

2.16 Indicators and Measures

In developing indicators for the study areas, the outlines presented by Brandon (2009) for sustainability indicators are:

- Presentations of measurements to suit a particular need.
- Pieces of information that summarise the characteristics of systems or highlight on what is happening.
- Simplifying a complex phenomenon and making it possible to gauge the general status of the system.
- Assessing the current situation and giving advice for the future use.
- Being alert to a problem before it becomes critical and, in some cases, this can help the user identify the measures that need to be undertaken to resolve the problem.

Brandon further indicates that the essential characteristics of good indicators are that they must be relevant, reliable, and easy to understand and must be based on accessible data. Such indicators can be used in the assessment to produce realistic results.

2.17 SCD Indicators for the Study Area

The SCD indicators for the study area is derived from a combination of the Diamond of Quality of Life, Egan's report, ODPM (2004) and the report by community members as presented by the University of Wisconsin (1998). The researcher took into consideration the situation of the villages. For this study, the indicators are divided into categories namely, bio-data, basic needs and practices, governance, social aspects, economic aspects and environmental aspects, transport and connectivity and services dimensions. Special attention was given to religion and villages' visions. The residents are Muslim and the religious teaching and values are taken into consideration in decision making. Visioning is important as a community without a vision is akin to a journey without a destination.

The area studied by Hay, et al (2008) in the report 'Promoting Sustainable Communities in Growth' for Cambridge City and South Cambs District Council resembles the suburban setting of the study area. The difference is that the former is in a developed nation while the latter in a developing country. Hay, et al (2008) study adopted and adapted the definition of the components of sustainable development, governance, social aspects, economic aspects, environment, transport and connectivity, housing and built environment and services.

Hasan and Adnan (2001) in their unpublished paper 'Sustainable Development Indicator Initiatives in Malaysia. Novel Approaches and Viable Frameworks' mention that in Malaysia, work on sustainable development indicators (SDIs) started in 1995 with work undertaken by the Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia. Other agencies including The Environmental Protection Society of Malaysia (EPSM) initiative is especially relevant at the local government level. Others (e.g. Ministry of Housing and Local Government) commissioned commercial consultancy firms to develop sets of highly specific indicators of sustainability of development in urban areas. None are specially designed for sub-urban setting which can be directly applied to the study area. Nevertheless, the content such as basic needs, governance, social, economic and environmental aspect, housing and the built environment, transportation and connectivity, services are adopted from the Malaysian studies and adapted with modification for the suburban setting of the study area.

2.17.1 Basic Needs

In trying to understand the need of the community, various indicators like household income and unemployment rate are the relevant elements to measure the level of financial capability of the community. Income is generally used as a measure of the economic wellbeing of individuals and the community against the accepted 'MURNInet' (Malaysian Urban Rural National Indicators) national standards used to indicate poverty. Besides income, house ownership also indicates the economic health of the village. A modern house indicates that members of the village have resettled from the traditional to a modern one. This is also an indication of an increase in income. The number of rooms indicates the size of house. These can be concluded in Figure 2.6.

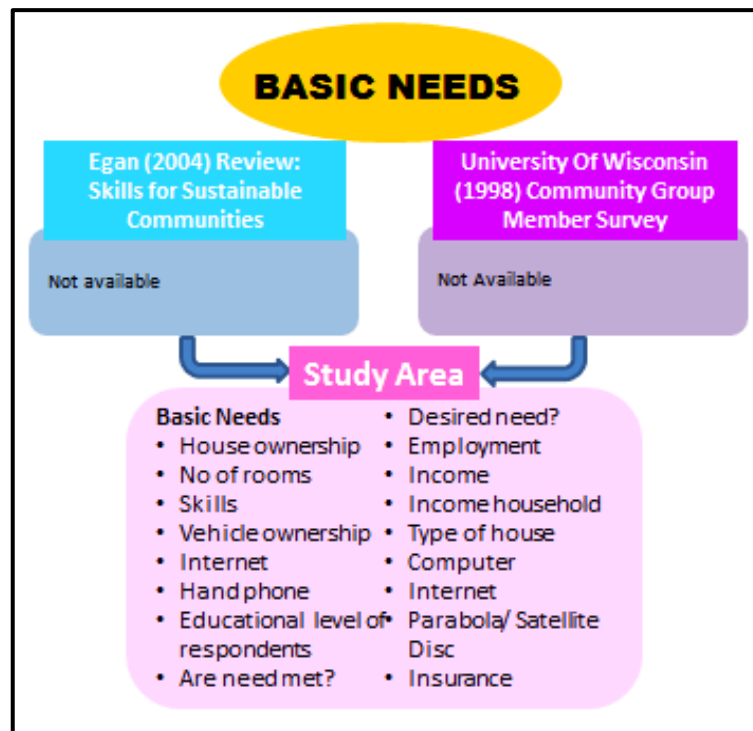


Figure 2.5: Indicators of Basic Needs

The use of computers is an indicator of the level of computer literacy in the community. Hand phone ownership indicates the level of communicability of the community.

2.17.2 Social Aspects

A closely knit community is a prerequisite for a sustainable community development. Safety is another indicator of a sustainable community. Hay, et al (2008) includes social component of a SCD by incorporating the community spirit as created by people (Refer to Figure 2.6).

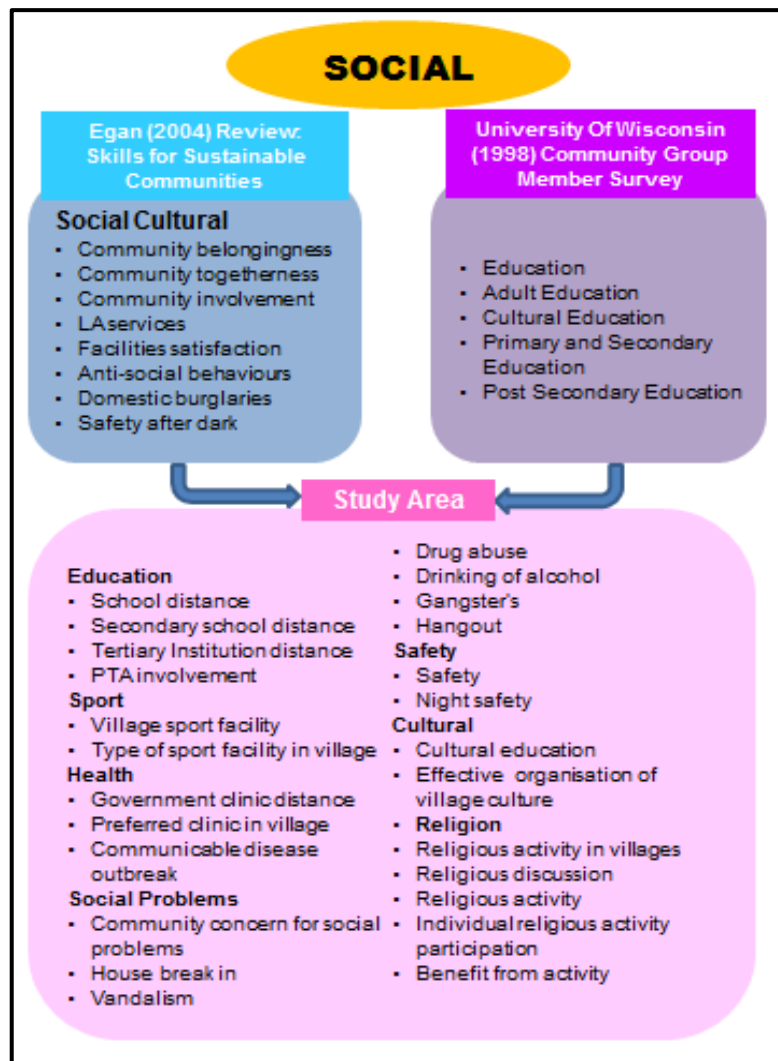


Figure 2.6: Social indicators for study area

Community members are always welcome to join in social events (e.g. sports, fundraising, festivals). Neighbours look after one another and there is mutual respect. Everybody is treated equally. There are low levels of crime, drugs addiction and anti-social behaviour and little need for community-friendly policing. Figure 2.6 shows the social aspects on effective structure of SCD.

The EW (2004) indicators measure the community sense of belonging, community togetherness, community involvement, local authority (LA) services, facilities satisfaction, anti-social behaviours, domestic burglaries and security. On the other hand, UOW (1998) indicators include the educational components like adult education, cultural education, primary and secondary and post-secondary education.

The UOW indicators are also social indicators for sustainable community. Combining both sets of indicators and adopting them for the study area, brings forward a set of social indicators as given in Figure 2.6. Another important social indicator is religion. Since the respondents are Muslim, the role of Islam in SCD needs to be discussed.

2.17.3 Economy

Economic indicators measure the community capacity to engage in business activities. EW (2004) measures the literacy rate, numeracy skills and unemployment among adults in the community.



Figure 2.7: Economic indicators for study area

Household income need to be compared with the national GDP. The rural community sustainability indicators used by UOW (1998) study area are an energy source, health, individual wealth, population, business diversity growth, the stability of tourism.

The economic indicators identified for the study area are household income contribution, interest in business, income sufficiency, non-participatory in business among respondents, potential for tourism, village business potential, current business in village, cooperative societies in the village, cooperative benefit, business participation, business interest type, business training, skill training required, business

tourism required, business tourism in the village, and village ability to generate income. (Refer to Figure 2.7)

2.17.4 Environmental

Hay, et al (2008) report includes people environmental awareness for the need of having comfortable places for living while conserving the environment. (Refer Figure 2.8).

Such a modest and practical aspiration should be achievable over a period for a suburban district. For the urban setting, the environmental indicator listed in the EW (2004) as indicators of sustainable community are household energy use, water consumption, management of biodiversity, new dwelling completed, eco home, waste recycling, idle land which can be developed, tonnage of waste, noise and air pollution and nitrogen dioxide concentrations. In the rural setting, the UOW (1998) indicators includes the presence of agricultural activities and natural resources, farming, forests, pest management, air quality, land and biodiversity, water resources and management of societal waste. In the suburban setting, the environment and the living condition lies somewhere in between the urban and rural setting. Additional indicators identified include the frequency of waste collection, community cooperation in monitoring cleanliness, odour in village, effluents from factories, village flora and fauna, forest around the village, jungle produce, pesticide purchase and use, alternatives to pesticide, perception of villagers on environment, environmental cleanliness, open burning, community volunteerism, village and individual recycle practice, village pollution, types of pollution in village, village and individual composting, reasons for not composting, village training on the handling of pesticide , land designated for farming and compost usage.



Figure 2.8: Environment indicators for study area

2.17.5 Housing and the Built Environment

Hay, et al (2008) define the housing and built environment within district council area as a sense of place (e.g. a place with a positive 'feeling' for people and local distinctiveness) with houses which are safe and spacious. Utilising this definition and undertaking comparison of both the EW (2004) and UOW (1998) indicators, the housing and built environment indicators are developed for the study area.

The UOW (1998) indicators are only for housing. The EW (2004) indicators include the number of unfit houses per 1000 dwellings, deposits of detritus on roads, level of satisfaction with the cleanliness, average property prices, satisfaction with their homes, average length of stay in temporary accommodation, authority's parks and open spaces and decaying districts. These indicators are suitable for an urban society whereas for this study area that will be measured are very basic such as house ownership, number of rooms and the condition of the community centre (See Figure 2.9)

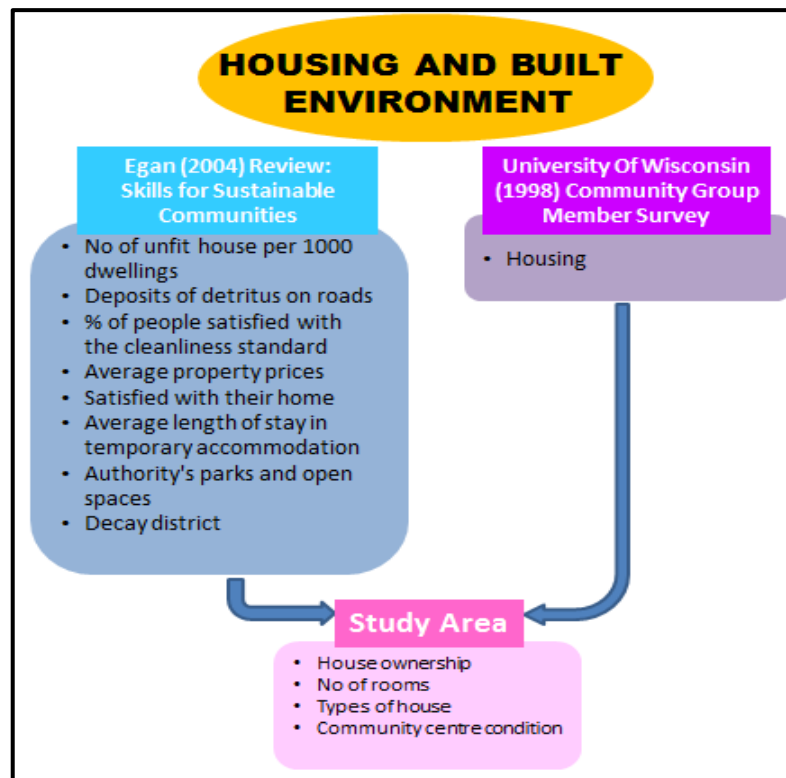


Figure 2.9: Housing and Built Environmental indicators for study area

2.17.6 Transportation and Connectivity

Hay, et al (2008) define transport and connectivity as ideally being well connected with good transport services and communications linking people to their work place, health centres and other services. While the UOW (1998) indicators are merely concerned with transportation the EW (2004) indicators include key local services, modes of transport, satisfaction of the transport services, and all areas receiving broadband services. For the study area the indicators are availability of road to individual houses, vehicle ownership, and satisfaction of transport services. This can be seen in Figure 2.10.

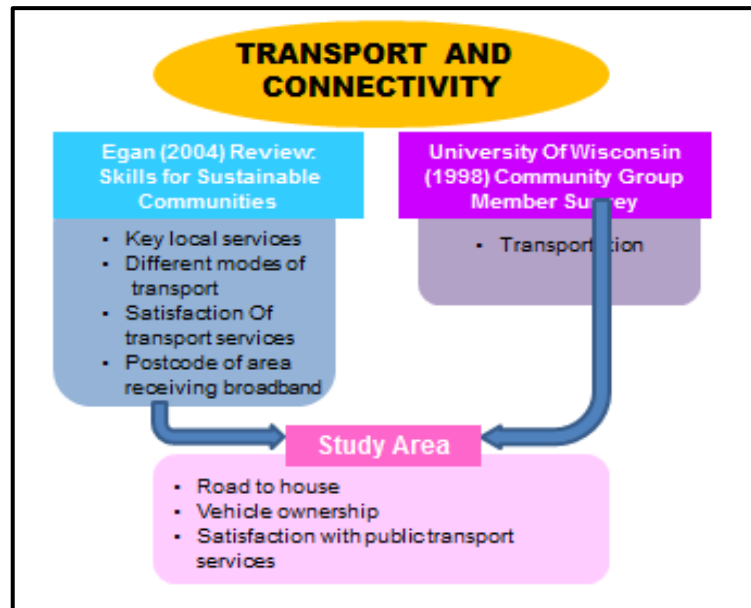


Figure 2.10: Transport and Connectivity indicators for study area

2.17.7 Services

Hay, et al (2008) considers the services as good if they serve both the public and individual. Community and voluntary services that are appropriate to people's needs and is accessible to all. The urban indicators identified by EW (2004) in this field include the total percentage of children in school, percentage of 15 year old still in schools, achieving five or more GSCE's equivalent with grade A*, average life expectancy, percentage of patient waiting more than 3 or 6 months to get specialised medical attention, number of primary care professionals per 100.000 population and percentage of major planning applications. The basic utility such as electricity, clean water, waste collection service and overall services provided are also used as indicators for the study area (Refer to Figure 2.11).

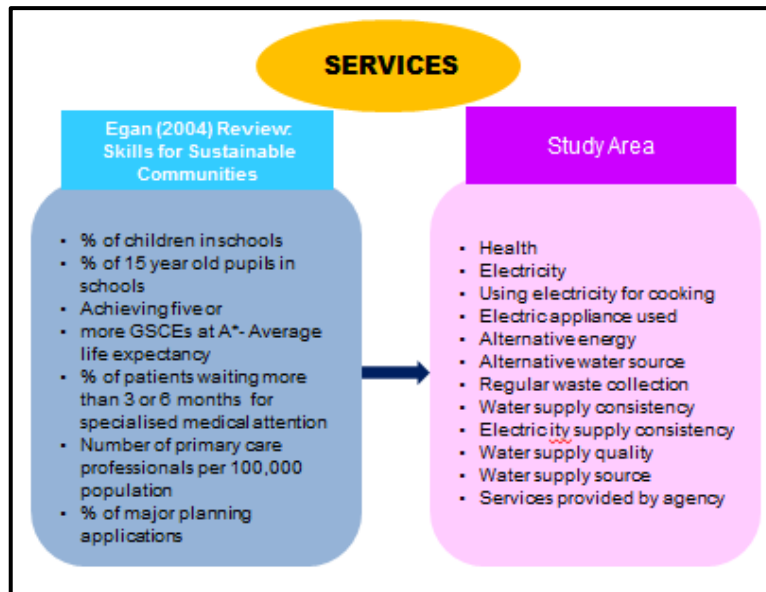


Figure 2.11: Services indicators for study area

2.17.8 Governance

Hay, et al (2008) in their report 'Promoting Sustainable Communities in Growth for Cambridge City and South Cambs District Council' give the characteristic of good governance as,

"When decisions are made about a community, local people are included in the decision making process. The community enjoys a sense of civic values, responsibility and pride".

Decisions are made at the local level through organised structured which will inculcate a sense of ownership. This pattern of decision making had been described in the OQOL dimensions of organisational community and Institutional capacity.



Figure 2.12: Indicators for Governance

In Egan's Report (2004), the governance focuses on the services provided, their ability to improve the communities' situation and how people benefit from the service. This is true also for a well-structured community with a capable leadership. As for the villages in the study area, assessing the leadership, associations and institutional capacity is of a paramount importance. The village association's vision, problems, plan of action, will indicate whether the associations' leadership and management have a sense of direction and practising good management. A well planned organisation has a systematic approach toward achieving the desired goal. Without such a systematic approach, the association will not be able to assess their own performance. The respondents' choice of a lead agency that they believe can assist in achieving a sustainable status is important. A poorly run association can be gauged by its failure in helping the community to achieve a sustainable status.

Based on these indicators a set of questions were developed with certain procedures and protocol followed religiously in ensuring the validity and reliability as described in Chapter 5. After establishing these indicators, a set of questionnaires were formulated

and a test on the reliability of the questionnaires was carried out during the field study. The set of questions were presented in Appendix 3.

2.18 Sustainable Development Governance Concept

According to the Johannesburg Plan of Implementation (2002), stated that on good governance within each country and at the international level is essential for sustainable development". Governance is a concept that has been defined in different ways and used for different purposes. (Kemp & Parto, 2005); Von Homeyer and Knoblauch (2008) suggested that effective SD governance requires multi-level governance, with delegation of authority throughout the institutional framework at all levels . This sum of institution or multi-stakeholders nature of SD governance require a joint cooperation of formal and information institutions to deliver a societal change (Kemp & Parto,2005). This joint venture need to be nurtured carefully. IUCN (2012) outline three principles to deliver good governance for sustainable development namely: -

- Inclusive and integrated decision-making, giving civil society an effective role in decisions on environmental, social and economic sustainability;
- Participatory bottom-up approach, dealing with the most immediate (or local) level that is consistent with their resolution.
- Protects the rights of the weakest and most vulnerable and enforces responsibilities for sustainability by empowering decision-making at the lowest appropriate level supported by effective governance at higher levels and practicing inclusive and integrated governance.

Further, IUCN (2012) emphasised on community participation and the way decision making process are shape up and adopted. The way they were shaped up and adopted determines their effectiveness. This is important for the study area as the present top down approach need transformation to enhance development. This is apparent in developing countries.

2.19 Governance Problems in Developing Countries

In developing countries, the governance feature is considered to be poor and this lead to the problem of increasing poverty. Al-Dahir, Kang and Bisley (2009) in their study on 'A Holistic Approach to Sustainable Community Development in the Developing World' mention that there is an overall consensus that poor governance and corruption plaguing many developing nations are the main inhibitors of progress. Eberlei and Führmann (2004) reaffirm that there is a strong consensus that corruption and poor governance can cause or aggravate poverty and impede development. Even though both studies conclude that corruption is an issue, it is beyond the scope of this study to address.

As for poor governance, Al-Dahir, Kang and Bisley (2009) suggested that there is a need to establish some type of community level governance structure in many developing countries that tackles local planning, decision-making and sustainable development. They suggested establishing a basic democratic structure within communities that is aimed at meeting community needs, identified by community members. Establishing this will require the present governance structure to be appraised. The appraisal will need to be reviewed according to the principles mentioned by IUCN (2012) including issues such as decentralisation, decision making process, coordination and cooperation, participation and identifying all the organizations and associations operating in the local setting.

The governance structure needs to address a more organized community decision-making system. Al-Dahir, Kang and Bisley (2009) added that an effective democratic governance structure with community decision making system will bring many other benefits to members of the community. It will create a transparent-participatory method for community members to express and work to fulfil their needs. This gives a sense of ownership, trust, and motivation in the development process. Governance specifically aimed at sustainable development requires effective governance structure with enabling frameworks (Carr et al, 2007). With proper governance structure in place the community will be able to benefit in the long run.

In relation to appraising good governance in Malaysia based on sustainable development indicators, Mahadi & Sino (2012) in their study implied that, to establish good governance in sustainable development, the governors should understand public

values in their contexts. They commented that in Malaysia, the extensiveness of good governance is yet to be appraised and generally has not been fully observed. It also needs to be strengthened for an effective implementation of sustainable community development. This study attempts to appraise the governance institutional structure at the village level and improve the delivery system at the local level.

2.20 Governance and Institutional Framework for Sustainable Development

This section expounds on the governance and institutional framework at the global, developing countries and the village level.

2.20.1 Global level

The United Nations Environment Programme (UNEP) (2012) reported in the Institutional Framework for Sustainable Development Eighteenth Meeting of the Forum of Ministers of Environment of Latin America and the Caribbean, Quito, Ecuador mentioned that the institutional framework was created to address the challenges of sustainable development. It includes institutional framework as a set of bodies, organisations, networks and arrangements with varying degrees of official status that participate in activities of policy formulation and execution. All these must be taken into account in local, national, regional and international planning.

2.20.2 Developing Country level

The framework in a developing nation need a review as it had become an obstacle toward achieving this status as highlighted by Tosun, C. (2000) in his study 'Limits to community participation in the tourism development process in developing countries' acknowledged the limitation at the operational level for participatory development approaches. The obstacles highlighted were centralisation of public administration of tourism development, lack of co-ordination between involved parties and lack of information made available to the local people of the tourist destination. He recommended the formulation and implementation of any kind of community participation approach requires decentralisation of the political, administrative and financial powers of central government to local government at least to some extent.

In developing countries, the highly centralised planning activity had been reported in the UN (1981, p. 15). It mentions that the planning organisation has been established at national level and is under the direct management of national chief political executive. The effect of this is the restriction of the influence of community-level groups on the planning process, and implementation of plans. This circumstance had increased the vertical distance between planners and the community. Also the UN commented that it is not easy to persuade central governments in developing countries to delegate its various powers to regional or local authorities.

UNECA (2012) highlighted the common problem across all levels is the difficulty of balanced integration of all three pillars of sustainable development in the planning, budgeting and implementation of plans and programmes. The challenges in the balanced integration of the various dimensions also relate to the complexity of the concept and lack of synergy between the institutions at different levels

Currently, the scope of sustainable development governance has been broadened. It is known that a great deal of the failure to meet the environmental objectives is due to failures related directly to the Institutional Framework for Sustainable Development, which is recognised as being weak and fragmented, with bureaucratic regimes and institutions, and a consequent lack of consistency and coordination (UNEP 2012).

These weaknesses of the institutional framework are obvious and related to the emergence of socio-environmental conflicts which is contributed by the over emphasis of the environmental causes, technical aspect and political complexity. This situation is aggravated by the limited financing constraining the balanced integration of the three pillars in the development plans and programmes at all level including the local levels.

In addressing these issues, UNEP (2012) recommended the following actions to achieve sustainable development: -

- Strengthening the current Institutional Framework for Sustainable Development at all levels and integrating the three pillars in policy formulation and implementation.
- Enabling the framework for integration of all three pillars which has been weak at all levels.

- The Institutional Framework for Sustainable Development must also be able to promote greater public understanding of the unprecedented problems facing human society today.
- Ensuring more equitable distribution of the economic benefits of development and integrating the social, environmental and economic dimensions of sustainable development in policy decisions and approaches to development.
- Creating new institutional structures or strengthening the existing structures or elevating the existing structures to a higher level.

This study attempt to investigate the present institutional framework and strengthening it to enable sustainable community development to achieve sustainability at the local level.

2.20.3 Local Level

At the local level, the village institutions need proper governance in place with a clear decision-making process with certain authority delegated to the community leaders. This had been emphasised by Wijayaratna (2002) that an effective decentralization could lead to an institutional transformation. He believes such institutions or organizations will “*jointly*” become the driving force for development, develops a “*sense of shared ownership*” and become “*managers*” of their development initiatives. He believes that decentralization takes care of public needs by bringing planning and decision-making closer to people, providing opportunities for beneficial participation and for the community’s management of its own development. It also helps to reduce inequity and instability. At the local level, decentralisation can only be effective and efficient if there is an effective institution with well organised associations.

Beside decentralisation, good governance is equally important at the local level. Kemp and Parto (2005) also noted that good governance is a prerequisite for, and probably the first step towards sustainability. Parto (2005a, 2005b) felt that these institutions should not to be viewed as synonymous with bureaucracy.

He believed that there should be a radical change in these institutions to bring about societal change. Delegating authority and decision-making process to the community at the local level must not be construed as bureaucratic but rather a participatory

process that gives the community the sense of ownership to bring about a societal change.

To achieve sustainability, societal change is inevitable. Whatever radical changes needed to transform the community, the village institutions will be required to play a pivotal role to coordinate between the implementing agency and the community. This can only be achieved through a well-run village institutions practising good fair, active and efficient governance. On their own, most of the village institutions do not have the capacity to achieve the required outcome. They need support, assistance and training from local authorities to put in place a proper governance to achieve sustainability.

2.21 Good Governance and Institutional Framework for Sustainable Community

The United Nations Report on the World Summit on Sustainable Development, (2002) stated that an effective institutional framework for sustainable development at all levels is essential for the full implementation of Agenda 21. According to Osman et al. (2008) the implementation of LA21 in Malaysia started in January 2000 as a pilot project, which involved four local authorities. In 2002, its second phase started incorporating forty-six cities and municipal councils and one district council. From January 2002 to December 2006, only 29% of local authorities were at various stages of implementation of the LA21 action plan, but the remaining of thirty eight local authorities (71%) still remained uncommitted. Besides the financial constraints and lack of trained personnel, the United Nations Report highlighted the need for the governance to engage the stakeholders to create a wide public support, trust and credibility. This lackadaisical performance in Malaysia could be due to the lack of community involvement and a non-participation of local authorities in decision making in developing the communities.

In improving the performance especially in decision making process the governance structure need to be transformed. Bob Doppelt, executive director of the Center for Watershed and Community Health – a sustainability research and technical assistance program, repeats this need for an effective governance structure. He looks at governance and its relation to creating transformational change toward sustainability. He refers more on organizational transformation toward sustainability than

transformational change within communities. Doppelt (2003,pp 6) states that in order for any kind of transformation to be “truly sustainable, power and authority must be skilfully distributed among stakeholders through effective information sharing, decision-making, and resource allocation mechanisms” , This entails that an organizational change is required to enable the community to attain sustainability. At the global level, the need to improve the institutional framework for the attainment of sustainable development is progressing and simultaneous effort to improve and transform the framework at the local level should also be drawn-out.

The organizational change warrants the institutional structure to be transformed as it links and aligned the communities and the government together as part and parcel of the governance process. Scott (2004) mentioned that the Institutional Theory considers the processes by which structures, including schemas (rules, norms, and routines) become established as authoritative guidelines for social behaviour within an institution. This theory looks at how these elements are created, diffused, adopted and adapted over space and time, and how they fall into decline and disuse. Giddens (1984) included institutional orders, modes of discourse, political institutions, economic institutions and legal institutions merged together as the important aspect of an institutional structure. It needs to be formalised to enable the structure to function formally within a system of formal laws, regulations, and procedures, and within the informal conventions, customs and norms that shape socio-economic activity and behaviour.

The establishment of the institutional structure or framework is paramount as it will facilitate the delivery and effectiveness of the programmes implemented by the government at the village level community. The institutional framework involving government agencies, NGOs and community associations are instrumental for a successful programme delivery. The NGOs or associations within a community play a pivotal role in assisting the government to change the community. Each and every association in the village is headed by community leaders. The community leaders are key players in determining the level of involvement of the associations and with the right strategy, approach, demonstrating commitment and focus, incorporating the inter-generational sustainable development principles, it will enable the associations and the community to implement sustainable community development programme.

The administering of an institutional framework need a good governance to fuel the effective implementation of programmes. Biermann et al. (2015) described governance as a purposeful and authoritative steering of social processes by stakeholders including governmental and non-governmental actors, civil societies, action networks, partners, and private-sector entities which occurs at multiple levels from local to regional and international levels. At the local level, Osman et al. (2008) mentioned that LA21 (Local Agenda 21) has opened up opportunity for community involvement and participation. There are many on-going initiatives in partnership with local authorities and community based organisations. However, media reports and the situation on the ground reveal that much remains to be desired of the governance at local level.

Governance at the local level need direct participation by the community in decision making. Wijayaratna (2002) expounded that, in many countries, there is now a tendency to delegate authority and responsibility for rural development. Decentralization with democratic practice increases civic consciousness, while enhancing the potential for community-level interventions. Decentralization also brings governance closer to the community and thus trickles accountability down the organizational structure. In additions community members will have more opportunity to participate in the designing, implementing and monitoring development programmes. Governance at the local level needs to be seen as good, active, effective and fair.

Good governance refers broadly to a set of qualitative characteristics relating to the processes of rulemaking and their institutional foundations. Guttenstein et al. (2010) reiterated that the concept of governance is built around notions such as transparency, participation, accountability and the rule of law which help to combat corruption and ensure basic human rights. Kemp and Parto (2005) cited the European Commission qualities of good governance as consisting of openness and participation, accountability, effective coherence, efficiency and greater sensitivity to the immediate context. Sachiko and Durwood (2005) added that, under good governance, there are clear decision-making procedures at the level of public authorities. There is civil society participation in the decision-making process as well as the ability to enforce rights and obligations through legal mechanisms. Good governance must also be transparent, participatory, accountable and practice clear decision-making procedures in order to ensure a sustainable community development.

Clark (2012) elaborated that active governance anticipates and responds to the needs of its citizens and evolves by dealing with development challenges with deliberate, targeted and pro-active planning. Its efficient delivery system is essential to getting the business of development done. Effective governance is essential for putting in place the integrated policymaking capacity which is needed for sustainable development. Also, it focused on the capacity of institutions to resolve problems of public policy and implement effective rules. Further, it engages in long-term planning for sustainable development, undertakes environmental stewardship, and deals with the interrelated problems. These are challenges shared by countries at every point in the development spectrum. Governance builds fair trust between people and the government leading to a stable and secure society which encourages an inclusive growth within the community. Thus, an active, fair and effective governance at the local level is required to fuel and operationalised the newly formed institutional framework.

Reis Amorim, L. (2013) is in the opinion that rules on sustainability written in foundational constitutions do not permeate throughout the framework due to absence of constitutional guidelines. UNECA (2012) added that beside constitutional guidelines other requirements include mandates, legal frameworks, structures, operational procedures and sustainable development strategies at the various levels need to be put in place. UNEP (2012) also emphasised on strengthening of the institutional structure by ensuring the program linkages among members, multi-stakeholder participation, proper planning and vision statements will enable the integration of the three pillars of sustainable development in a balanced manner to happen. An effective institutional framework must include the combination of constitutional guidelines, mandates, legal frameworks, structures, operational procedures, and sustainable development strategies, the program linkages among members, multi-stakeholder participation, proper planning and vision statements for sustainability to permeate throughout the institutional framework.

The European Parliament Report (2012) noted that the current frameworks lack monitoring and accountability in the administration towards achieving a clear short and long term sustainability goal. Therefore, suggesting that accountability should be promoted by establishing a set of internationally agreed sustainable development indicators, targets and timetables.

UNECA (2012) recognised that for the effective functioning and implementation of institutions and strategies for sustainable development good governance should be the foundation of all proposed interventions and key stakeholder at all levels should be involved in the formulation of sustainable development governance structures. In addition, UNECA (2012) also suggested that to overcome the anomalies in the existing sustainable development governance at the global, regional, sub regional, national and local levels an assessment on the feasibility and desirability of these avenues for reform such as strengthening existing institutions, merging institutions, improving coordination among existing institutions, establishing new institutions, changing mandate(s) of institution(s) and streamlining institutions. This study also attempts to address the institutional framework base on UNECA (2012) experience.

2.22 Ways to strengthen Institutional Governance Rio+20

One of the highlight and expected results of Rio +20 is to create an institutional framework that is capable of effectively addressing the challenges of sustainable development in the twenty-first century during the United Nations Conference on Sustainable Development which was held in Rio de Janeiro on 20-22 June(UNEP 2012). UNECA (2012) reported that one of main issue that has dominated the sustainable development debate is sustainable development governance. The attention given and the various preparatory processes suggests that the subject will be high on the RIO+ 20 Agenda. The European Parliament (2012) reiterates that according to the UNEP Foresight Process on Emerging Environmental Issues (UNEP 2012a), aligning governance with the requirements of global sustainability ranks as the number one priority.

IUCN (2012) proposed and recommended during Rio+20 that all governments to strengthen institutional governance at all levels for sustainable development by:

- Promoting inclusive and integrated decision-making by giving civil society an effective role in decisions on economic, social and environmental sustainability.
- Implementing a bottom-up/community-led approach to sustainable development based on subsidiarity of decision-making and nested governance,

which empower decisions at the lowest appropriate level supported by effective governance at higher levels.

- Overcoming fragmentation in the institutional framework and in decision-making as it a prerequisite for sustainable development.

It is also recommended that at the national level, central governments must empower local governance structures including through the provision of adequate financial and human resources, and by allowing their meaningful involvement in decision-making processes. Nevertheless, due consideration must be focussed on the context of accountability as a mean to mean to combat corruption which is a major challenge in the governance of sustainable development. Corruption is one of the main sources of unsustainable exploitation of natural resources, unequal distribution of wealth and will induced poverty. The need for transparency to fight corruption is of paramount importance (IUCN, 2012).

2.23 Benefit of Implementing Good Governance Institutional Framework at Local Level

The implementation of a proper and effective governance institutional framework is expected to bring about positive changes to the achievement of sustainable community development. Reis Amorim, L. (2013) states that the proper framework can be an incentive to encourage implementation towards sustainability, or otherwise, it can hinder progress when barriers or obstacles appear unresolved. This necessitates the improvement of the present governance institutional framework to enjoy the benefit that had been experienced by other organisation.

The benefits that can be garnered from this will be a better working relationship. UNECA (2012) reported that after the improvements of the governance institutional framework, the department within The African Union Commission (AUC) departments work more closely than before. Also, this new set up allows, the programme implementation and linkages to be enhanced. In addition, the institutional linkages should be maintained through the various phases of programmes and integration should be strengthened at the highest level. Beside creating a close working relationship and also expects to improve the linkages and boost up integration.

The improved structure should also be able to cater for monitoring of the project implementation. UNECA Report (2012) suggested implementing agencies to only to design programmes, but also to monitor their integrated implementation which includes facilitating coordination and implementation programme. It also mentions that in order to boost the sense of ownership of projects, the agencies should promote greater multi-stakeholder participation in project design and implementation at all levels. In particular, the participation of the community in all phases of the project cycle should ensure that local culture, and traditional knowledge and wisdom are taken into consideration. This will enable the community to participate in the programme and thus have the sense of ownership. The need to have the governance institutional framework to be effective at all level is recognised at the global level, this issue will be raised in the next Rio +20 Summit.

2.24 Guideline for Effective Institutional Framework for Sustainable Development

UNEP (2012) recommended a guideline for effective implementation of the Institutional Framework for Sustainable Development. It must deliver a variety of functions at the local, national, regional and world level, among which are:

- a. The policies and planning for the social, environmental and economic dimensions of sustainable development must be coherent across local, national, regional and global levels.
- b. Maximise synergies among stakeholders to achieve objectives and ensuring the processes are in line with practices of good governance.
- c. A comprehensive action plan putting in place a supportive implementation arrangement through which the goals and objectives are addressed.
- d. Assess achievement of the goals and objectives through monitoring of implementation, assessment and reporting of progress, and accountability procedures for commitments.

- e. All entities within the institutional framework support all the programmes that had been planned.
- f. Ensuring all the institutional components work together for a common purpose: enhancing human well-being, achieving social equity including across generations, ensuring environmental sustainability, and practicing participatory development.

The governance institutional framework in the study area needs to be explored and assessed. By having an institutional framework practising good governance will enable the community to strive to achieve sustainability at the village.

Sustainable development needs to be addressed by encompassing all the three pillars. European Parliament (2012) reaffirmed that sustainable development requires an integration of the economic, social and environmental objectives within decision-making and implementation process. The government and all the stakeholders need to collaborate to ensure that the economic, social and environmental policies are implemented throughout the institutional structure together with common goal (Steurer 2009).

The approach should ensure that all three dimensions of SD must be balanced in policy-making and Berger and Steurer (2009) highlighted that there is no one approaches that is suitable for all. Governance component is only one of the eight described in the Egan Wheel but the importance is very pertinent to spearhead a transformational change in the village.

2.25 Summary

This chapter discussed major concepts related to current study namely, sustainable development and sustainable community development and governance institutional framework. Sustainable development is the foundation that lead to the emergent of sustainable community development concept. This concept guided by the Egan wheel outline the eight components that form the bedrock to sustainable community. To

achieve sustainable community at the study areas all the components need to be assessed. The literature indicates that the governance institutional framework is of global, regional, country and local level concern and an important component that need to be assessed together with the other components. This warrants an assessment to be carried out at the local or village level in term of the needs and practices of the community pertaining to governance, transport and connectivity, services, environmental, equity, economy, housing and the built environment and social and cultural. Based on these components, a set of indicators will be developed and followed by a set of questions. With this, the level of sustainability of the village can be assessed. The study also attempts to check the governance institutional framework at the local level. A more detailed discussion on the method of assessment and the development of a participatory bottom up governance institutional framework will be discussed in detail in Chapter 3.

CHAPTER THREE : RESEARCH METHODOLOGY

3.0 Introduction

This chapter covers the research philosophy, approach, strategy, process and research design that are adopted according to the research proposal and answering the research questions. This study uses qualitative approach as the main method of

data collection through interviews and observations. Quantitative data is collected using a structured questionnaire. Such a design permits the two types of data to be utilized iteratively at all stages of the field work. The rationale underlining this approach is discussed below.

The field work involves several visits to the sites and the interviews were conducted after a number of observations and informal discussions with the informants. The questionnaires were distributed earlier and collected after their completion. As for the illiterate subjects, interviews were conducted instead.

3.1 Research Philosophy

A research philosophy is a belief regarding the means on how the information is interpreted concerning an incident and how that data should be gathered and investigated (Levin, 1988). This is best illustrated by the 'research onion' in Figure 3.1. In the Research Onion, Saunders et al. (2009) summarized the relationship between the research, approach, strategies, time horizon and the data collection methods. In this model, the philosophy adopted by a researcher in the choice of research approach has a significant impact not only on what the researcher does, but on how he or she perceives of what is being investigated.

The research onion outlines four philosophies namely positivism, realism, interpretive and pragmatism. Due to the nature of this research requiring the data collected and analysed in a pragmatic way, the appropriate philosophy is pragmatism.

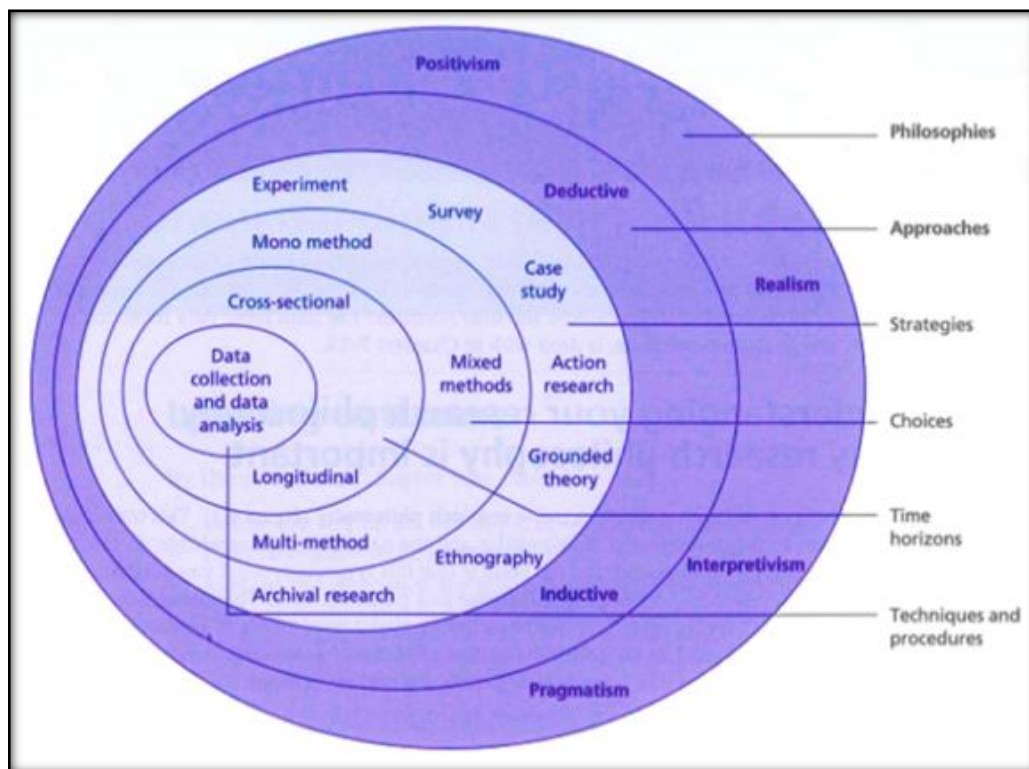


Figure 3.1: The Research Onion (Adopted from Saunders)

Burke (2007) reiterated that to comprehend the perceived valid knowledge, it requires the search for the philosophical assumption as a vital feature of the research procedure to ensure that the research has credibility and conducted with rigour. Nevertheless, to attain such objectives, there must be an appropriate research paradigm and well defined philosophical assumptions (Burke, 2007). Denzin and Lincoln (2005) proposed that there must be sound philosophical assumptions guiding the research process. These assumptions give the researcher's perspective governed by four sets of philosophical assumptions: epistemological (knowledge), axiological (ethics of morality), methodological (inquiry) and ontological (reality).

3.2 Philosophical Assumptions

This section discusses dimensions of different philosophical assumptions: ontology, human nature (ontology and axiology) and epistemology.

3.2.1 Ontology and Human Nature

In the ontological hypotheses, there is a fundamental question that the researcher should address: "What is the nature of reality?" (Creswell,1994; Eriksson and Kovalainen,2008) described the relationship between nature and reality as the inspiration of existence and connection between individuals, community and the world in general.

People come from the world of their own experience. The earlier situation comes from the objectivist and the later comes from subjectivist or constructionism. An objectivist vision of ontology is based on the belief that social actors are independent of social reality. Morgan and Smircich (1980) stated that in contrast, subjectivists reject the view of objectivist and believe that social reality reflects human imagination. But, both of human beings and social world view are neither objective nor subjective. Community as social actor is detected by both the objective and subjective circumstances. This research posits to study the community sustainability both objectively and subjectively.

3.2.2 Epistemology

The research epistemology tackles two pertinent issues: the connection between the researcher and the researched (Creswell, 1994). Collis and Hussey (2003) added that epistemology is about the learning of knowledge and whatever admitted as a legal knowledge. It dictates how knowledge can be obtained and discussed. Eriksson and Kovalainen (2008) proposed a set of criteria to assess information obtained and apply the appropriate philosophy objectivism, realism, interpretivist or pragmatism. (Refer to Figure 3.1.)

An objective ontology research that deals with the social and natural worlds would be given an epistemological consideration. Positivism on the other hand, focuses on the significance of investigating the connections between the elements constituting the structure (Morgan and Smircich, 1980). In positivism, researchers cannot get information from a source unless they have examined the phenomenon and understand the relationships between them. It is also argued that the researcher should retain an objective and independent position. Keat and Urry, (1982); Collis and Hussey, (2003). Bryman (2004:11) highlighted four criteria of positivist:

- (1) A single fact and therefore knowledge established by the senses is authentically acceptable.
- (2) The role of the hypothesis is to produce assumptions to be evaluated;
- (3) Knowledge is derived from the phenomenon that forms the basis for the laws;
- (4) Science must (and presumably can) be value free.

This study seeks to understand the community perception of SCD. This hypothesis is formed to suggest a governance institutional framework. This knowledge of the respondents pertaining to governance institutional framework is the phenomenon that form the basis for the development of the governance institutional framework.

Epistemology focuses on the significance of studying the procedure in which people actualize their relationship with their surroundings. (Morgan and Smircich 1980). As opposed to positivism, phenomenology assumes that the subject matter of social science and natural science are basically different from each other. Therefore, sociologists are required to comprehend the subjective nature of social activities in choosing their research methodology (Bryman, 2004). This will help bridge the gap between the researcher and what is being researched (Creswell, 1994; Collis and Hussey 2003).

As shown in Figure 3.1, Saunders (2009) names the four philosophical stands as positivism, realism, interpretive and pragmatism. A pragmatic philosophical assumption is recommended in mixing qualitative and quantitative approaches in a single research by numerous social scientists (e. g. Tashakkori and Teddlie 1998; Onwuegbuzie, 2002; Johnson and Onwuegbuzie, 2004; Morgan, 2007). Morgan (2007) emphasises that such a design requires a good blend of quantitative and qualitative data to help understand the phenomenon under study and generate 'real' knowledge. This study will collect both quantitative and qualitative data to generate a holistic understanding of sustainability of the village and the development of participatory development of the governance institutional framework.

3.3 Research Methodology

The study combines both quantitative and qualitative research methodologies. This will attempt to give a more comprehensive picture of the issues being studied. According to Creswell (2003) the quantitative approach emphasises on explication in a set of data and making a deduction to represent the whole. This process focuses on testing the theory or developing hypothesis regarding the relationship between theory and research. Quantitative approach necessitates large specific data and trials. Consequently, the result of a representative's trials can be extended to the populace (Collis and Hussey, 2003; Bryman, 2004). Based on this, the data collected for this study is sufficiently large as proposed by Yamane's (1967) simplified formula for proportions.

The qualitative method focuses on the analysing of theory in the research and to produce a theory, an inductive approach. In fact, a subject can have a basic difference in the social and natural worlds (Smith and Heshusius, 1986). Moreover, it is not possible to differentiate between the 'knower' and the 'know' and to differentiate completely between cause and effect in the social world. Therefore, this scientific process of physical science is difficult to use in learning human and social problems (Onweuegbuzie, 2002; Johnson and Onwuegbuzie, 2004). The qualitative data for this study is collected by means of interview with the community leaders.

Closing the gap between qualitative versus quantitative methods the pragmatists posit, in case of answering research questions, the researcher may utilize both the objective and subjective epistemological trend and scientific examination. (Tashakkori and Teddlie, 1998:24). So, a number of researchers claim that qualitative and quantitative approaches are together compatible and they should be utilized (Tashakkori and Teddlie, 1998; Onweuegbuzie, 2004). Utilizing both qualitative and quantitative method of data collection will ensure that the information is comprehensive.

3.4 The Pragmatism Approach

Pragmatism is the most suitable paradigm for studying both non-numerical and numerical variables (Kral et al., 2012). In case of complex human activities, a combination of both methodologies gives the most desired outcome. Moreover, it illustrates two kinds of paradigms: the qualitative-positivism and quantitative – interpretivist. Pragmatism seeks to keep the deductive paradigm obtained by quantitative and qualitative methods specially, where the problems are from a multifaceted phenomenon (Fidel, 2008). The important feature of the pragmatic method is the selection of both the interpretivist and positivist positions. So, both textual and measurable languages are used for learning and studying of problems (Morgan, 2007).

Pansiri (2005) is of the opinion that pragmatism supplies a helpful position for mixing different kinds of research methods into a single practical solution. A pragmatic paradigm poses problem at the core of study. When the quantitative and qualitative methodologies emphasize on deductive-inductive information, the pragmatic research model moves to a higher level by giving a middle ground abductive approach (Morgan, 2007). Moreover, the barriers between conventional qualitative and quantitative methodologies are rejected by pragmatic research (Masadeh, 2012). While the significant value of these two methodologies is observed, pragmatism utilized the most suitable research paradigm and produces the best answer for combined methods (Tronvoll et al., 2011). Further, Onwuegbuzie in 2004 asserted that the fundamental nature of pragmatic research paradigm suggests a clearly knowledge-based and workable approach to inquest. Ardalan (2009) presented that pragmatic-based approach matches with the natural world as it supports itself with the production of knowledge. According to this unique characteristic, different researchers have supported pragmatism as a “philosophical partner of mixed research” (Pansiri, 2005, p.201). Since pragmatism has multi-dimensional inclinations, Kligner and Boardman (2011) shown that pragmatic research makes the most suitable methodology for research to reply deductive-based and inductive-based research questions in a study. Saunders et al. (2009, p.598) believed that the pragmatic paradigm’s idealistic alternatives are “able to work with interpretivist positions together”. Based on the above justifications, this research adopts a pragmatic research approach that uses the combined method approach of incorporating qualitative and quantitative methodologies to investigate research questions and achieve its objectives.

This study combined both qualitative and quantitative approach. The quantitative data was gathered by means of survey conducted in the study areas with the community as the respondents using questionnaires whilst the qualitative data was obtained from the community leaders using semi-structured questionnaire as a guide.

3.5 Quantitative Research Method

For a quantitative researcher, the social and the natural worlds are based on the objective systems, not on the human system and activities. Creswell and Garrett (2008) described the objective system as the assessments of numbers resulting from a large amount of data collected from various populations in a wide geographical place. Fellows and Liu (2003) reiterated that quantitative research, as a distinctive research methods involves a collection of 'hard data'. It adopts a measurement procedure which is the basis on which the relation between an experimental study and the mathematical term of quantitative relationships is established (Petty et al., 2012).

The quantitative research paradigm employs statistical model to test hypothesis and theories in the reality (Creswell, 2009 and Fellows and Liu, 2003). It has a multi-periodic procedure where evidence is assessed, assumption made and theories are identified. Santos (2006) reiterated that the relationships between variables are assessed by cause-effect links to generate theories. Quantitative data is collected by means of interviewing 300 respondents. This serves to answer research objective 3 which is intended to assess the sustainability of the villages. The qualitative information is needed to elicit a more detailed information held from the community leaders pertaining to the governance and institutional framework.

3.6 Qualitative Research Method

This study also uses qualitative research to build a more complete picture of reality (Bryman, 2008). It is a means for the researcher to explore what happens in the villages in an attempt to address Objective 3: To assess the present village sustainability and

the community desired future sustainable vision for the village. Qualitative data also helps to explain quantitative data from the survey conducted on the villagers and the community leaders. This method will also assist in exploring Objective 4: To identify the key factors that hinders the community to achieve sustainability and Objective 5: To improve the present framework and develop a participatory governance institutional framework with local experts. This information is elicited from community leaders involved in the administration of the village administrations.

This qualitative research is to observe the phenomenon from respondents' point of view. It is considered as the most useful way of investigating problems according to social fact (Barke, 2007). Qualitative research has a moderately open-ended data gathering approach (Bryman, 2006). The qualitative method elicits primary data in a non-numerical form (without hard numbers as in the quantitative research method). It does not depend on a data crunching approach to achieve its objectives. Petty et al., (2012) elaborated that the main advantage of the qualitative research approach is that it produces a more detailed explanation of human behaviour and in-depth investigation of multifaceted human and cultural dynamic which is not confined to a numerical measurement approach. Harrison and Reilly (2011) gave due importance to the information participants gave in their natural settings. Plano Clark (2010) and Eldabi et al., (2002) stated that qualitative approach depicts real social context and allows flexible interpretations of social issues.

Despite its advantages, qualitative research has small respondents size so its result cannot be generalised (Castro et al. 2010). This reduces its capability of developing meaningful conclusion (Saunders et al., 2009; Castro et al., 2010). Likewise, it has limitation of accuracy, with an unscientific approach adding to its weaknesses. These limitations, based on Carter and Little (2007) have basically undermined the legality and authority of results produced. The inadequacy of both research methods makes mixing both methods (qualitative and quantitative methodologies together) in investigating social phenomena more accurate. In the context of this research, such approach gives a better description of sustainable community development at the village level.

Petty et al. (2012) acknowledged that the processes in qualitative study are totally different from quantitative research. It assumes that man has little control over the

social factors. Mixing the two approaches are useful as both assist to paint a more accurate picture of reality (Bryman, 2008). This study attempts to understand the reality by mixing the two approaches as suggested by Bryman (2008). Therefore, it does not involve the development of a statistical model to test hypothesis. The triangulation of both quantitative and qualitative data is to ascertain the knowledge generated reflects the true reality in the study and garners a more accurate description of the study pertaining to the sustainable community development.

3.7 Mixed Methods' Research

Recently, the mixed methods' approach has been accepted as a possible and workable research method compare to the usual single qualitative or quantitative research (Hanson et al., 2005). Creswell and Garrett (2008) noted that the need for a combined methods increases because, individual qualitative and quantitative research paradigm may be able to suggest useful answer to the even more difficult problems. In considering a workable solution and the advantages of a deep and inspirational solution, Johnson et al, (2007) described combined methods' research as the sort of research in which it blends components of both a researcher or group of researchers of both quantitative and qualitative research approaches (e.g., the utilization of qualitative and quantitative perspectives, information accumulation, investigation, induction methods) with the end goal of picking up a broadness and understanding of knowledge.

3.8 Rationale for Using the Mixed Method Approach

Bryman (2005) indicated that mixed methods' research has been employed broadly in various sociology studies (Bryman, 2005) for its ability to provide more comprehensive answers to research questions. While its short comings have also been cited, the approach has been widely used. It has usually been used in the area of anthropology and sociology (Johnson et al. 2007). According to Creswell and Garrett (2008), there are concerns about the ability of a single research paradigm like qualitative or quantitative alone to address the research questions comprehensively. Thus, a

combined method based on both research paradigms is preferred to tackle more complicated problems in the society and the scientific issues.

Bryman (2006) listed sixteen reasons, based on researcher practices, for mixing methods, namely: triangulation, offset, completeness, process, different research questions, explanation, unexpected results, instrument development, sampling, credibility, context, illustration, utility or improving the usefulness of findings, confirm and discover, diversity of views and enhancement or building upon the quantitative and qualitative findings. This study uses qualitative and quantitative approaches together to enhance and overcome the weakness of each method.

The random sampling of the respondents alone will not cover the context required in the study. For example, the random sampling of the respondents might exclude the community leaders who are in a position of having information regarding the village associations. By mixing the methods of data collection, the strength of the qualitative survey will balance the drawback in the quantitative survey.

The research questions in this study search for the key factors that hinder the village community to achieve sustainability. To answer these questions, sufficient numbers of household heads from the community were interviewed to elicit the information by means of interviews using a structured questionnaire. The questionnaires were distributed to 300 household heads. The researcher took steps to ensure that all household answer and return the questionnaire. For those not returned on schedule the researcher will do a follow up with those household and if necessary, assist the respondents in filling the questionnaire. By taking this step, all the questionnaires distributed were returned.

This quantitative method of collecting data enables the finding to be more representative of the community perceptions pertaining to the sustainability of the village. On the other hand, a qualitative approach of eliciting information was used in order to understand the current institutional framework. This will give better understanding of the relationship between the communities and the agencies. Improving the existing institutional framework is a prerequisite for the attainment of a sustainable community. In combining data, Denzin (1978), Babbie (1989) and Creswell (1994) utilized the term 'triangulation' to establish validity of the finding. Babbie (1986)

agreed that triangulation is a meaningful strategy and considered it as the best study design due to its multiple research methods in which the advantages of different strategies offset the weaknesses of the other.

3.9 Research Approach

Based on the research process onion of Saunders et al. (2009), a research approach can be either inductive or deductive. The inductive or qualitative approach starts from a particular situation to deduce large general ideas/theories whilst the deductive or quantitative approach comes from general ideas to specific situations: the specific being deduced from the general. Hussey and Hussey (1997) argued that the quantitative research approach provide objective and impartial outcomes not affected by the researcher. It concentrates on numerical outcomes and endeavours to minimise the researcher's influence. Manheim and Rich (1995:132) mentioned that qualitative research is carried out to collect primary data which can be used to make inference on a wider population. The quantitative and qualitative research approaches can be differentiated as shown in Figure 3.2

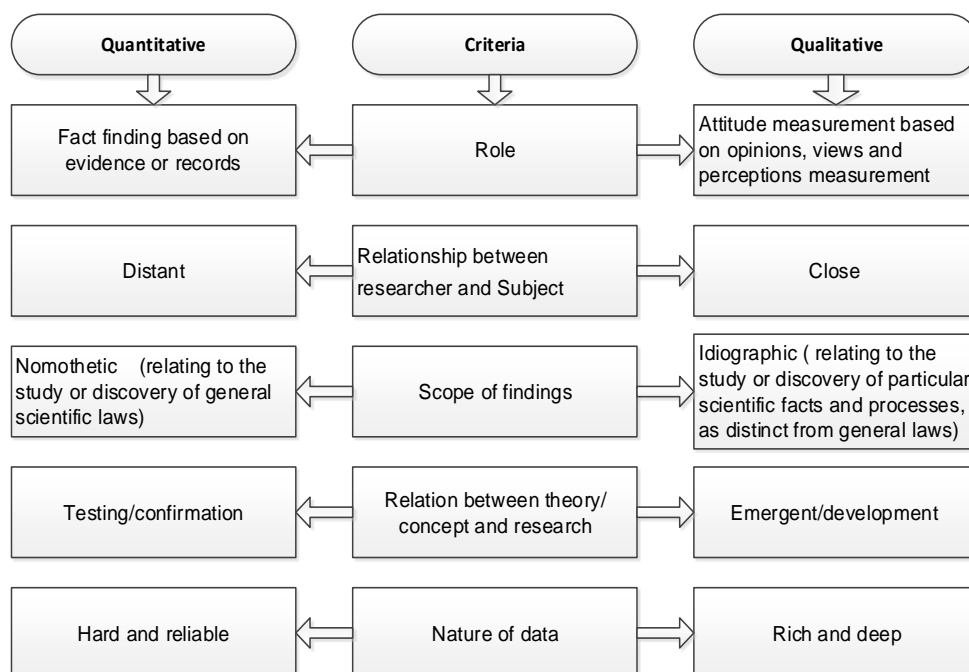


Figure 3.2: Some differences between quantitative and qualitative research
(Source: Byrman, 1998)

This study attempts to gather hard and reliable primary quantitative data from the respondents in the study area in order to understand the community perceptions, needs and practices related to sustainable community development. Nevertheless, a qualitative approach will be used to elicit information from the community leaders by means of interviews to obtain a rich and deeper understanding of the issues in both data sources .This will help to reveal the emergent issues that come up within the village community relating to sustainable community development

3.10 Research Strategy

Saunders et al. (1997, p 75) specified that research strategies rely upon the sort of research inquiries and the researcher's control over genuine occasions and they concentrate on contemporary rather than historical phenomena. The choice of the research strategy is based on Sanders guideline and compared with Yin (1994, p 6) as shown in Figure 3.3.

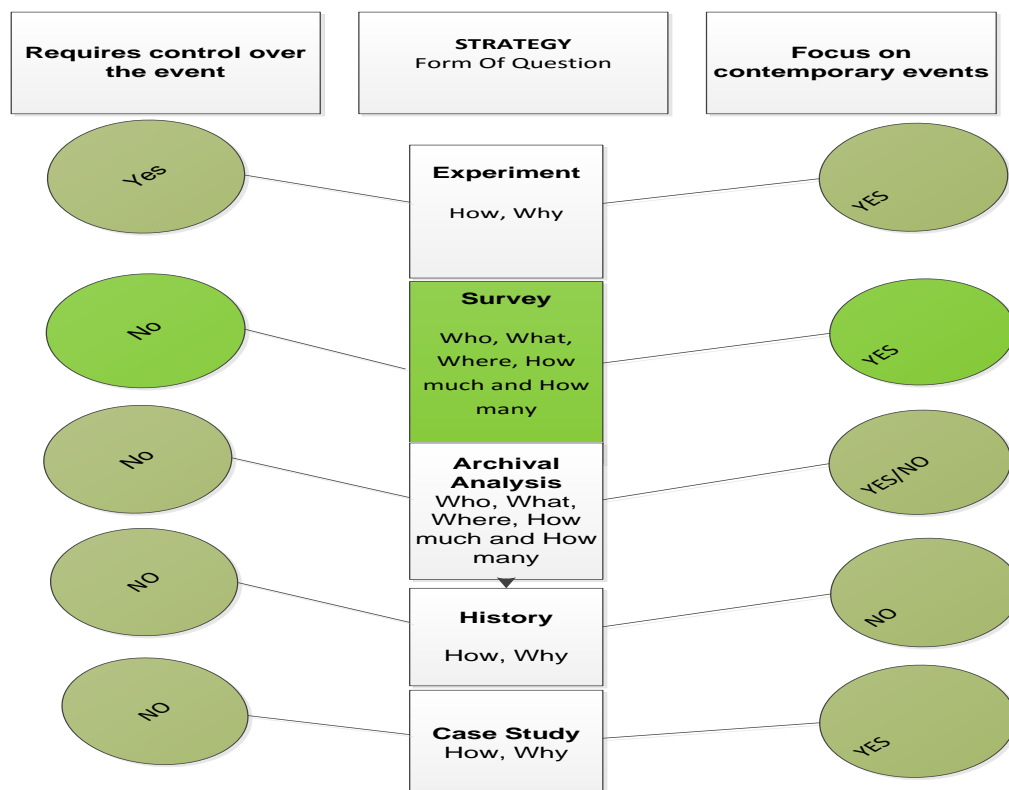


Figure 3.3 Selection of survey as research strategy (Source Saunders 1997)

Referring to Figure 3.3, the survey method is appropriate for this study as the other strategies namely experiment, history and case study do not answer the pertinent questions of who, what, where, how much and how many except archival analysis. This study inquires data from respondents but archival analysis is entirely relying on historical archive data. The survey method is more relevant to the inquiry that is designed for this study.

Surveys are utilized to collect information from a relatively large number of respondents. According to Lapan (2003), a survey is a means of gathering information, usually through self-reporting, using questionnaires or interviews, for explaining and comparing knowledge, attitudes and behaviours. Suresh (2015) defined surveys as a research design used to gather information from different subjects within a given population having the same characteristics of interest.

CRITERIA	CASE STUDY(CS)	STUDY AREA		SURVEY(S)
		CS	S	
Number of cases	Investigation of relatively small number of cases	NO	YES	Investigation of a relatively large number of cases
Information gathered and analysed	Information gathered and analysed about many features of each case	NO	YES	Information gathered and analysed about a small number of features of each case
Control the important variables	Study of naturally occurring cases; or, in 'action research' form, study of cases created by the action of the researcher but where the primary concern is not to control the variables to measure their effect	NO	YES	Study of a sample of naturally occurring cases; selected in such a way as to maximize the samples' representatives in relation to some larger population
Quantification of data	Quantification of data is not a priority. Indeed, qualitative data may be treated as superior	NO	YES	Quantification of data is a priority.

Theoretical inference	The main concern may be with understanding the case study in itself, with no interest in the theoretical inference or empirical generalization. Alternatively, the wider relevance of the findings may be conceptualized in terms of the provision for the vicarious experience as a basis for naturalistic generalization or transferability	NO	YES	The main aim of this research strategy lies in empirical generalization, from a sample to a finite population, though this is sometimes seen as a platform for theoretical inference
Contemporary events	This also focuses on contemporary events	NO	YES	Surveys focus both contemporary and non-contemporary events alike.
Questions	Case studies are also concerned with providing answers to the 'why' and 'how' questions in any given investigation	NO	YES	Surveys on the other hand are used in providing answers to the questions commencing with: Who, What, Where, How many, and How much etc?

Table 3.1: A Comparison of the Case Study and the Survey Research Strategies

(Source: Yin, 2009, p 8)

Table 3.1 listed all the criteria that distinguish between a case study and a survey as applied to this study. All the criteria, namely the number of cases, all the information gathered and analysed, control of the important variables, quantification of data and theoretical inference are in apt for a survey method.

3.11 Research Process

The general research process for the quantitative research was adapted from Bryman and Cramer (1990:3) and this study follows diligently the research process from the theory formulation until the obtaining of the findings. The research process for this study is illustrated in Figure 3.4.

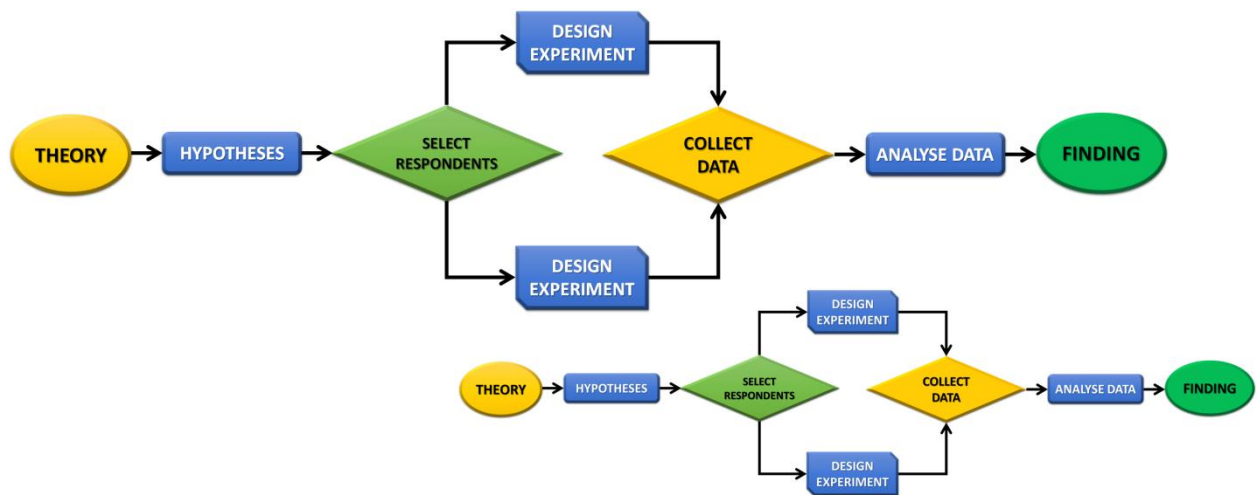


Figure 3.4: Quantitative Research Process (Source: Bryman and Cramer, 1990)

Stage 1: Identifying the research problem and formulating a theory for the research.

Kerlinger (1979) and Creswell (1994) define a theory as a set of interrelated constructs (variables or questions). A theory gives a systematic view of phenomena by explaining the relationship among the variables in describing a natural phenomenon. According to Okafor (2008), a theory is a systematic and formalized expression of all previous observations, and is predictive, logical, and testable. Thus a theory can be said to refer to a proposed explanation of empirical phenomena, made in a way consistent with scientific method. In other words, theory may be utilized as a structure for explaining the manner of a related set of natural or social phenomena.

Kerlinger (1979) and Creswell (1994) displayed a theory in view of an arrangement of interrelated constructs (variable or inquiries). The theory has a systematic view of phenomena by deciding relationship among factors, while portraying natural phenomena. As indicated by Okafor (2008), a theory is an orderly and formalized articulation of every past perception, and is prescient, legitimate, and testable. In this way, theory can be said to allude to a proposed clarification of exact phenomena, made in a route reliable with logical technique. At the end of the day,

theory might be used as a structure for clarifying the way of a related arrangement of common or social phenomena.

- Stage 2:** Expounding the problem statement and generating a hypothesis
- Stage 3:** Inculcating a deep understanding of the study area including any background research and operationalizing the concept.
- Stage 4:** Benchmarking from an established global sustainable community development practices and identifying the sustainable community development indicators used in Malaysia. Based on the quantitative research approach selected, a set of questions for the survey was developed. A pilot survey was carried out to enhance the validity and consistency of the questionnaires.
- Stage 5:** A survey was conducted in the chosen study area by interviewing respondents from the villages. This was supplemented with a formal and informal discussion with community leaders. In addition, relevant documents were collected from the local authority, government agencies and NGOs.

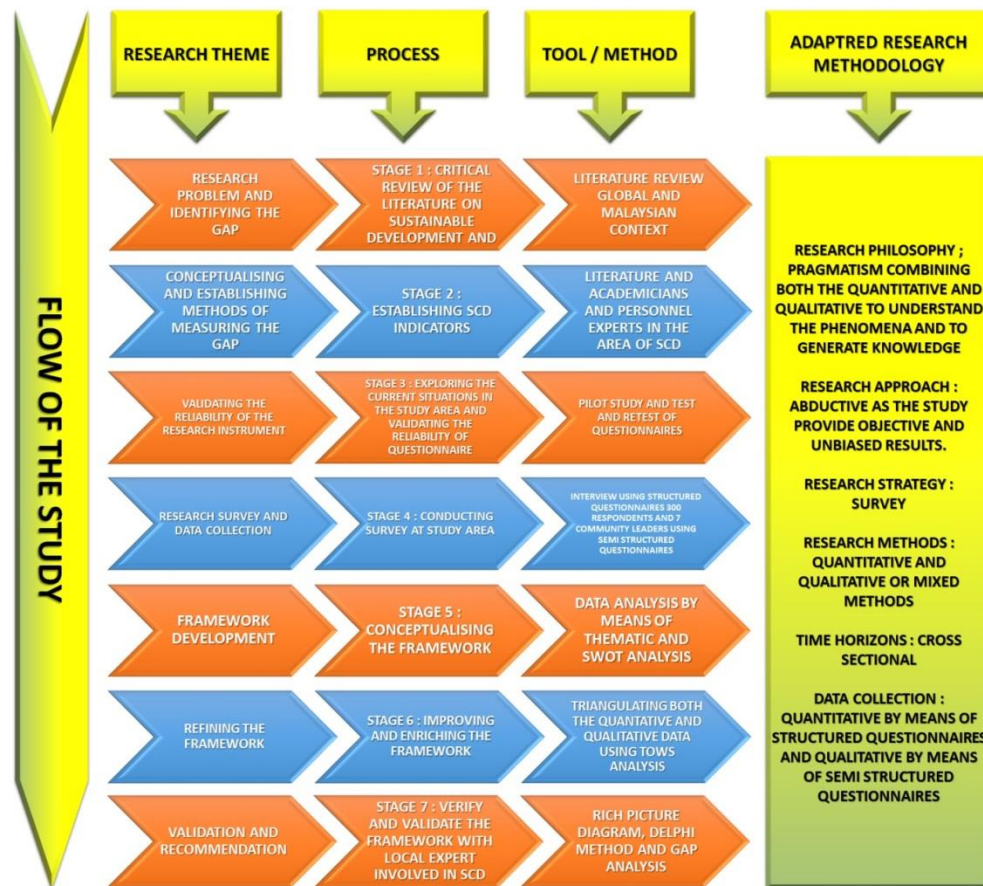


Figure 3.5: Research Design for this study

- Stage 6:** An analysis of the survey data was done by means of thematic analysis for the qualitative data. The quantitative data was analysed using SPSS. A SWOT analysis was applied to both the qualitative and quantitative data. A triangulation of data was undertaken by means of TOWS Matrix Analysis.
- Stage 7:** A comprehensive institutional framework for the achievement of sustainable community development at the village level was proposed
- Stage 8:** The institutional framework was then improved and validated and recommendations were put forward for attainment of sustainable community development model.

All the stages (from 1 to 8) were adhered to throughout the research. The survey for this research were conducted based on the research design as shown in Figure 3.5.

3.12 Questionnaire Construction

In developing the questionnaire, the processes recommended by Churchill and Iacobucci (2002) were adopted, as shown in Figure 3.6. All the steps were followed to develop the questionnaire. The questionnaire and the construction of the questionnaire needed to be guided by the fundamental rules as described by Naoum (2007).

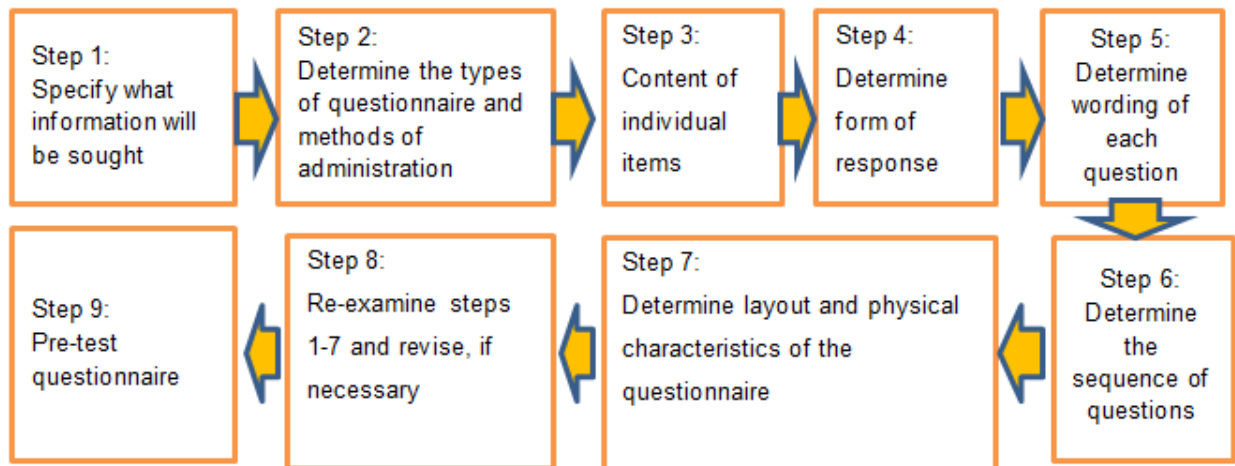


Figure 3.6: Questionnaire Development Process (Source: Naoum, 2007)

The questionnaire was divided into three parts.

Part A: The respondents' bio-data etc.

Part B: Detailed information on the locality and

Part C: Respondents, views and opinions regarding sustainable community development encompassing social, economic and environmental indicators.

The parameters for measuring sustainable community development were developed by the Egan Wheel and the University Of Wisconsin Indicators Of Community Sustainability (1998). It was validated for this to suit the local scenario. The process of developing the questionnaire is shown in Figure 3.6.

A good questionnaire according to Naoum (2007) makes a survey easy. He summarized three basic stages for construction of questionnaires. Taking into consideration the above guidelines for constructing a questionnaire, a set of

questionnaire was developed (See Appendix 3). This questionnaire was translated into the local national language and was pretested.

3.12.1 Questionnaire Reliability and Validity

According to Smith (1991, p 106), 'Validity is defined as the degree to which the researcher has measured what he has set out to measure'. Fink (1998) claimed that validity is the degree to which a measure assesses what it declares to evaluate. Furthermore, Kerlinger (1973, p 457) stated that 'the commonest definition of authority is epitomised by the question: Are we evaluating what we think we are evaluating?' Kumar (1999) raised two questions regarding the definition:

1. Who decides that an instrument is measuring what it is supposed to measure?
2. How can one come to the conclusion that an instrument is measuring what it is supposed to measure?

According to Fink (1998), to assess a study's reliability and validity is to define all key variables and to provide information on measurement type, content and length. The translated version was revised and a test-retest was done to check on the reliability of the questionnaires. The advantage of performing research interviews personally is that the researcher is able to obtain information which is exactly the type of information that the study is designed to gather. The face, construct and content validity were addressed by means of input from academicians and local intellectuals who analyse carefully its content.

3.12.2 Questionnaire Face and Content Validity

Kumar (1999) indicated that face validity requires the establishment of the link between each question and the item on the scale with the objective. The Likert Scale used is rated against the indicators as shown in Table 3.2 using the range strongly agree (1) to strongly disagree (5).

Please rate the following indicator within your area of residence:

No.	Indicators	Strongly agree	Agree	Not sure	Disagree	Strongly Disagree
29	Treated water availability	1	2	3	4	5
30	Electric supply is reliable	1	2	3	4	5

Table 3.2: Questionnaire Sample showing Likert Scale.

Fink (1998) referred to face validity as how a measure appears on the surface and whether the measure seems to ask all the required questions and uses appropriate language. During the field work, the researcher experienced the need to undertake the translation of words that are locally understood in order to elicit the required information. Vague questions elicited inconsistent answers. This was done before the instrument was used.

Content validity is an assessment of the items of an instrument (Kumar, 1999). Fink (1998) referred that the content validity is the extent to which a measure thoroughly and appropriately judges the skills or characteristics intended to be measured. Thus, during the test/retest of the study, the researcher elaborated upon the concept of sustainable community development prior to the interviews to ensure that the content of the questionnaire was understood.

3.12.3 Questionnaire Concurrent and Predictive Validity

Fink (1998) and Kumar (1999) assessed predictive validity by the degree that an instruction can estimate an outcome. Concurrent validity is judged by how well an instrument compares with a second appraisal simultaneously attempted (Kumar, 1999). Also it can be demonstrated when two measures agree or a new measure is compared favourably with valid one. In the case of this study, there is no other instrument that is available locally that is suitable for the study for purposes related to sustainable community development.

3.12.4 Questionnaire Construct Validity

Kumar (1999) stated that construct validity is according to statistical procedures and it is more complicated method for establishing the validity of an instrument. Fink (1998) stressed the need to establish the construct validity experimentally to demonstrate that a measure distinguishes between people who do and do not have certain characteristics. This study does not need construct validity as it is merely eliciting information from the respondents of their perception on issues pertaining to sustainable community development. This study is unique as there is no other study that has been conducted on the subject matter locally with the same objective. In the construction of questionnaire for this study, the aspects of sustainable community development encompassing social, economy and environment were expanded to include the parameters relevant to the village sub urban setting.

The concept of reliability in connection to a research instrument combines the meanings of consistency and stability. Reliability is reflected by the degree of consistency and stability in an instrument, the greater the degree the more reliable the instrument. (Kumar, 1999). It also means that an instrument is reliable if a researcher gathers the same set of information more than once. To obtain the reliability of a mechanism, two methods can be used: external consistency procedures and internal consistency procedures. Kumar (1999) stipulated that there are influences on the reliability of an instrument, both external and internal. The external reliability of an instrument can be addressed by test/retest and also by parallel forms of the same test.

3.12.5 Questionnaire Test/ Retest

Kumar (1999) stated that test-retest (also known as the repeatability test technique) is administered once and then again under the same or a similar condition. The answer for both the test and retest should be almost similar for the open ended and semi - structured questions. A reliable instrument will have a test-retest ratio of one. This method has an advantage as it test the instrument to be compared by itself, thus keeping away the sort of problems that could raise with the used of another instrument. On the other hand, the shortcoming is that the respondent may recall the responses that were given in the first round and thus, may affect the reliability. This is overcome by increasing the time-span between the two tests and this make the outcomes more reliable. For this study, thirty respondents were randomly interviewed and the test - retest ratio was 0.9 based on hundred and thirteen items in the questionnaires. This

ratio is acceptable to indicate that the questionnaires are reasonably reliable in a span of a month between the test and retest.

3.12.6 Parallel Form of the Same Test

In this process, the researcher makes two similar instruments for the same issue with two similar populations and the results are compared. A similar response means the instruments are reliable.

The internal consistency procedure is suitable to measure attitude towards a problem or phenomenon. The questions or statements are categorized into two groups, in which if two questions or statements assess the same aspect, they are placed in different halves. The scores are then correlated and a Spearman-Brown formula is used to calculate the reliability (Kumar, 1999).

3.12.7 Questionnaire Validation and Reliability

The questionnaires were designed based on the University of Wisconsin Cooperatives Extension – Sustainable Community Development: Indicators of Community Sustainability (January 1998) combined with the Egan Wheel. These indicators are used in the design of the questionnaires and the construct of the content was linked to the objectives of the study relating to aspects of sustainable community development. Initially, the questionnaire was in English. Trial interviews with 5 respondents using this English version found that various local terms were used thus creating inconsistency. Nevertheless, these pilot interviews were vital for the researcher to understand the local terms used by the respondents. This was used to improve the questionnaires. The translation of the questionnaires was undertaken by local academicians and intellectuals who are experts in research.

3.13 The Survey Questionnaire

The questionnaire is divided into three parts.

Part A (Question No. 1-20)) is designed to elicit information pertaining to household head bio-data such as name, identity card number, address, age, sex, race, religion, education level, skill, health status, disability, marital status, employment status, income, household income, number of children and number of dependent.

Part B (Question No 21-37) is made up of questions pertaining to needs and practices such as house ownership, number of rooms, type of house, availability of electricity and water supply and vehicle ownership. There are items on personal needs such as ownership of credit card, insurance, hand phone, computer, internet and parabola. It also sought information on services provided to villages such as treated water availability, electricity consistency, roads, village safety, conditions of community centre public transport, general environment, community relation in the village and local community concern with well-being.

Part C measures indicators of social aspect (C1-Question, 38-48), economy (C2-Question 49-59), environment (C3-Question 60-83), religion (C4-Question 84-89) and vision (C5-Question 90-99). The questionnaire can be seen in Appendix 3.

3.13.1 Pilot Study

The researcher conducted a pilot study prior to the actual fieldwork. The pilot study gave the opportunity of checking if the respondents understood the questions. Parahoo (2006) believes that the pilot study also allows the researcher to appraise the quality of the questionnaire. The reliability and validity of the questionnaire can also be checked at this stage (Jones and Rattray, 2010). A pilot study was done using a small sample of subjects, 10% of the main study. All those involved in the pilot study were not interviewed for the proper study.

The interviews during the pilot study were conducted by the researcher himself and each interview took one and half hours to complete. Before each interview, the respondent was briefed on the ethics and a consent form was given to them and they were informed of their rights. Amendments were made to the questionnaires using feedback from the interviews. Questions relating to the vision and to the organizational framework were not well understood. The researcher therefore focused on the

community leaders from the village to elicit the relevant information. This warranted another set of questionnaires meant just for the community leaders. The interviews with the community leaders were conducted using a semi-structured questionnaire.

3.13.2 Sampling

Sampling is example or an instance of a whole (population). Sampling shows what the rest of population is like (Naoum, 2007). Corbetta (2003) defined sampling as observing a part to glean information about the whole is a natural process.

In order to pick up information from the respondents, the sampling technique has to be exact so that the information gathered is representative of the population within the study area. Kumar (1999) demonstrated different sampling techniques.

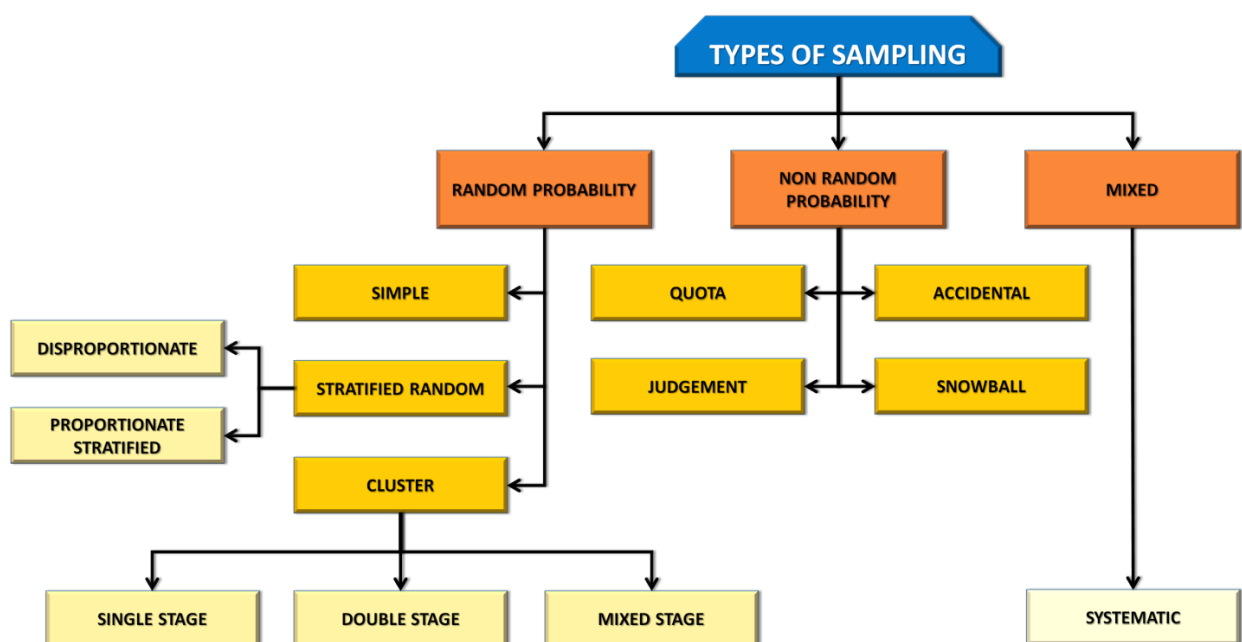


Figure 3.7: Types of Sampling

Based on Figure 3.7, types of sampling design, the best method for this research was random probability sampling. The sample was chosen from the villages with almost the same culture and environment. To achieve a representative sample the participants from each village were selected based on the percentage acceptable to obtain a significant result.

3.13.3 Sample Size

Determining the sample size for this study is in accordance to guidance of Fox et al. (2007) guideline requiring two parameters namely the level of confidence and precision to be ascertained. For the quantitative survey the level of confidence of 95% ($p \leq 0.05$) was used to determine the sample size. The sample size for the study area was calculated by using Yamane (1967)'s 'Simplified Formula for Proportions':

Whereas n is the sample size, N is the population size of household and e is the level of precision for the study area.

N is the number of respondent's equal 1,232 household heads

e is the precision level of $\pm 5\%$

$$n = \frac{1232}{1 + 1232(0.05)^2}$$

$$n = \frac{1232}{1 + 3.08}$$

$$n = 300$$

3.14 Data Collection: Survey and Interview

As of 2012, the study area comprising the following numbers of houses is based on the statistics provided by the DBKU Valuation Division as in Table 3.3. Each village has a household locality plan that was taken from DBKU's Valuation Division and all the houses have numbers allocated to them. All these numbers were written on papers, the papers were then crumpled and placed in a box. This box was shaken to mix up the papers to ensure that the pick is random. Each number picked randomly was recorded. For example, Santubong has one hundred and ninety houses so Numbers 1 to 190 was mixed in a box. Only forty seven picks were made and these were recorded in a field sheet. This was done for all the villages. If a respondent is not available the next person will be interviewed.

Upon completion of the final version of the questionnaire, the 300 respondents were stratified proportionately according to the villages' household numbers, as shown in Table 3.3.

No.	Village	No. of Household s	No. of Sample
1	Santubong	190	47
2	Buntal	162	41
3	Muara Tebas	154	38
4	Bako	298	73
5	Senari	125	30
6	Goebilt	117	30
7	Sejingkat	186	41
	Total	1232	300

Table 3.3: Number of Samples in each Village

After the questionnaires had been improved, a survey was carried out. On average, each household has a minimum of five individuals. Many extended families still exist and stayed together. In some cases, the number in the family exceeds ten people. Traditionally, the man is the head of the household. The questionnaire is distributed to household heads. In cases where the household head is not in the house or the house is occupied by a single mother or an elderly person or an illiterate person the researcher will conduct an interview.

3.15 Data Collection

The respondents were informed of the purpose of the research study. Once they have signed their consent letter and briefed on their rights only then the survey interviews begin.

Concurrently, the seven community leaders were interviewed using a structured questionnaire. The Deputy Village Head (*Ketua Kaum*) of each of the seven villages or any community leaders assigned by the chieftain were interviewed at their convenience. Most of the respondents preferred the interview to be conducted in their own houses.

The villages are about twenty kilometres away from the city centre. For those working in the city, usually the best time to interview them is after the night prayers. For those that requested to be interviewed in the afternoon around five o'clock in the evening, the interview adjourned for the evening prayers.

3.16 Methods for Data Analysis

In conducting the research, and to enable a scientific analysis to be carried out, quantitative research principles were adhered to as in Table 3.4. The survey was conducted by means of structured interviews with a sample in compliance within the accepted norms. All the data obtained from the interviews were analysed using SPSS for Windows.

The qualitative data gathered from the community leaders (which was attained by means of semi-structured questionnaire interviews) were examined manually due to the small number of respondents. According to Caracelli and Greene (1993), the four analytic strategies for combined method data analysis are data transformation, typology (or set of categories), intense case analysis and data consolidation or combining.

Onwuegbuzie and Teddile (2003) discussed a model of combined methods' data analysis consists of seven steps in the data analysis process as shown in Table 3.4. The researcher followed all these stages for the data analysis.

Type of Matrix Design	Type of Matrix Data Analysis	Data Analysis Steps in the Design	Data Analysis Decision
Convergent Design	Merging data analysis to compare results	Step 1 The researcher visited the village head to seek permission to undertake the research and interview the respondents and also to interview him in a qualitative way. The quantitative data from respondents was obtained thereafter.	Decide how to represent or present the combined analysis
		Step 2 Independent analysis of the quantitative data using SPSS and the qualitative data using thematic analytic approaches best suited to the qualitative research questions. Qualitative data are taken from the semi-structured questionnaire and extra information was jotted down in a field notebook.	Decide how to represent or present the combined analysis
		Step 3 Specification of the dimensions by which to compare the results from the two databases.	Decide if further analysis is needed
		Step 4 Specifying what information will be compared across the dimensions.	
		Step 5 Complete refined quantitative and/or qualitative analyses to produce the needed comparison information.	
		Step 6 Represent the comparison.	
		Step 7 Interpret how the combined results answer the quantitative, qualitative and mixed methods' question (Source: adopted from Creswell & Plano Clark (2011))	

Table 3.4: Data Analysis using Thematic Analysis

3.16.1 Rationale for Choice of Analysis

This section attempts to justify the various analyses used to interpret and understand the data collected from the surveys and interviews. There are six phases in the analysis section that were carried out for this research.

Phases		Types of Analysis
1	Data entry of quantitative data	SPSS: to get percentage of occurrences and presenting in graph, pie-chart and tables
2	Theme and code of qualitative data	Thematic Analysis: Data are coded into themes and analysis carried out
3	Village sustainability	The SWOT Analysis: each theme undergo a process with experts and categories into strength, weaknesses, opportunity and threat The Rich Picture Diagram Analysis: to portray the scenario of the village associations.
4	Triangulation	TOWS Matrix: to produce arrays of interventions for SCD
5	Identifying Key factors hindering SCD	GAP Analysis: to identify the key factors that hinders the attainment of SCD
6	Developing the governance institutional framework (GIF)	DELPHI Method: to develop a new GIF

Table 3.5: Research Phases and Types of Analysis

Table 3.5 above depicts the phases and types of analysis carried out. Each and every analysis is interrelated with the process flow of the analysis for this study. Initially the raw data from the quantitative survey amounting to 300 questionnaires undergo a data entry into SPSS. The raw data now bring meaning with percentages of occurrences revealed. From the qualitative interview the data are categorized into theme and are coded undergoing a thematic analysis. The themes are based of the SCD parameters.

All data are themed and coded. Then, it is categorized into strengths, weaknesses, opportunities and threats (See Appendix 7). After it had been categorized based on SWOT, TOWS Matrix is carried out (See Appendix 8). This TOWS Matrix produces an array of potential interventions (See Appendix 9) which form the bedrock for the GAP

Analysis. The GAP Analysis is used to identify the key factor that hinders the SCD at the village level. For this study the Gap Analysis identifies governance institutional framework (GIF) as the key factors and the best analysis is Delphi Method.

In selecting the best type of analysis to be used in this research, the most important consideration is that the analysis method must be simple, easy and participant friendly, reliable and effective. This is vital as the community leaders will be participating in the analysis. Acknowledging their ability, the analysis must be easy and friendly. The analysis must be friendly to those without high academic qualification. This will ease the experts to participate and contribute in the brainstorming session. Their exposure during the workshop especially knowledge that they acquire will be beneficial for their session with the other members.

The choice of thematic analysis over Grounded or Inquiry Analysis is based on Aronson (1994) in the report 'A Pragmatic View of Thematic Analysis'. Aronson describes this method to be simple and simpler than other qualitative research methods. Javadi and Zarea (2016) concur that beside its simplicity, it also has a high level of flexibility. Further, the tangibility of analysis has made less-experienced researchers in qualitative studies not feeling hopeless and is attracted towards this method. Based on these premises, the researcher selected thematic analysis over Grounded and Inquiry Analysis as this analysis is neither too academic nor difficult for the community leaders. The selection of SWOT, TOWS Matrix and GAP Analysis are based on its' practicality and simplicity for the use of the community leaders.

Alternative to Delphi Method Analysis is a similar ABCD tool which uses the back-casting strategy. Al-Dahir, Kang, and Bisley (2009) in their dissertation titled 'A Holistic Approach to Sustainable Community Development in the Developing World' describe the ABCD tool as a step-by-step planning procedure that helps to create an awareness of the whole system (A-step), provide a current assessment of the situation (B-step), create a desired future vision (C-step), and help to prioritize proposed actions and create an implementation plan to reach that desired future vision (D-step) as depicted in Figure 3.8 . The D-step utilizes the three-prioritization questions listed below in the strategic level. This tool is appropriate for situation where planning, implementation and monitoring stage are involved. Both methods have an equally similar procedure

but for this study, the procedures in Delphi Method Analysis is much simpler for the community to comprehend. The Delphi Method Analysis is selected for this study for the simplistic procedure and a friendly process which can garner the participation of the community in the course of developing a participatory bottom up governance institutional framework.

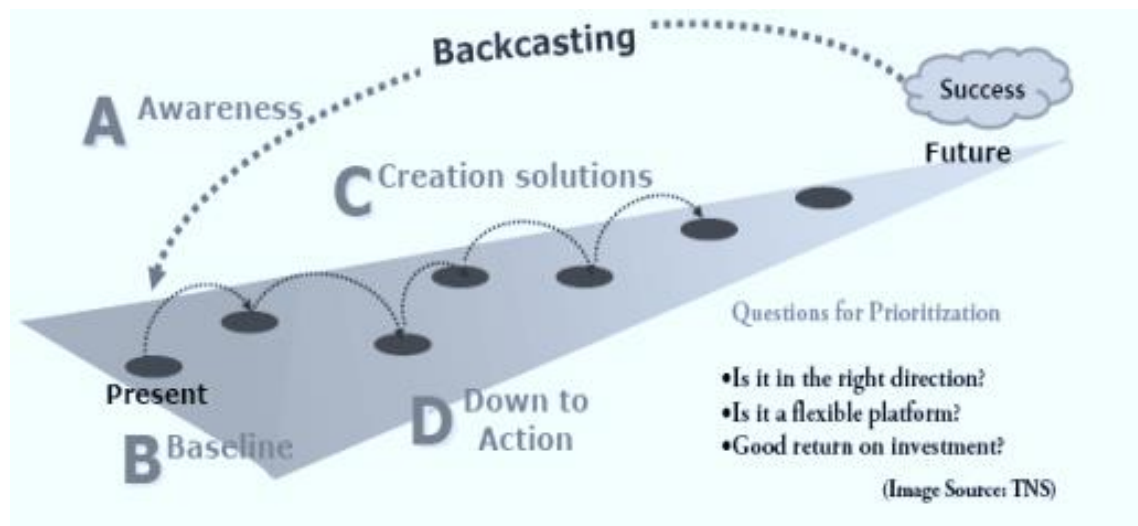


Figure 3.8: ABCD Process

Nevertheless, this ABCD process will be best applied during the implementation process as it incorporates the element of planning, implementation and monitoring stage.

All these analyses are conducted together with the experts. The selection of the experts is based on the set criteria.

3.16.2 Criteria for Selection of Expert Respondents

The criteria for the selection of expert respondents to participate in analysis of the framework for sustainable community development are as follows:

- Having considerable experience in sustainable community development at the village level,
- Currently working with government agencies on sustainable community development,
- Having good working knowledge of social, economic and environmental aspects in relation to sustainable community development.

According to Murphy et al. (1998), the more participants there are the better. They stated that, as the number of judges increases so does the reliability. The success of a Delphi study clearly rests on the combined expertise of the panel. The determining of panel size varies with the numbers of participants utilised in various studies. Panel sizes could range from 10 to 1,685 according to Powell, (2003) and Reid, (1988).

3.16.3 The Experts

For this study, the experts are represented and comprised of the following:

1. Five community leaders (two community leaders decline to participate).
2. The officer in charge of Community Development at DBKU
3. The officer from the Ministry of Local Government and Community Development
4. The officer in charge of JKKK at the Resident and District Office
5. An officer from the Member of Parliament Office
6. A representative from the NGOs

These experts were directly involved in community development in the area. The number of the experts is more than the minimum 10 as mentioned by Reid (1988) and, in terms of expertise they are all involved in championing community development issues. If the method is to be successful in achieving its objectives, it is important that the expert panel members are willing and able to make a useful contribution. Linstone and Turoff (1975) noted that potential users of a study's findings may be willing and useful members of such an expert grouping, as well as being represented. All the experts participated in the workshop brainstorming session for all analyses carried out, SWOT, TOWS Matrix, GAP and Delphi Method Analysis.

Table 3.6 is the summary of experts involved in the analyses. All the experts are Malays. Although their level of education is just Form 3 and 5, their vast experience in administering the village associations, as retired civil servants are sufficient for them to contribute in SCD discussions. The three government officers have tertiary education and are very experienced in serving the community.

Experts	Profession	Age	Race	Education level	Experience in SCD and Village Administration
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1	Ali	Deputy chieftain	62	Malay	Form 3	Administer the village VSDC Businessman
2	Ahim	Tribal chief	57	Malay	Form 5	Retired teacher, Heading the RELA village association
3	Wan	Tribal chief	60	Malay	Form 5	Retired teacher Chairman of PTA
4	Adam	Tribal chief	58	Malay	Form 3	Retired civil servant Chairman of Fisheries Association
5	Dan	Tribal chief	53	Malay	Form 5	Retired Civil servant Chairman of VSDC
6	Mos	Government Officer	36	Malay	Bachelor degree	5 years' experience in SCD programme
7	Dol	Government Officer	41	Malay	Bachelor Degree	6 years' experience in handling the village chieftain, tribal chief and VSDC
8	Man	Government Officer	54	Malay	Bachelor Degree	Vast experience with government, involved in community development
9	Nal	Minister's representative	56	Malay	Diploma	Experience in banking, and a political representative. Providing assistance to the needy.
10	Ben	Representative of NGO	48	Malay	Form 6	Vast experience in NGO, and had been an NGOS sec- gen for 10 years

Table 3.6: Summary of Experts

The representative of the Member of Parliament's who is also a minister had been serving the community and is well-versed about the community. His job requires him to be with the community and also organising programme for the minister for the people of his constituency. The representative of the NGO has great experience in administering the NGO and he had been NGO sec-gen for 10 years. With the experience that the experts have, they are expected to contribute well in the analysis.

According to Powell (2003) there is very little actual empirical evidence on the effect of the number of participants on the reliability or validity of the analysis. The Delphi method does not require that the expert panels be representative. A classic Delphi survey follows a prescribed set of procedures that reflect both the behavioural and the statistical processes. Three rounds of questionnaires are sent to a preselected expert panel, although the decision over the number of rounds is largely a pragmatic consideration (Jones et al. 1992). For the purpose of developing the institutional

framework three rounds was deemed to be sufficient. Before proceeding, the expert respondents were informed of the purpose of the research study. Once they have signed their consent letter and briefed on their rights only then was the study brief together with the present institutional framework were given to them.

Upon receiving the participant's consent form, a kit was delivered to each expert comprising of a set of questions with the latest version of the framework together with the findings from the survey (Appendix 4: Quantitative Data Analysed Using SWOT Analysis and Appendix 5 SWOT Analysis- Questionnaires for Respondents).

All these experts are involved in analysis data for the GAP Analysis, SWOT, TOWS Matrix and Delphi method analysis.

3.16.4 Thematic Analysis

The data from the interviews with the community leaders were analysed using thematic analysis. The data were coded according to the questions from the questionnaires. Guest, Namey and Mitchell (2012) affirmed thematic analysis as the most regular form of qualitative analysis. The process is based on coding in six phases to create established, meaningful patterns. These phases are: familiarization with data, generating initial codes, searching for themes among the codes, reviewing themes, defining and naming themes, and producing the final report (Saldana, 2009). The data were analysed as shown in the sample in Table 3.7.

Question		Code	
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	RESPONDENT FROM VILLAGE	1	2	3	4	5	6	7	8	9	10	Comment
13. List down the names of the Associations in your village	1											
	2											
	3											
	4											
	5											
	6											
	7											
	TOTAL											

Table 3.7 Sample of Data Coding

3.16.5 SWOT Analysis

SWOT Analysis is a simple analysis that can easily be understood by the community leaders and other experts. Makos (2014) stated that SWOT analysis tool is utilized for identifying and classifying internal and external factors. The internal factors are advantages and disadvantages while external factors are stated as chances and threats.

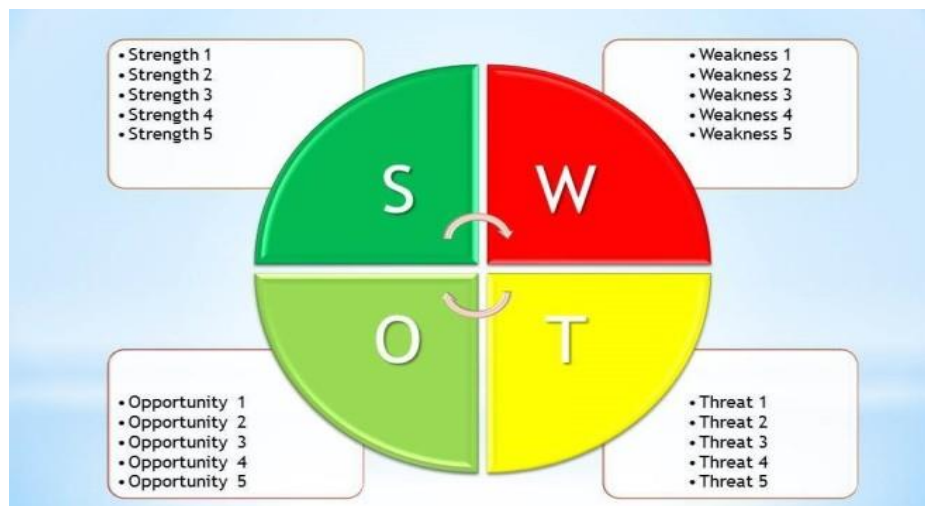


Figure 3.8: Tabulating SWOT (Source: <http://pestelanalysis.com/SWOT-template/>)

The categorizing of the theme based on the SCD indicators into strengths, weaknesses, opportunities and threats are conducted in a workshop. This workshop was attended by all the experts (refer to Section 3.16.3). The concept of SD and SCD, the result from Chapter 4 and the thematic analysis are presented. The experts

participated in a brainstorming session until consensual decisions are reached in categorising the entire theme into SWOT. Based on these, the results are tabulated and a list of sustainable, self-sustaining and sustentation indicators are obtained. (See Section 3.16.6.2)

All the data collected from the villages were recorded and classified into strengths, weaknesses, opportunities and threats. An analysis was done and the result was triangulated by utilizing TOWS Analysis.

3.16.6 Triangulation Using TOWS Matrix

The same experts contribute in the workshop brainstorming session to triangulate and generate a list of interventions. The process of TOWS is conducted using Kendrick's (2011) guide that is by simply creating a chart where the internal aspects (Strengths and drawbacks) intersect with the external aspects (Opportunities and Threats). Table 3.8 shows an example of how such a table should look. A discussion on each of the matrix cells creates a strategy which will assist in providing new solutions for solving the issues faced by the villages. The matrix was used for analysis based on the SO, WO, ST and WT as portrayed in Table 3.8.

SO (Strengths-Opportunities) – Utilizing internal strengths to capitalize on external opportunities. For example, in the villages, a number of people are fisherman or have knowledge of, and interest in, fishing. Where there is an opportunity whereby the government has grants or some assistance for fishermen to assist in the fishing industry, then the strategy will focus on creating a fishing industry in the village.

WO (Weaknesses-Opportunities) – Improving internal weaknesses by employing external opportunities. Utilizing the fishing example, the villagers have no skill in handling big fishing trawlers whereas an agency may have a grant (Opportunity), thus the strategy will be to give training (or placements in a fisheries' industry elsewhere) so that the villagers learn how to handle trawlers.

ST (Strengths-Threats) – Using internal strengths to avoid external risks. Suppose there is a threat of drug abuse due to the encroachment of construction workers into the villages and the elders in the village are religious and eager to weed out such influence. The strategy using an outreach programme to help them matters.

	Opportunities	Threats
	<i>Opportunity 1</i>	<i>Threat 1</i>
	<i>Opportunity 2</i>	<i>Threat 2</i>
Strengths	S-O Strategies	S-T Strategies
<i>Strength 1</i>	<i>S-O Strategy 1</i>	<i>S-T Strategy 1</i>
<i>Strength 2</i>	<i>S-O Strategy 2</i>	<i>S-T Strategy 2</i>
Weaknesses	W-O Strategies	W-T Strategies
<i>Weakness 1</i>	<i>W-O Strategy 1</i>	<i>W-T Strategy 1</i>
<i>Weakness 2</i>	<i>W-O Strategy 2</i>	<i>W-T Strategy 2</i>
<i>Weakness 3</i>	<i>W-O Strategy 3</i>	<i>W-T Strategy 3</i>

Table 3.8: TOWS Matrix

WT (Weaknesses-Threats) – This is certainly the most vulnerable position on the matrix. The strategies produced here is to avoid threats and minimize limitations. It is most often utilized when an organization is at risk. For instance, in the case of drug abuse the elders might not be capable of overcoming the threat of drug abuse due to the encroachment of construction workers. Perhaps collaborating with an agency such as police, the religious department and an anti-drug agency will help to weed out the influence. This matrix will be used to triangulate both the data attained from the heads of household (quantitative) and from the leaders (qualitative). This triangulation will create strategies or interventions for the villages by providing reliable information.

3.16.6.1 Assessment for Village Sustainability

The survey results are discussed based on the coded theme against the indicators which include basic needs, governance, social aspects, economic aspects, environment aspects, services, housing and built environment, transport and connectivity derived from quantitative and qualitative data elicited from the respondents.

The qualitative data was analysed after the data was grouped into themes using thematic analysis. (Refer to Appendix 5). Both sets of data were then categorised into

strengths, weaknesses, opportunities and threats. The finding is discussed in Chapter 4.

The data from both the quantitative survey and qualitative interviews underwent a triangulation using TOWS Matrix. In the triangulation process, a list of interventions is generated. These interventions are possible programs to be implemented to enable the community to achieve a sustainable community status.

3.16.6.2 Identifying the Village Sustainability

The indicators are rated base on the feedback from data obtained from the surveys and interviews and the brainstorming session with the experts. The feedback is classified into three categories namely, sustainable, self-sustaining and sustentation as follow:-

Green	Indicates 'sustainable' as being able to maintain or keep going, for an action or a process.
Yellow	Indicates 'self-sustaining' serving to sustain or aiding in the support of an organization through a special effort made within the villages. The effort can be made in order to narrow the gap by the community towards achieving a sustainable status.
Orange	For 'sustentation' defined as the 'act of sustaining' that is to achieve the state of sustainability. More need to be done. It is costly and requires interventions from external organisations like the Government, NGOs and the private sector.

Based on these criteria, the finding obtained will be presented to the experts and categorised collectively. The percentage of those categorized under sustainable, self-sustaining and sustentation will form the level of village sustainability.

3.16.7 Rich Picture Diagram Analysis

The rich picture diagram is used to understand the reporting system in the village between the associations and stakeholders such as government agencies, inter-association and NGO's. Checkland and Scholes (1999) first introduced rich pictures and describe a rich image as a way of showing stuff in a scenario. In representation a

scenario utilizing a rich picture diagram, things can be interrelated and a valid reason can clarify the problems, actors, issues, processes, relationship, conflicts and motivations which exist.

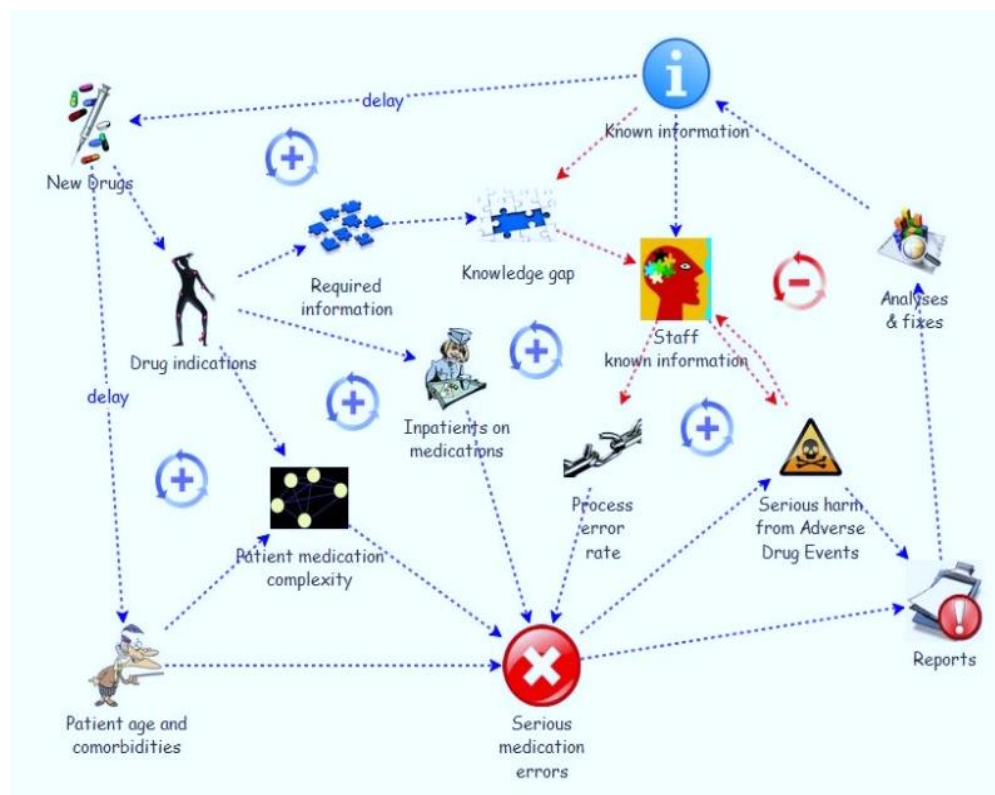


Figure 3.9 - Medication Error Rich Picture Causal Loop Diagram

Rich pictures are normally utilized as an instrument in the step to represent the actual world issue situation and depict multiple-human activity system (Platt and Warwich, 1995). A rich picture can be hand-drawn or by using available software (Lester, 2008). Checkland and Scholes (1999) highlight the ‘discussable appreciation of the problem’ rather than the picture and also the important aspect is the generation rather than the end result. In a research project, it was understood that utilizing RPD is desirable when evaluated using narrative text in presenting the case study storyline (Sutrisna, & Barrett, 2007).

Figure 3.9 provides an instance of a Rich Picture Diagram being utilized to show the chronology of the research problems and results as an example in the Medication Error Rich Picture Causal Loop Diagram. This study will use a rich picture diagram to analyse the villages association’s linkages.

3.16.8 GAP Analysis

The GAP Analysis is used to identify the key factors that hinder the attainment of village sustainability. This analysis warrants the assessment of the present status and visioning a desired future based on the SCD concept. Gomm (2009) explained that the aim of GAP analysis is to find out the space between the present and the desired status in order to bridge that space. An analysis is carried out to find out the difference between the present state and a desired future state of a system. Conducting a GAP Analysis requires the identification of the current and future state. Rouse (2015) stated that the current state involves listing the procedures and features that an organization looking for to update, utilizing factual and particular situations.

	What	Where	When	Who	How
Current State	What Happen?	Where is the confusion?	When is it done?	Who does the work?	How is it sequenced?
Future State	What should it look like?	Where will it change?	When will it change?	Who will do this?	How will it be timed and resourced?
Gap	What is different?	Where will it be different?	When are the differences needed?	Who will identify and validate the gap?	How will the gaps be improved?
Actions to Close Gap	What will be done to address the gap?	Where will it be addressed?	When will it be addressed?	Who will make the decision and complete it?	How will it be rolled out?

Table 3.9: Conducting a GAP Analysis (Source: Leonard, 2014)

In this study, the indicators are categorized into themes which are then clustered into sustainable components such as environmental, social and economic aspects. Rouse (2015) mentioned that the investigations of these focus areas can be either quantitative or qualitative. The GAP analysis report consists of a column labelled "*Future State*" which should outline the target condition that the community wants to achieve. There should additionally be a column that describes the gap.

Indicators that are sustainable will be omitted in the analysis. Only those indicators of self-sustaining and sustentation will undergo the GAP analysis. Rouse (2015) suggested that this column in a GAP study report list all the possible solutions that applied to fill up the space between current and future states. This column will enable a strategy to be formulated in order to narrow down or eliminate the gap. Leonard

(2014) explained how a GAP analysis should be conducted by identifying the What, Where, When, Who, and How of each current state, future state, and the gaps and actions to be taken, as shown in Table 3.9.

Once the gaps have been identified, ascertaining the actions to narrow down the gaps need to be carried out. This is done together with the experts. A consensus must be reached collectively.

3.17 Identifying the key factors hindering the achievement of Village sustainability

The GAP Analysis is used to determine the key factors that hinder the attainment of SCD. This analysis will show the present and the future desired status. The present status is based on the data collected and the future status is determined with the experts. The GAP between the present and the future undergoes a brainstorming session among the experts and their views and opinion were recorded. All the deliberation and discussions are elaborated in Chapter 5. Based on Chapter 2, it is indicative that the main key factors hindering the attainment of village sustainability is the governance institutional framework. The GAP analysis will confirm this. Once confirmed, the ways to narrow the GAP is by developing strategies incorporated in the governance institutional framework. The participation of the community leaders in the process of developing the framework is a bottom-up process. This is confirmed by Roseland, (2000), sustainable development strategies should favour bottom-up over top-down approaches; redistribution over “trickle-down;” and self-reliance over dependency, IT should be designed with extensive public participation.

3.18 Participatory Bottom-up Development of the Governance Institutional Framework Using the Delphi Method

Developing this participatory bottom-up approach together with the community leaders is guided by the steps for Delphi Method. The results from the SWOT, TOWS Matrix and GAP Analysis are the basic for the Delphi Method leading to a development of a governance institutional framework. For the validation of the governance institutional framework, a set of questions was given to the experts in the field at the local level.

Okoli and Pawlowski (2004) stated that survey issues also apply to the Delphi study which requires these steps to be followed:

- Step 1** The set of questions together with the conceptual framework, were given to experts in the area.
- Step 2** The responses were then recorded and analysed.
- Step 3** Next, another survey was conducted based on the answers to the first one. They were required to answer or to correct their initial response
- Step 4** This process is repeated until the answers obtain reaches an acceptable level of agreement. The identities of the respondents were not disclosed. This shows a consensual bottom-up institutional framework is achieved for sustainable community development at local community level. This response then formed the institutional framework for this study.

A thematic analysis of content was explained in Chapter 2. The contents were grouped into themes based on the elements of sustainable community development (social, economic and environmental aspects) and all the comments received from the experts were taken into account in coming up with the final institutional framework. Powell (2003) stated that methods of data analysis appear to vary according to the purpose of the Delphi study, the structure of the rounds, the types of questions and the numbers of participants.

The first-round questions are usually unstructured and require an open response. This allows the participants to be relatively free to elaborate on the topic discussed (Rowe, 1994). Data collected from round one will go through a thematic analysis and this provides the basis on which to construct the second and subsequent questionnaires. Open-ended questions help to increase the richness of the data collected.

The second round data, evolving from semi-structured questions, will undergo a thematic analysis by utilising themes. Similar themes are grouped into a strategy. The second and subsequent rounds are more specific, with the questionnaires seeking more detailed information. However, all the questions are used as a guide for the

experts to build a comprehensive, workable and practical framework. This framework is needed to improve the quality of governance in the village to achieve a sustainable community.

Although there is a possibility of more than three rounds to be utilised, there was a constraint of time, cost and possible participant fatigue (Jones et al. 1992; Rowe 1994, Hasson et al., 2000). The third and subsequent rounds should indicate to the participants the central tendencies from the previous round. Powell (2003) stated that participants should also be given an indication as to where their scores are placed in relation to the overall picture. In their Delphi study on curriculum content, Williams and Webb (1994) sought 100% agreement for items to be accepted. However, they noted that other studies had set the level of agreement at a lower rate. The comments and feedback from the third round are collectively summarised and presented to the experts for their comment which will be incorporated into the framework. This workshop format enables the experts to help come up with the third version of the institutional framework.

3.18.1 Pilot Testing for Delphi Method

Pilot testing of questionnaires for Delphi is optional but it can help to identify ambiguities and assist in the administration (Jairath & Weinstein, 1994). For this study, the researcher chose to test and retest the questions.

3.18.2 Test - Retest for Delphi Method

The test-retest guideline mentioned by Kumar (1999) for the survey questionnaire is adhered to enhance the instrument reliability. Three pensioners who have served as senior officers in the Ministry of Environment and Public Health, former Head of the Community Development Division of DBKU and a community leader who had been a chieftain in one of the villages were selected to assist in assessing the applicability and reliability of the questions.

An interview was conducted as they are elders and they preferred a face-to-face interview rather than returning a written form by post or filling them. The questions drafted were read to them and their answers were written down on a field sheet. All three had no difficulty in understanding and answering the questions. The retest of the

questions was held two weeks later and secured the same answers from the pensioners. This was repeated with all three rounds.

Jairath and Weinstein (1994) proposed that participants for the test-retest should be experts to reflect current knowledge and perceptions. It has been noted that heterogeneous groups (characterized by panel members with widely varying personalities and substantially different perspectives on a problem) produce a higher proportion of high quality, highly acceptable solutions than homogeneous groups (Delbecq et al., 1975). This finding is strongly supported by Rowe (1994) who suggested that experts should be drawn from various backgrounds in order to guarantee a wide knowledge base. Murphy et al. (1998) concluded that diversity within expert panel membership leads to a better performance as it allows for the consideration of different perspectives and for a wider range of alternatives to be put forward.

3.18.3 Validity of the Findings

Murphy et al. (1998) highlighted a number of ways in which the findings of a Delphi study can be evaluated. The first is a comparison with the 'gold standard'. This is undertaken by comparing the findings with the results of a randomized-controlled trial, the results of which are unknown to the Delphi participants. The second, criterion-related (predictive) and concurrent validity is undertaken by comparing findings with data from other sources. The third is an assessment of internal logic by checking the consistency of the group's output. A fourth suggestion refers to an assessment of face validity through a judgement of usefulness in terms of correctness, commitment and implementation. For this study, the fourth suggestion is the most appropriate as the third institutional framework must go through a final workshop to get an overall consensus from the experts.

3.19 Scope and Limitations of the Research

This study was undertaken in seven villages in DBKU suburban areas north of the City of Kuching, Malaysia. Most them are Malays and are of Muslims denomination. They do not reflect the multi ethnicity nature of the country.

There were a number of issues encountered during the interview as follows:-

1. The interviews were rather long and at times distracted the respondents as they have other business to attend to and the presence of other family members also distract the interviewees.
2. It was difficult to find a time that is really convenient to the respondents. At times, the interviews were conducted in more than one session. This raises the problem of continuity.
3. Repeating the questions during the interviews for a large number of respondents tend to lead the researcher to make assumption. The lengthy questionnaire and time-consuming interview sometimes distract the focus of the interviewee. Interviews at the respondent's houses were often interrupted by family members especially those having children. Thus, the quality of data collected may be questionable as some of interviewees were not focused in the issues discussed.
4. The timeframe allocated for the survey is limited and thus the development of the 3rd Version can be further refined given more time.
5. The large number of respondents incurred cost to interview and conduct workshop with the experts. The researcher exhausted fund allocation to carry out a more comprehensive version of the governance institutional framework.
6. Further, a guideline needed for implementation can be designed given sufficient time and funding.
7. The distance of the study area is between 25-30 kilometres from the city of Kuching and one of the villages is only accessible by boat. This made the field work difficult and costly. This also limits the time available for the interview
8. The informants especially the community leaders are very cautious in giving their views in fear of offending the Village Head and their stand being misinterpreted as unsupportive of the government policies.

3.20 Summary

A field work was carried out in seven villages in Kuching. The survey and interview data collected is analysed using the SPSS, SWOT, TOWS MATRIX, Thematic Analysis, Rich Picture diagram in Chapter 4 and GAP Analysis as in Chapter 5.

The SWOT Analysis categorises the data obtained from SPSS Analysis into strength, weaknesses, opportunity and threat. The results from SWOT Analysis form the primary data for the triangulation in TOWS Matrix. The TOWS Matrix generated an array of interventions. The outcomes of these analyses are used to determine the village sustainability. Those categorised under self-sustaining and sustenance underwent through a GAP Analysis to identify the main key factors that hinders the attainment of

village sustainability. In chapter 2, it is indicative that poor governance due to the institutional framework is a prime key factor that retards SCD. Once it is confirmed that the unstructured top-down governance institutional framework is the prime key factor, the development of the participatory bottom-up institutional framework will follow. This will be discussed in detail in Chapter 6.

CHAPTER FOUR : SUSTAINABILITY IN THE VILLAGES

4.0 Introduction

This chapter presents the data from both the quantitative survey and the qualitative interview. The findings presented here comprise of the components of sustainable

community development based on the indicators described in Chapter 5 namely, basic needs, governance, social indicators, economic indicators, environmental indicators, housing and built environment, transportation and connectivity and services. The findings are presented sequentially for the quantitative findings followed by qualitative. For components such as basic need, only quantitative data are collected as information elicited are just for individual respondents.

4.1 Background of the Respondents

This is an overview of the respondents from the suburban villages. All the respondents are from one ethnic group (Malays) who professes Islam. Their ages ranged from 25 to 60 years. Most of the respondents (83%) interviewed are between 25-60 years old and 75% of them are male and the rest are female.

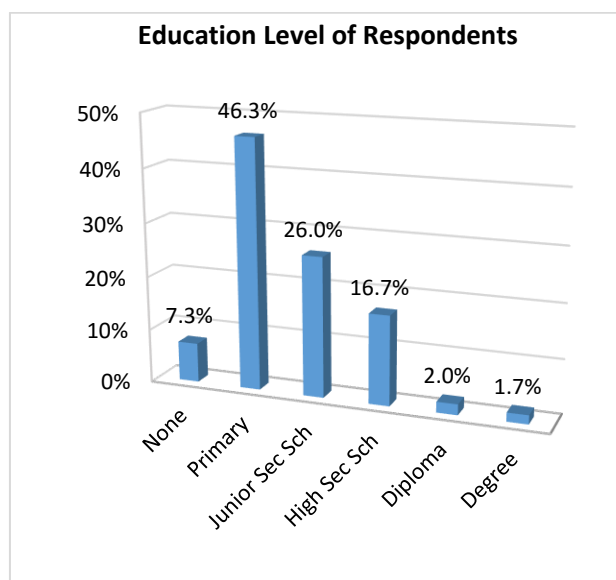


Figure 4.1: Education Level of Respondents

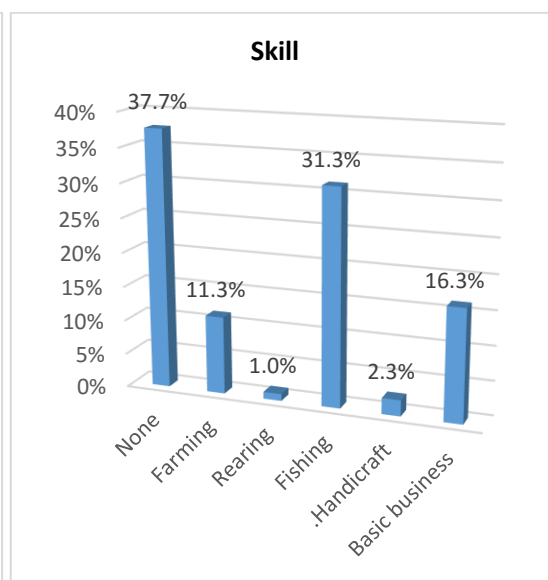


Figure 4.2: Skill

This group has a vast experience, having lived in the villages for a long time. Because of this, the information and experiences they shared can be considered to be more reliable.

Most of the respondents (46.3%) completed primary school education, 26% attended junior school, 16.7% high school and only one person has a diploma. Most of those

within the villages who had received higher education had migrated to the city for better job prospects either with the government or the private sector.

From the interviews it was discovered that the reasons for migrating was for further study (23%), for work (15.7%), getting married (10.3%) and buying new houses (2%) elsewhere near town. About 49% of the respondents had no family members who had migrated to the city. Figure 4.2 show that 31.3% of the villages had skills in fishing, 11.3% had farming skills, rearing chicken (1%) and basic business skills (16.3%).

The respondents claimed, generally, that they are healthy (79.7%). Only 4% are having asthma, 10.3% are having high blood pressure, and 2.7% have diabetes while 1.3% claims disability due to old age. Most (94.7%) are able bodied and only 4.7% claimed to be disabled but upon observation of the respondents the level of disability is not apparent. Even the respondents who claim to be 'blind' are not totally so with only impaired eyesight due to old age. Most of the respondents (81.9%) are married, 10.7% are single. 3.7% are widowed and 3.7% are divorced. The villagers have a large number of dependents, 65.7% have either 4 or more dependents.

4.2 Basic Needs

The indicators for basic needs include house and vehicle ownership, employment and household income. They also included respondents' accessories such as hand phone, computer, internet, parabola or satellite disc and credit card. Insurance coverage is also used as an indicator.

4.2.1 House Ownership

There are 1232 houses in the villages. Out of these, 67.7% were bought and 12.3% inherited. Only 12.3% of the villagers live in rented houses and 5.3% share the house with relatives (refer Figure 4.3a). Figure 4.3b shows that 8.0% of the houses have more than 5 rooms, 55.7% have 3-4 rooms and 34% have 2-3 rooms (34%). About 2.3% houses at the village have no room at all. The villages are built along the river banks

and thus subjected to seasonal flooding. Many of the residents build their houses on stilts (54.7%).

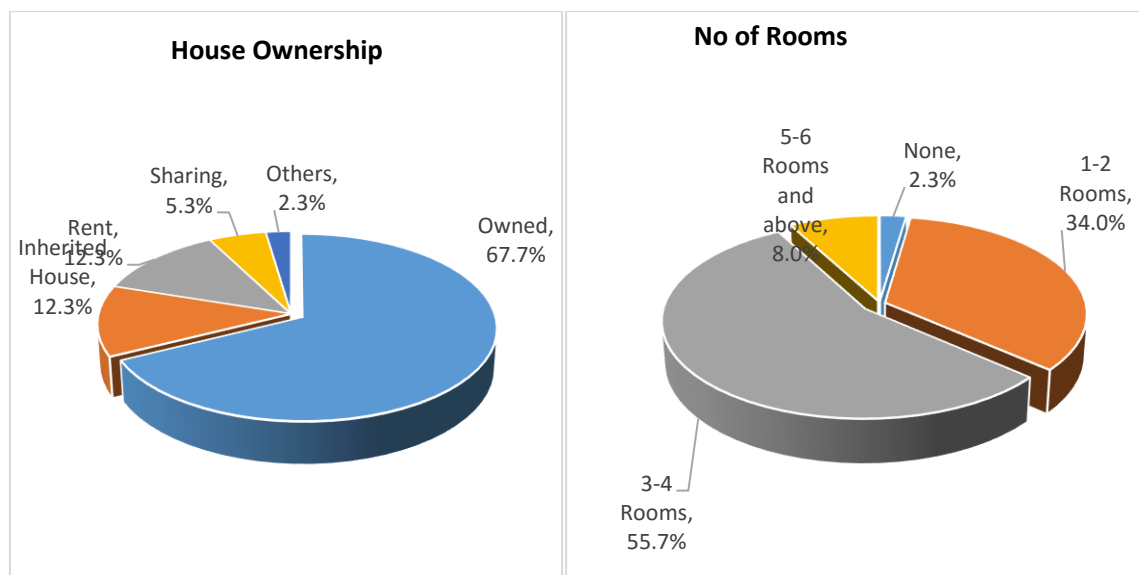


Figure 4.3a: House Ownership

Figure 4.3b: No of Rooms

Those located on higher ground consist of single storey houses (19%), double storey wood houses (18%), double storey semi concrete houses (2.3%) and double storey brick houses (6%). (Refer to Figure 4.4).

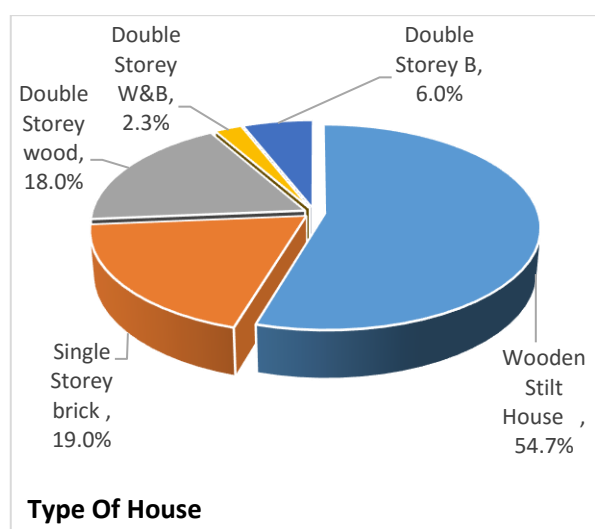


Figure 4.4: Type of House

4.2.2 Vehicle Ownership

The villagers are highly mobile as shown in Figure 6.5. About 95% have some form of transport. Of these 49.3% have cars, 41.7% have motorcycles, 2.7% have vans and 1.0% have a lorry. Only 5.3% have no means of transport. Such vehicular access provides an advantage for the villagers in terms of implementing programmes that will benefit them. The high ownership and usage of hand phones (91.3%) is an advantage providing for ease of communication.

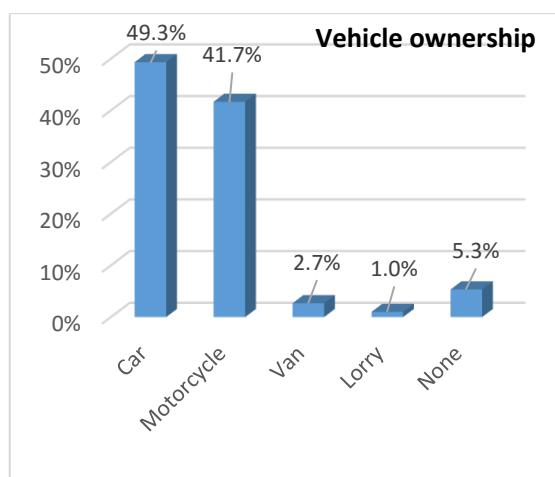


Figure 4.5: Vehicle Ownership

4.2.3 Employment

Among the respondents, 13.7% are unemployed, 24.7% have a permanent job and 47% are self-employed. Only 4.7% are full time housewife and 6.7% work on just a part-time basis while 3.3% are pensioners. (Refer to Figure 4.6).

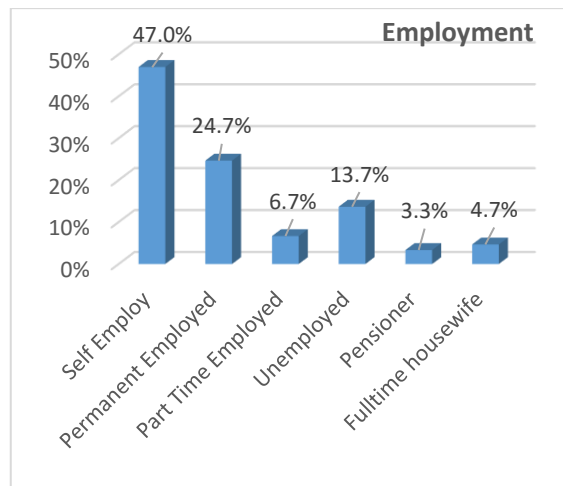


Figure 4.6: Employment

Interestingly, pensioners are usually experienced people who had worked with the government. Their experience can be capitalised to assist the community as leaders in various capacities.

4.2.4 Income

The majority of the respondents earn below RM590. The national urban poverty level for hard core poor is below RM910 (MURNlinet, 2012). This indicates that the majority of the respondents' incomes are below the national average. With 43.3% earn between RM501- RM1000. About a third of the respondents (33%) earn above RM 910. Another 43.3% earned between RM501- RM1000 as in Figure 6.7.

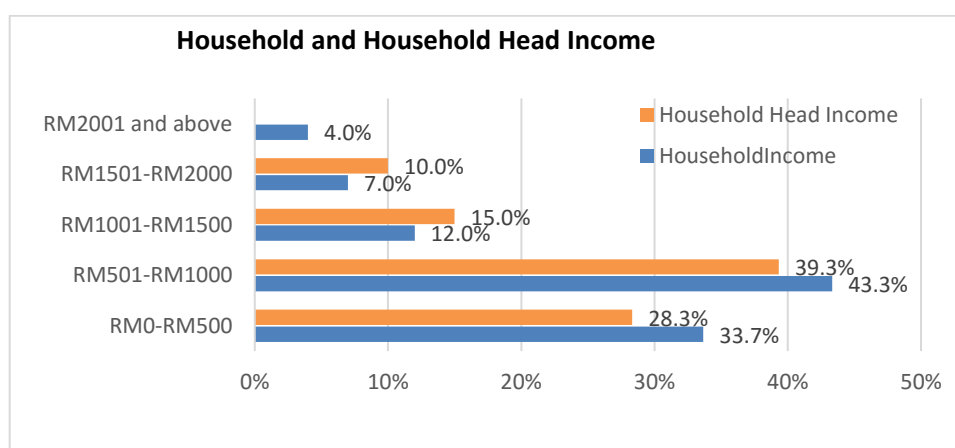


Figure 4.7: Household and Household Head Income

4.2.5 Household and Household Head Income

The household income is the total income of all family members staying in the same house contributing to the income of household whilst the household head income is the income of the head of the family.

The household head income is the main source of income. Nonetheless, the family income is generally supplemented by the members. Figure 4.7 compares between household versus household head income. Below RM500 per month, there is a drop of 5.4% from 33.7% (Household) to 28.3% (Household head). Following the income between RM501-RM1000 per month, there is an increase of 4% from 39.3% (household) to 43.3% (household head). In the category of those earning RM1501 – RM2000. There is an increase of 3% from 12% (household) to 15% (Household head). Those household earning RM500 are dependent on the household head income. The higher the earning of the household head the higher is the household income.

4.2.6 Respondents' Needs

Figure 4.8 show that only 53% of the respondents stated that their needs are met. In Figure 4.9 it shows that the most important needs that the respondents stated were education for their children (49%), accommodation (22%), finance (15%) basic needs (10%) and business needs (5%).

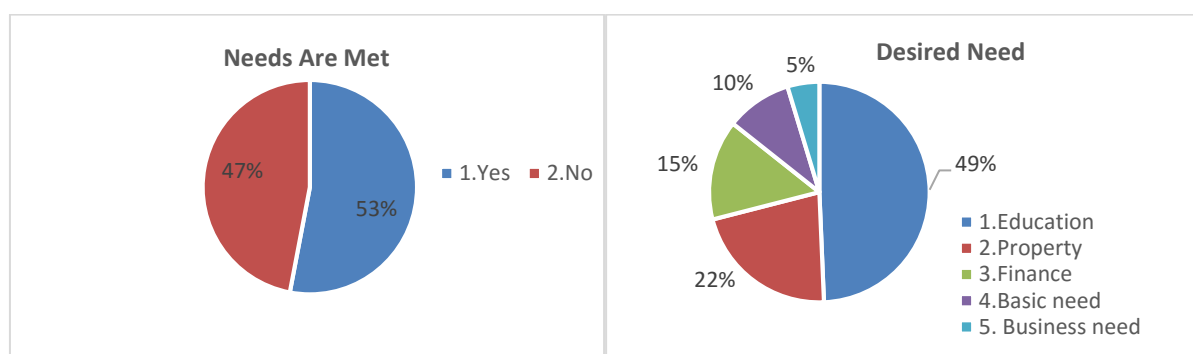


Figure 4.8: Respondents' Needs

Figure 4.9: Respondents desired Need

Figure 4.10 shows the basic needs of the respondents which include the usage of mobile phone, computer, internet, satellite parabola disc and insurance.

4.2.7 Mobile Phone

Most of the respondents (91.3%) have hand phones (refer Figure 4.10). Hand phone ownership is probably a necessity rather than a luxury for the villagers because of unavailability of public phone.

4.2.8 Computer, Internet Access and Satellite Parabola Disc

Computer usage is only at 37.3% and the proportion of internet subscribers is only 29.3%. The villages have access to satellite by which they view most local and international programmes. (See Figure 4.10)

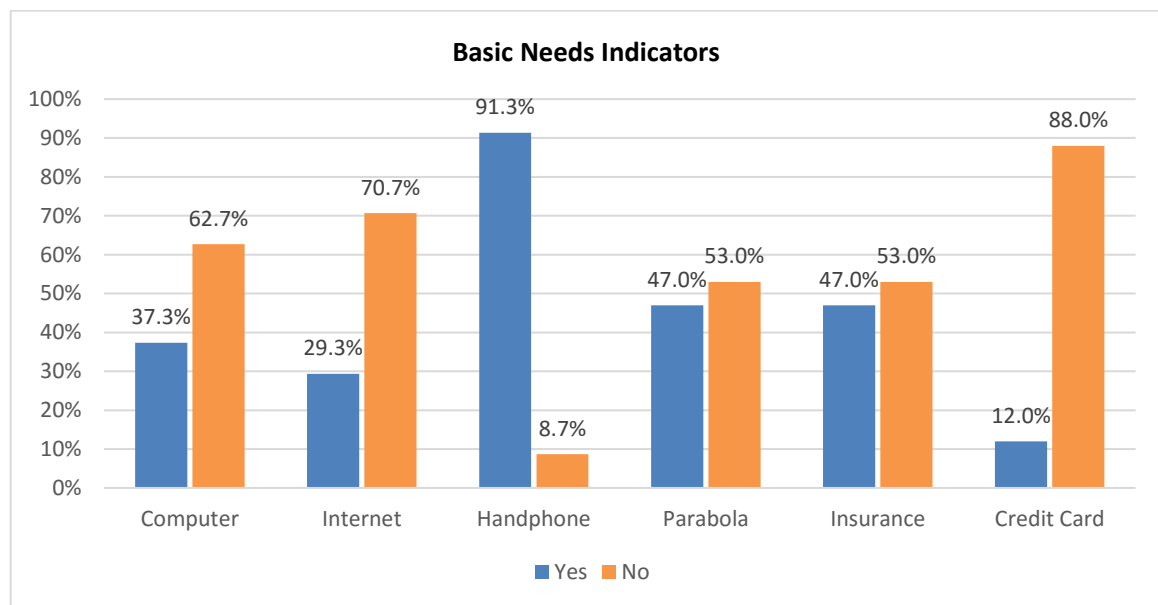


Figure 4.10: Basic Needs- Accessories Indicators

4.2.9 Insurance and Credit Card

Insurance coverage and the use of credit cards are low (47% and 12.0% respectively). There is an underlying belief within the villages that using credit card and insurance are against their religious beliefs. This could account for the low rate of subscribers to these facilities (see Figure 4.10).

4.3 Governance

This section describes various aspects of Governance pertaining to the associations' vision, respondents' 10-year vision and their involvement in cooperative societies. It also discusses leadership problems and their suggestions on various aspects of

governance related to local organisation including funding, planning and project implementation.

4.3.1 Village Associations' Vision

Some of the respondents claimed that the associations in the villages had no vision for the community (69.0%). The concept of sustainable community development is new to the respondents. Most (85.0%) did not know about the concept of sustainable community development. However, most respondents (79%) agreed that the community would give their cooperation to implement SCD initiatives. (Refer to Figure 4.11)

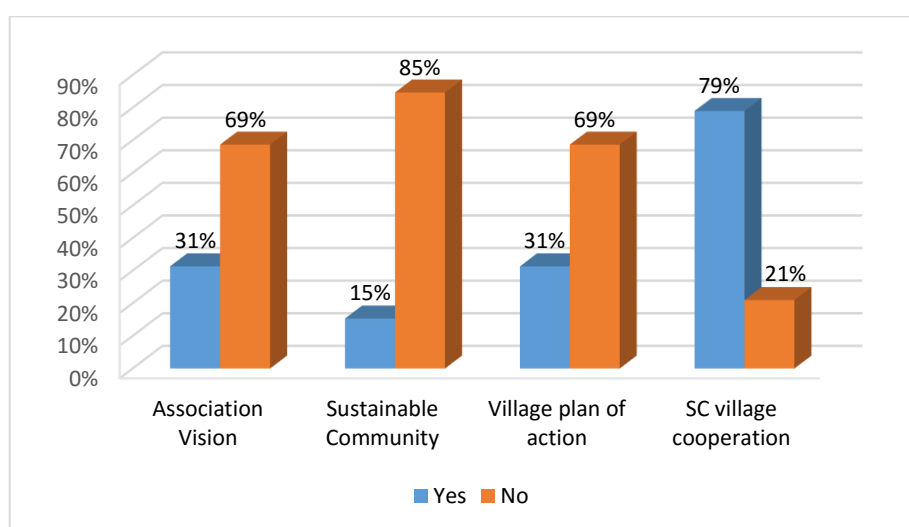


Figure 4.11: Village Associations' Vision Indicators

According to the community leaders, there was no written action plan and vision statement for the village even though the community leaders recognise the need for it. They admitted that there is no proper planning of activities in the village. The administration executed projects as and when required by the sponsoring agencies. Annual meeting were organised on a piece meal basis. The community did not really know what the associations want to do.

Figure 4.12 shows that the respondents want their children employed (13.3%) and become graduates (23.3%). They would like to have their income increased (17.7%) and 12% wanted to be successful in their business. One third of the respondents (33.7%) have no such vision.

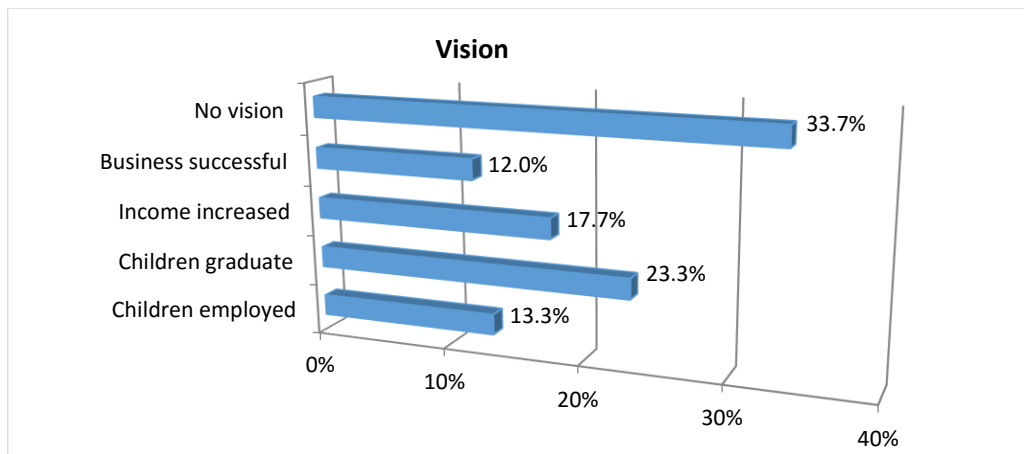


Figure 4.12: Vision

The leaders aspire to develop their own community, especially for the children's education, helping the youth and reducing poverty. They believe the village can be modernised while preserving their traditional culture.

4.3.2 Village Associations

These sections unveil the manner in which village organizations operate and what their current status is. Most of the villagers (71.7%) named the same type of associations or organisations. The associations perceived as giving them assistance are as follows: Fishermen Association, (34.0%), SABERKAS, (24.7%), PBB (13.3%), PTA (12.3%), VSDC-JKKK (10.0%), Mosque Committee (4.0%) and Woman Institute (1.7%) as shown in Figure 4.13. These are the associations that the villagers often referred to during the interview. In actual fact, they were more helpful than the community leaders. Beside these associations, there are others namely Smart Community (Komuniti Bestari), Neighbourhood Community (Rukun Tetangga), Volunteer (RELA) and Martial Art. Mainly, the Fishermen Association is the most helpful. Perhaps this is due to the fact that it assists in improving the income of the fishermen. The least helpful are those from religious and social organisations like the Mosque Committee and Woman Institute (see Figure 4.13).

	Name of Association	Agency Responsible	Status Type	Prime Role
1	VSDC (Village Security and Development Committee)	R&DO Resident and District Office)	Government	Security and development
2	FA= Fisherman Association	LKIM-Malaysian Fishery Development Board	Government	Economy

3	PTA- Parent Teacher Association	Education Department	Government	Children's' education
4	SABERKAS (United National Youth Organisation Sarawak)	State SABERKAS	NGO	Social
5	Rukun Tetangga (Community Neighbourhood)	National Unity and National Integration Department	Government	Neighbourhood and unity
6	RELA Volunteers of Malaysian People	Civil Defence Department, Ministry of Home Affairs	Government	Security
7	Komuniti Bestari (Smart Community)	Information Department	Government	Information dissemination on government programmes
8	Kejiranan Mesra Caring Neighbourhood	DBKU	Local Authority	Friendly neighbours
9	PBB- Pesaka Bumiputera Bersatu	State PBB or the Members of Parliament	Governing Political Party	To assist the community in all aspects
10	WI- Woman Institute	State WI	NGO	To assist women in all aspect
11	Mosque Committee	JAIS- Sarawak Islamic Religious Department	NGO	To educate the community on matters pertaining to the Islamic religion

Table 4.1: Associations in the Villages and their Role

The feedback from all the community leaders shows the organizations and associations are of different of activeness. The villagers rating of the organizations can be seen in Table 4.1.

Among the respondents, the most popular associations are the Fishermen Association, SABERKAS, and PBB PTA VSDC, Mosque Committee and Woman Institute but the community leaders listed 11 associations in the village as in Table 4.1.

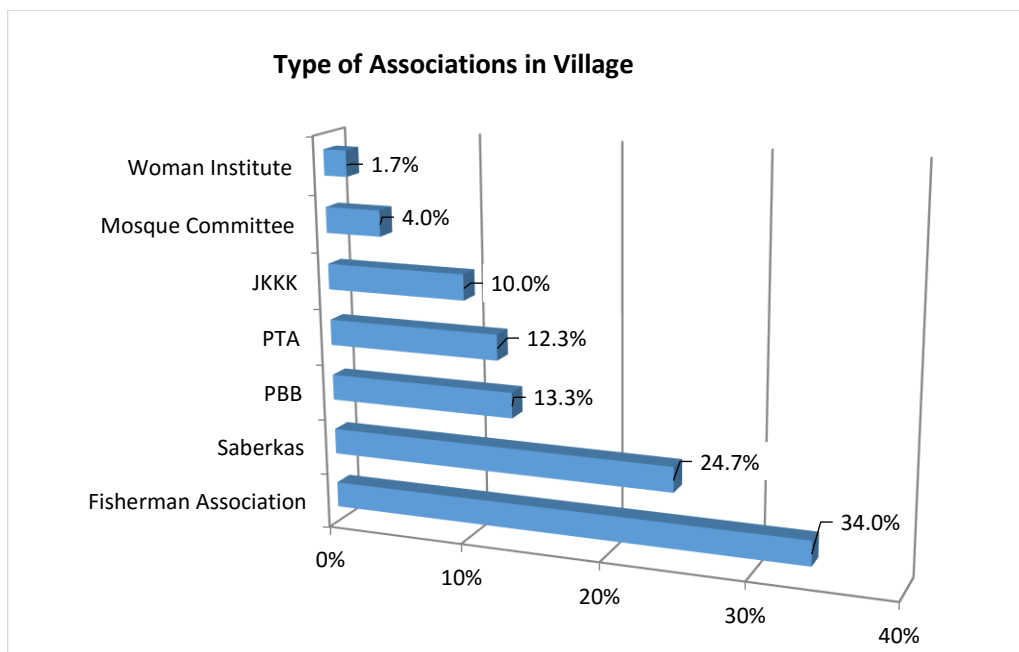
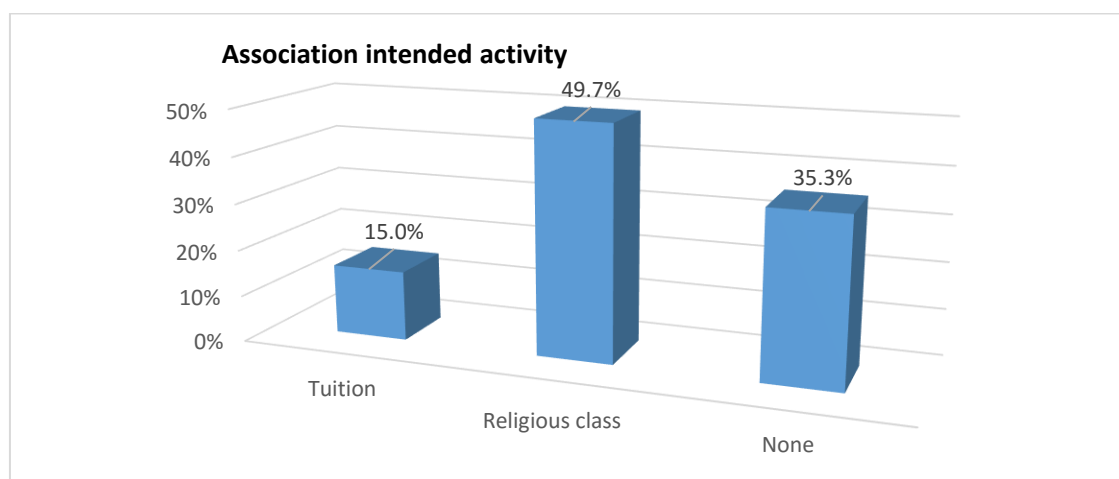


Figure 4.13: Type of Associations in Village

4.3.3 Association Involvement and Cooperation

Figure 4.16 shows that only 53.7% of the respondents were involved actively in village associations, 70.7% of the respondents said that their associations do not have a plan of action. Among the activities that the respondents expect the villages association to organize are religious activities (49.7%) and tuition classes (15%) as shown in Figure 4.14.



An Figure 4.14 Activities Suggested for the Village Associations themselves and in order to do this they need to have one common goal. Most of the leaders believe

that cooperation between the associations can be improved and a platform for the associations to resolve conflict need to be established.

4.3.4 Problems in the Associations

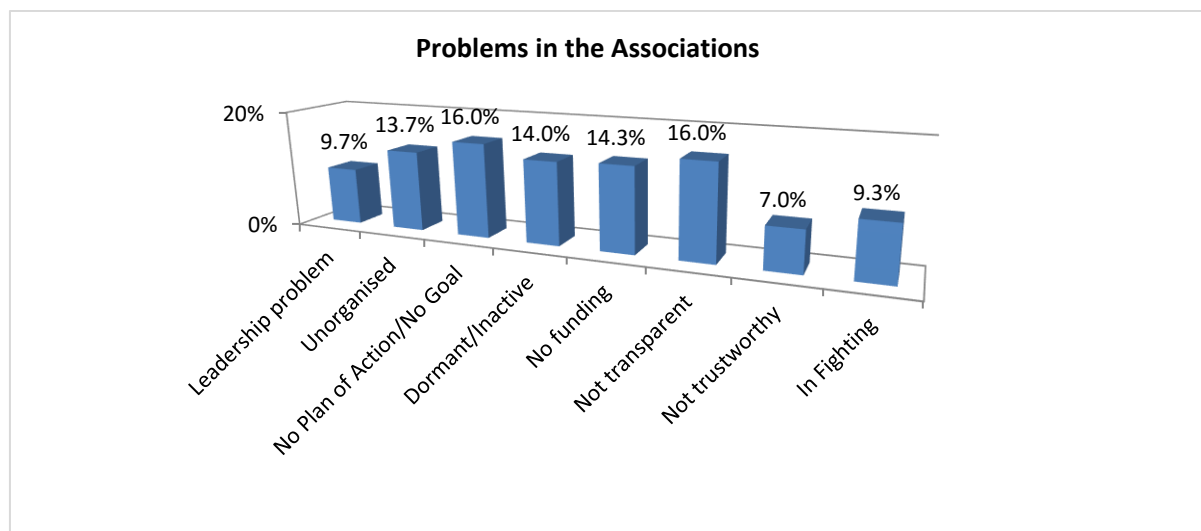


Figure 4.15: Problems in the Associations

Among comments made by the respondents were that the associations have no plan of action (16.0%), not transparent (16.0%), have no funding (14.3%), dormant and inactive (14.0%), unorganized (13.6%), showed inexperienced leadership (9.7%) (See Figure 4.15), there is in-fighting (9.2%) and it is believed that some leaders are not trustworthy (8.2%) as shown in Figure 4.15. This is a reflection of the inability of the associations to generate ideas and propose new programmes for the community.

4.3.5 Organization Leadership Problems and Suggestions

The community leaders' admitted that the associations in the villages have leadership problem. According to them, the leaders are not trained to lead the associations. There is no coordination and cooperation among the organizations, the leaders do not have the necessary experience and they are not sufficiently educated to manage their associations. They suggested that they are to be given introductory leadership training. The community leaders believed that there is no teamwork among the leaders in the village organisations and that there is a need for all the leaders of the associations to

undergo basic leadership training courses. They also believed that many village associations had unclear objectives and no vision for the village.

4.3.6 Village Organization Plan of Action

Figure 4.16 shows that 70.7% of the respondents said that the village associations have no plan of action. The leaders also said that they have no concrete plan of action. Another leader admitted that the community activities are not organised throughout the year.

There is no long-term planning within the villages. The community leaders indicate that there are intentions to improve the economy of the community but a concerted effort would be needed to ensure a successful implementation.

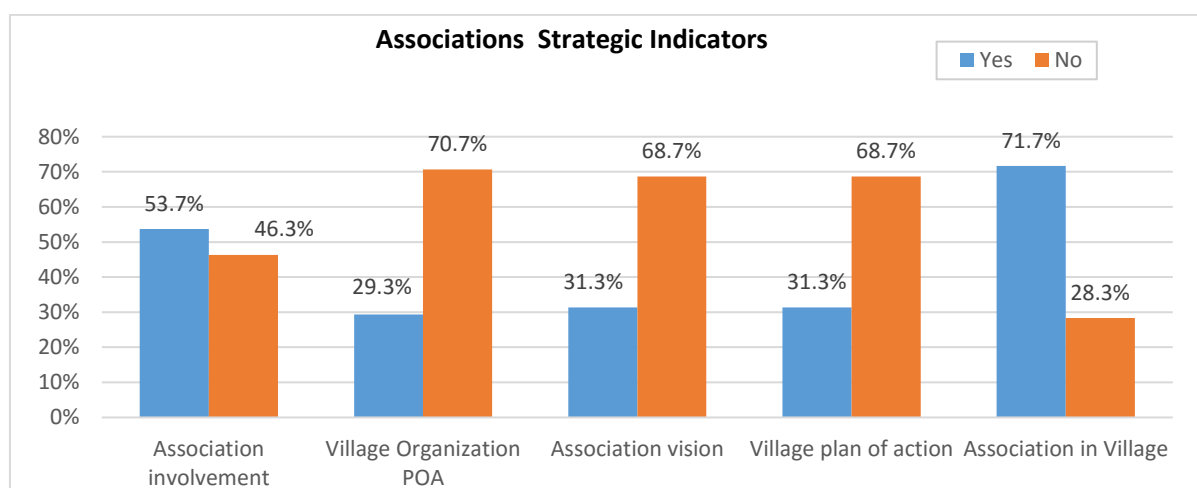


Figure 4.16 : Associations Strategic Indicators

4.3.7 Sustainable Community Lead Agency

According to the respondents, the agencies that made the most frequently visits to the villages are the DBKU followed by R&DO, Fisheries Department, Woman Institute, SEDC, as in Figure 4.17. These agencies had been assisting them in activities relating to culture and environment (DBKU), infrastructure development (R&DO) and the economy (AIM, SEDC and MARA).

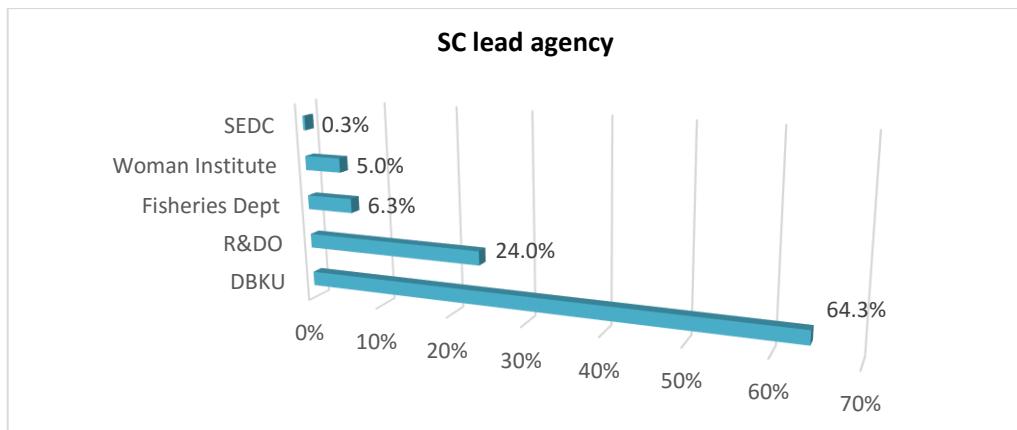


Figure 4.17: SC Lead Agency

DBKU is seen as an organization responsible for the village's welfare and the villagers pay council tax or assessment rates for the services provided. DBKU undertakes infrastructure work like roads' maintenance, the enforcement of by-laws related to the licensing of food premises, prevention of communicable diseases, and building control. The leaders compared DBKU to LKIM an organization that does not collect tax from the people.

“We pay rates to DBKU. We do not pay LKIM but they help us in providing support like nets and other equipment. DBKU should help to develop the community”.

The LKIM helps the fishermen with various types of assistance including subsidies for the purchase of boats and fishing equipment. Interestingly, the leaders pointed out that the source of DBKU revenue is from the tax that is paid to the DBKU by the villages. They feel that with the help of DBKU, the villages can become prosperous and build better houses which, in turn, will increase DBKU revenue. They suggested that DBKU play the lead role in assisting the prosperity of the villagers instead of just organizing karaoke sessions which can be organised by the village folk themselves. The leaders recalled that DBKU had previously organised motivational courses for the children who sit for public examinations and these courses motivated the students. The programme was however terminated. The leaders commented that yearly programme during the fasting month of Ramadan is a good programme but it does not help them in the development of their villages. They want economic projects instead which will benefit the locals.

4.3.8 Selection of Organizational Committee Members

The committee members or office bearers within the associations are elected once in three years. All registered members of the associations are invited to the annual general meeting. Elections are held to choose the chairman, secretary, treasury, internal auditor in accordance with the rules and guidelines of the Registrar of the Society (ROS). Caring Neighbourhood which is under DBKU is not a formally registered entity under ROS. The prime objective of Caring Neighbourhood is to instil a friendly neighbourhood in the community. It serves as a vehicle which could assist in the establishment of a sustainable community programme.

4.3.9 Organizational Funding

The funding of the organisations or associations in the villages comes from the agencies that sponsor them. Usually, the appropriate governmental department upon receiving funds from the said government would invite the associations' leaders for a discussion on the projects needed required by the villagers. Once the project is approved, the appropriate department then calls for tender and its implementation is carried out by the appointed contractors. The villagers play no role in the process.

4.3.10 Reporting System

The associations report directly to the department that sponsors them. An annual report is also required by the ROS (Registrar of the Society). The effectiveness of this system depends greatly on the government appointed desk officer that handles the association. Sarawak is big state with many such associations'. There are only a few such officers and they do not have the means and expertise to help their associations effectively.

4.3.11 Project Funding and Implementation

According to the community leaders, projects that have been endorsed by the Member of Parliament in most cases would also get approval from the Government and funding will then be allocated. The choice of the department implementing the project is at the discretion of the Members of Parliament. The department will then identify the area in which the project will be implemented. Sometimes, the local associations are not involved and due to urgency and time constraint the project is implemented without a consultation with the community. An example is the esplanade at Buntal Village. It was

implemented without consulting the community. After the completion of the project no agency was willing to look after it due to high maintenance cost. The project was later handed over to the community but due to faulty design, the community are unable to benefit from it. The associations may also put forward the projects the community need but its implementation normally takes time.

4.3.12 Community Relations and Safety Cooperation in the Villages

The cooperation on the proposed sustainable initiatives are lauded by the respondents with 79% willing to give their cooperation as shown in Figure 6.18. The relationship among the communities is good with 13% strongly agree and 72.0% agree. The concern amongst the villagers for each other's welfare is good (51%) and is vital for teamwork. The community is concerned about the wellbeing of members of the community. (Refer Figure 4.18).

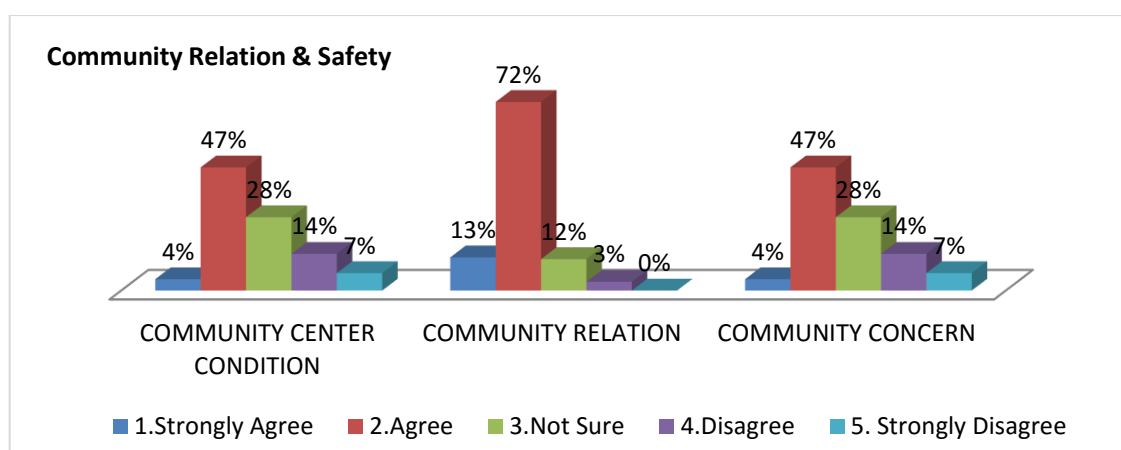


Figure 4.18: Community Relation & Safety

4.3.13 Present SCD Initiatives and Future Cooperation in the Village

Regarding the respondents' knowledge on sustainable community, 85% did not know about sustainable community but are willing to render their cooperation to implement any sustainable community initiatives. (Refer Figure 4.11). Most of the respondents (79%) mentioned that the community in the village would be cooperative towards any sustainable community initiatives. (Refer Figure 4.11). The community leaders maintained that the villages have the potential to implement the SCD initiatives provided that the village leaders have sufficient leadership skills. Out of the seven

community leaders, six noted that current activities carried out in the village are SCD initiative.

The leaders said that for future SCD cooperation, there is a need for strong leaders to be able to carry out the programmes and all sectors of the community need to be working together. They suggested that to implement SCD, a joint effort between NGOs, Government and the private sector must be capitalised. The leaders are confident that the community is willing to participate if the communities understand the purpose of any planned programmes. Also the leaders believe that there is a need to explain to the villagers of the future benefits of SCD. The communities are receptive towards the initiatives and effort to improve the community wellbeing but a campaign needs to be undertaken to create awareness and to get them involved in future SCD initiatives.

The leaders assist to organize, design and implement community activities. They also assist in planning and coordinating activities with other associations. Further they assist to monitor and implement the activities as agreed. All community related problems are reported to R&DO and the leaders also need to work together with DBKU to implement their programmes.

4.4 Social

This section discusses the finding for the social issues which include education, sport, health, social problem, village safety, cultural aspects and religion.

4.4.1 Education

There are both primary and secondary schools in the village. The children also attend tertiary education and other skill based training.

4.4.2 Primary and Secondary School

Every village in the study area has a primary school strategically located. Figure 4.19 shows that most (88.7%) of the houses are less than two kilometres from the nearest primary school. There are two secondary schools, located in Santubong and Bako respectively. The first is SMK Santubong (Santubong National Secondary School) and the other on the road leading to Bako Village and is known as SMK Bako (Bako National Secondary School). SMK Bako also serves the surrounding villages, namely

Bako, Muara Tebas, Goebilt, Senari and Sejingkat. There is a Vocational Secondary School about four kilometres away from the nearest village. Some of the students stay in the boarding facility provided by the school. Others commute daily using public transport hired on monthly basis. SMK Santubong is located at the edge of Santubong village and it serves students from Santubong, Buntal and the surrounding villages.

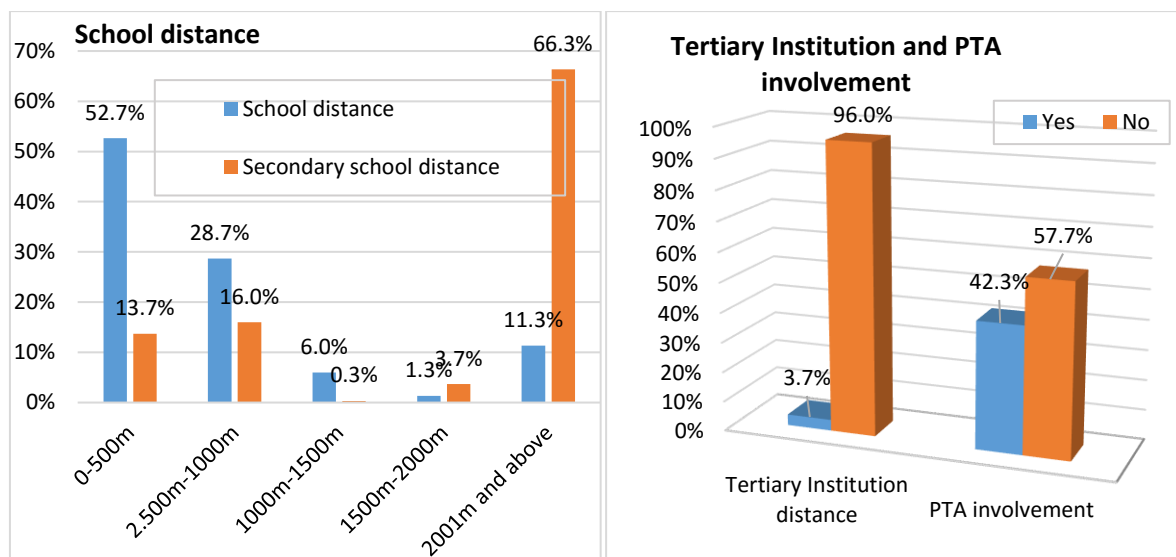


Figure 4.19: School Distance

Figure 4.20: Tertiary Institution and PTA Involvement

4.4.3 Tertiary Institution

The only tertiary education institution is situated more than 10 km away from the villages (refer Figure 4.20). Students who pass with good grades from the secondary schools in the villages are able to pursue a tertiary education with funding assistance from 'the Higher Education Fund Corporation' (PTPTN).

4.4.4 PTA involvement

Despite the proximity of the schools, the involvements of the parents in the Parent Teacher Association are relatively low (42.3%) as shown in Figure 4.20. The rest of the respondents are not involved in the Parent Teacher Association.

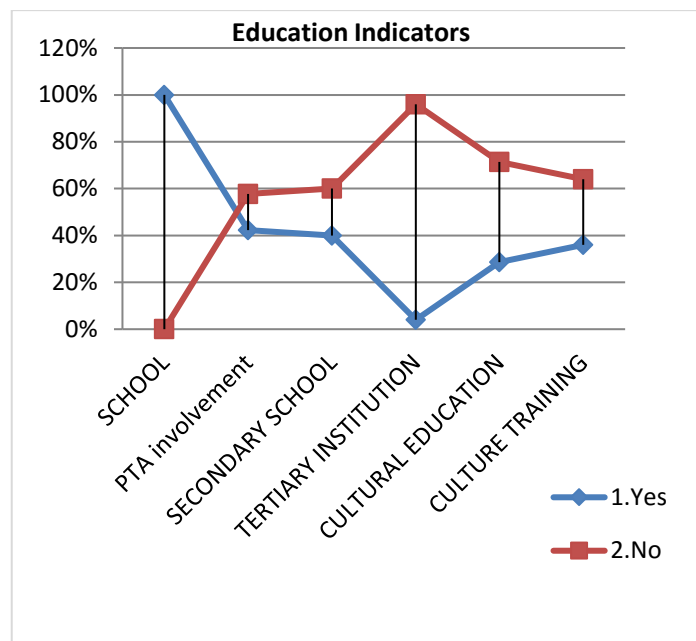


Figure 4.21: Education Indicators

4.4.5 Improvement of Academic Performance

The community leaders suggested that, in order to improve the academic performance of the children in the villages, tuition classes should be held and also seminars on parenting skills for parents should be organised. The community leaders would like DBKU to organize motivational classes for children and parents as what they had done previously.

4.4.6 Sport

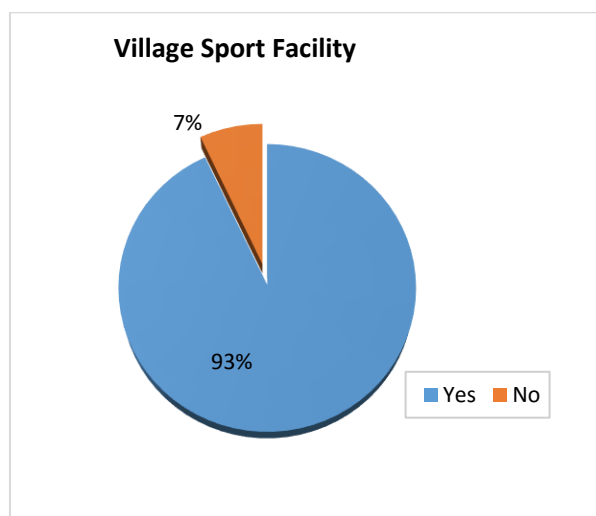


Figure 4.22: Village Sport Facility

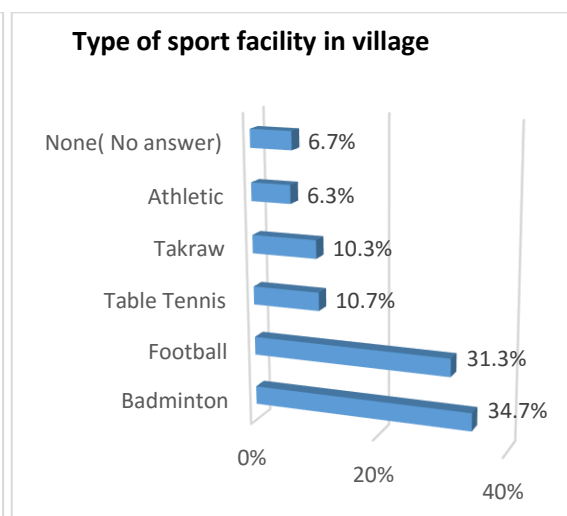


Figure 4.23: Type of sport facility in village

The respondents agreed (Figure 4.22) that most villages have sports facilities (93%). The favourite sports are badminton (34.7%), football (31.3%), and table tennis (10.7%), takraw (10.3%) and athletics (6.3%) (Refer to Figure 4.23). There is a need to organise sport activities within the villages to encourage the youth to be active in healthy activities.

4.4.7 Health

The government clinics are within the reach of the community. The clinics are situated within the villages and it is less than two kilometres from their house to the clinics (refer Figure 4.24).

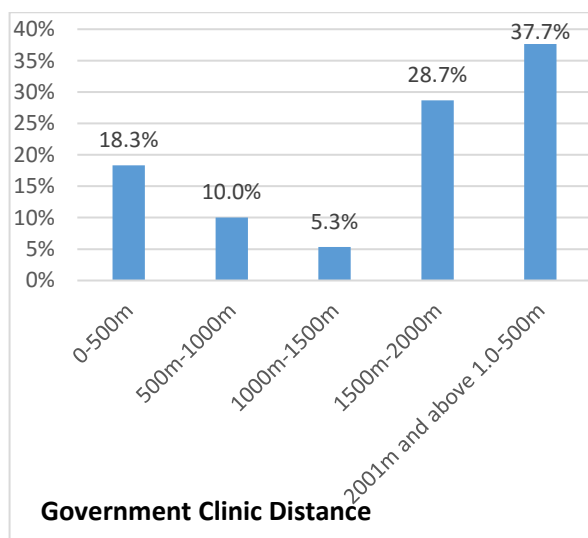


Figure 4.24: Government Clinic Distance

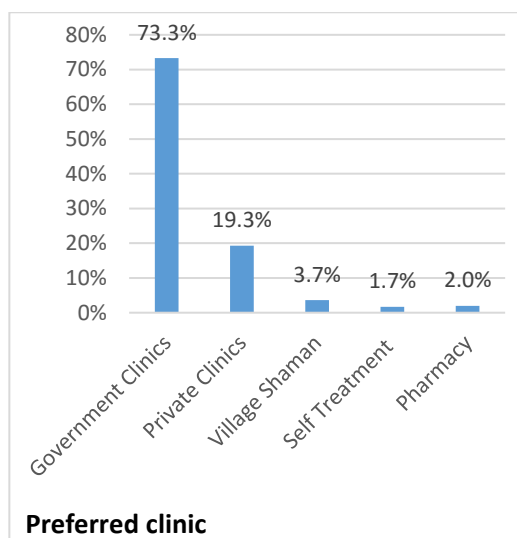


Figure 4.25: Preferred Clinic

The community preference is the government clinics (73.3%), followed by 19.3% private clinic, 3.7% prefer to visit the village shaman, 1.7% use self-treatment and 2.0% prefer the use of the pharmacy as in Figure 4.25. Figure 4.26 shows that 77.7% of the respondents believe that there is no communicable disease outbreak in the village.

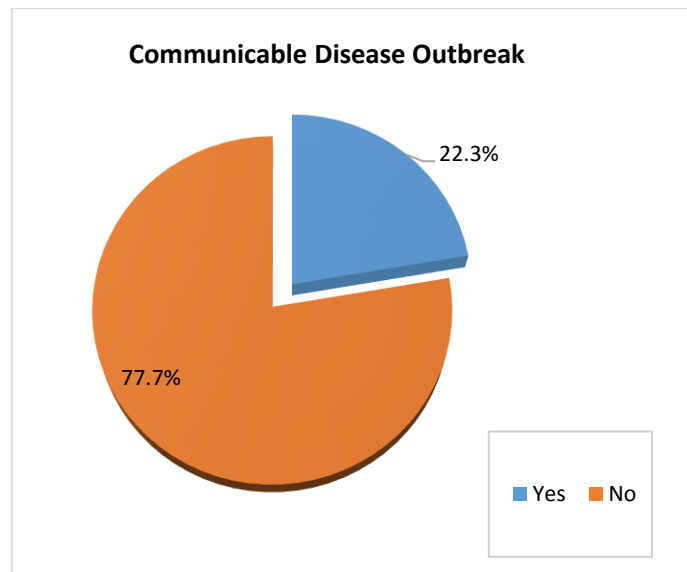


Figure 4.26: Communicable Disease Outbreak

4.4.8 Community Concern on Social Problems

Figure 4.27 shows that the respondents strongly agreed (61.0%) and agreed (38.7%) that the community are concern about the social problems in the village. The community leaders collectively claimed responsibility for the social problems in the area.

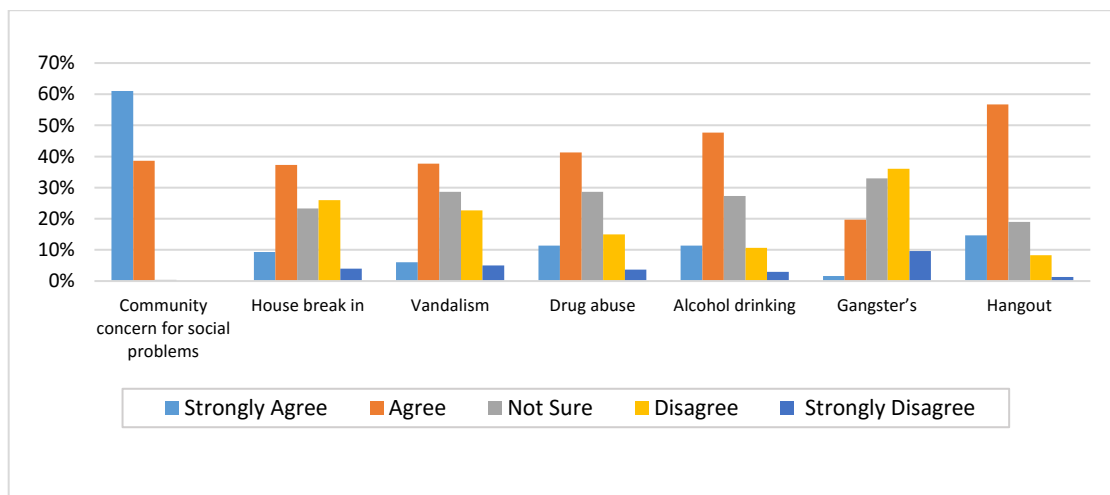


Figure 4.27: Social Problems

4.4.9 Social Problems

The social problems listed by the respondents include housebreaking, vandalism, drug abuse/glue sniffing, alcohol drinking/alcoholism, gangsters and hangout/loitering (See Figure 4.27).

4.4.9.1 Housebreaking

Less than half (46.6%) of the respondents agreed that house breaking happens in the village whilst 30% disagreed and 23.3% were not sure. According to three community leaders, housebreaking is not a problem in their villages. However, they suggested that a programme to address this problem needs to be executed in the villages to educate the community.

4.4.9.2 Vandalism

Less than half of the respondents, 43.7% agreed that vandalism occurs in the villages whilst 28% disagreed and 28.7% were unsure.

.According to the three community leaders, vandalism is not a serious problem for them but three others said that it is. A programme to mitigate this problem needs to be executed in the villages to educate the community on the effect of vandalism to the village.

4.4.9.3 Drug Abuse and Substance Abuse

More than half of the respondents said that drug abuse is rampant in the villages whilst 18.7 % disagreed.

Two of the community leaders strongly disagreed, three disagreed, one was not sure and only one of them agreed that drug abuse is a problem in the village. The drug abuse problem in the village is fairly isolated one as only few cases were reported. Nonetheless, the problem is worrying as it has the potential of getting more serious. Even though the village leaders generally agreed that it is not currently a serious problem but the few cases in the village can be cancerous and spread if no action is taken to nip it at the bud.

One community leader disagree that the occurrence of glue sniffing in the village is rampant. Six agree that it is not common and not alarming.

4.4.9.4 Drinking

More than half (59.0%) of the respondents agreed that alcohol drinking is rampant in the village whilst 13.7 % disagreed and 27.3% were unsure. Almost all the leaders agree that there is a number who drink alcohol in the village but there is no alcohol addiction in the village.

4.4.9.5 Gangsterism

Only 21.4% of the respondents agreed that gangsterism exist in the village whilst 45.6 % disagreed and 33.0% were unsure. All the community leaders agreed that gangsterism does not exist in the village.

4.4.9.6 Hangout / Loitering

Most of the respondents 71.4% agreed that hangout and loitering is rampant in the village whilst 9.6 % disagreed and 19.0% were unsure.

4.4.10 Root Cause of Social Problems

The community leaders said that most of those causing social problems are from broken homes. They are being looked after by uneducated single mothers. Those involved in anti-social activities do not have good religious upbringing. Such parents do not teach their children good values.

The community leaders also acknowledged that schools play an important role in moulding children. Those parents who are involved in the PTA are concerned about their children's education. Some parents need parenting skills to raise their children and understand their roles. The leaders also suggested that relying on law enforcement is not sufficient. Young people need to be taught well by their families and the community. They believed that many of the social problems currently experienced in the villagers originate from the city. Previously, when the villagers had to travel by boat to Kuching, the villagers hardly had any of these problems.

4.4.11 Day and Night Safety

In Figure 4.28, 51.4% of the respondents stated that the villages are safe and 51.0% claimed that the villages are also safe at night. The mix perceptions of the respondents on the village safety indicate that the safety situations need to be address. Despite having a volunteer Village Safety Team to monitor and undertake night surveillance, the respondents still perceive that the villages are not safe.

Most of the community leaders (86%) were in the opinion that the villages are safe while only 14% were not sure. Slightly more than half (51%) of the respondents agreed that the village is safe at night. Only 18.7% disagreed that the village is safe. All the community leaders opined that strolling at night in the area is safe. (Refer Appendix 4)

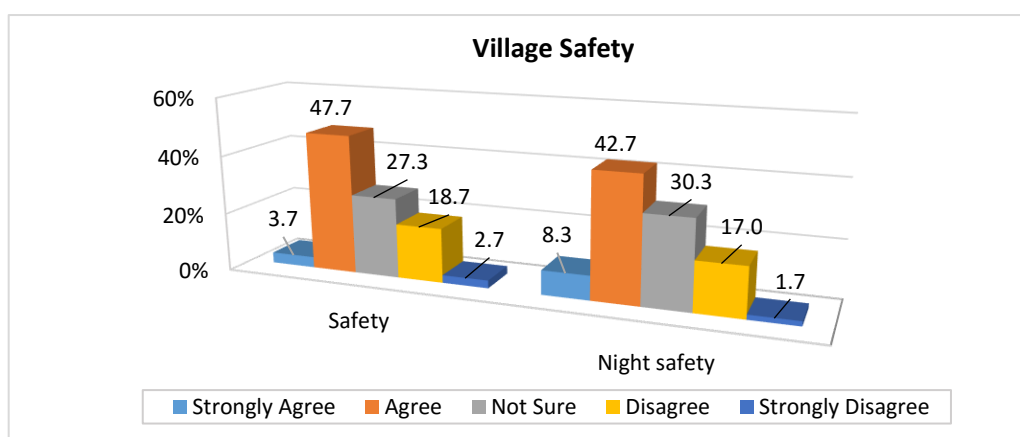


Figure 4.28: Village Safety

4.4.12 Cultural Aspects

This section discusses the cultural indicators such as activities organised, education and agencies involved in assisting in culture related matters.

Figure 4.29 shows the percentage of cultural activities were organised by village associations such as the JKKK (55%), SABERKAS (32.3%), PBB (7.3%), Kejiranan Mesra (2.0%) and Pertubuhan Nelayan (3.3%). Activities are organised together with the government agencies or NGOs, in collaboration with the villagers. The majority of respondents (71.8%) claimed that no cultural activity training was conducted in the villages. The rest join cultural activities organised by other agencies.

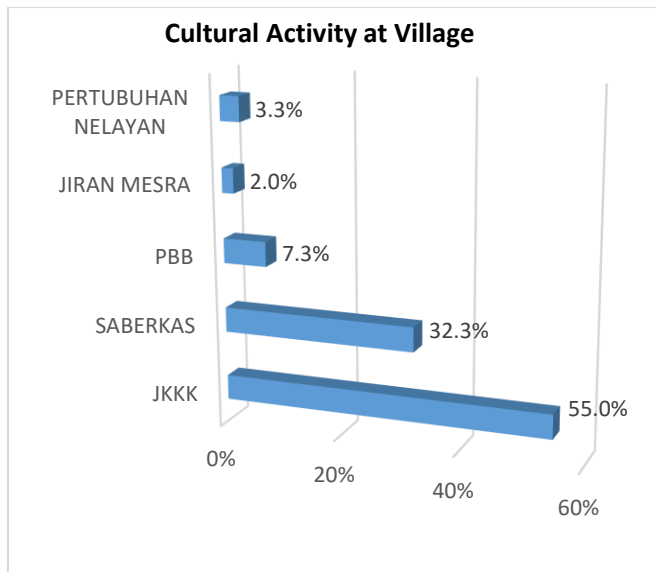


Figure 4.29: Cultural Activity at Village

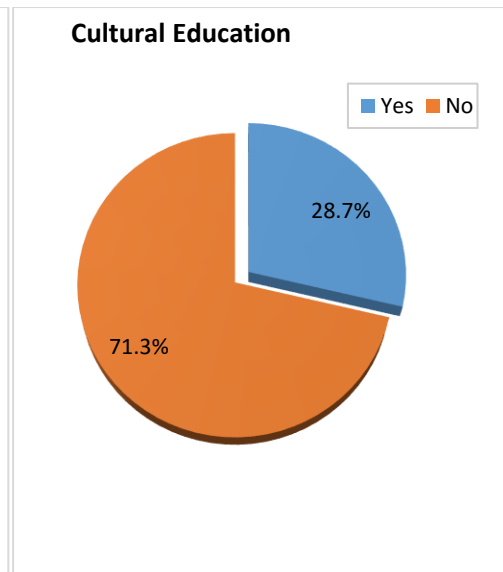


Figure 4.30: Cultural Education

4.4.12.1 Cultural Education

Only 28.7% of the respondents said cultural education is organised in the villages. (Refer Figure 4.30)

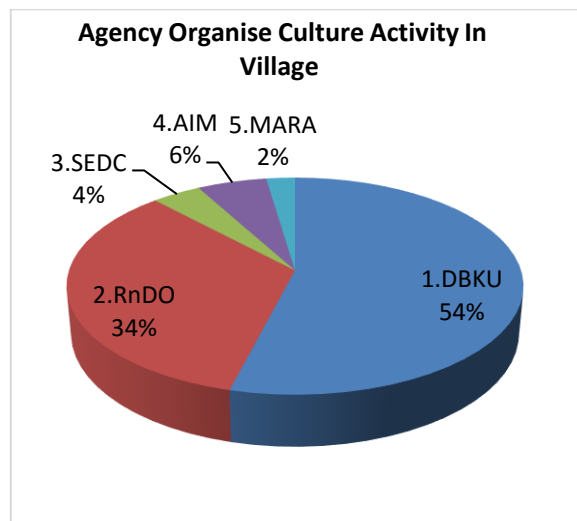


Figure 4.31: Agency Organized Culture Activity at Village

4.4.13 Religion

Religious practices are considered to be helpful for self-improvement. The villagers were from one ethnic group (Malays) and are Muslim. Their faith shapes their way of

life and Al Quran is their guide in daily life. Whatever doctrine that contradicts the teaching of their religion will be rejected. It is part of their culture. In figure 4.3,2 it shows that 85.7% of the respondents indicated that religious activities are organised in their villages

At the individual level (as shown in Figure 4.32), 69.7% of the respondents said they participated in the religious programmes. Figure 4.32 shows the respondents believed that they benefited (67%) from the activities organised and 85.7% said that the activities were sufficient. Further, 78% said that they participated in religious discussion.

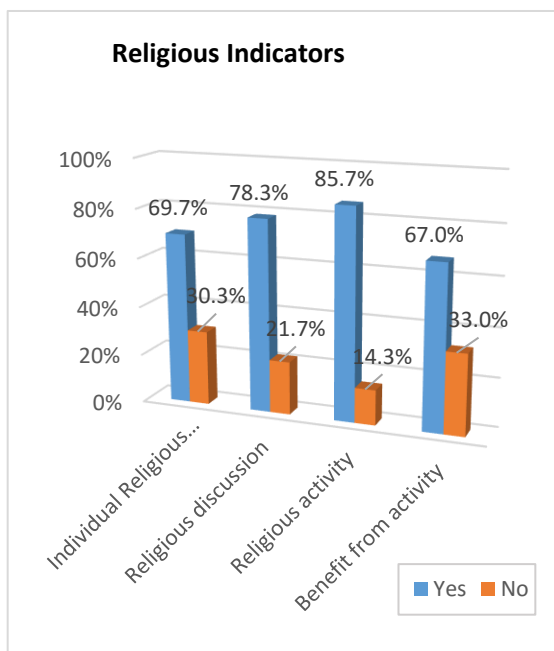


Figure 4.32: Religious Indicators

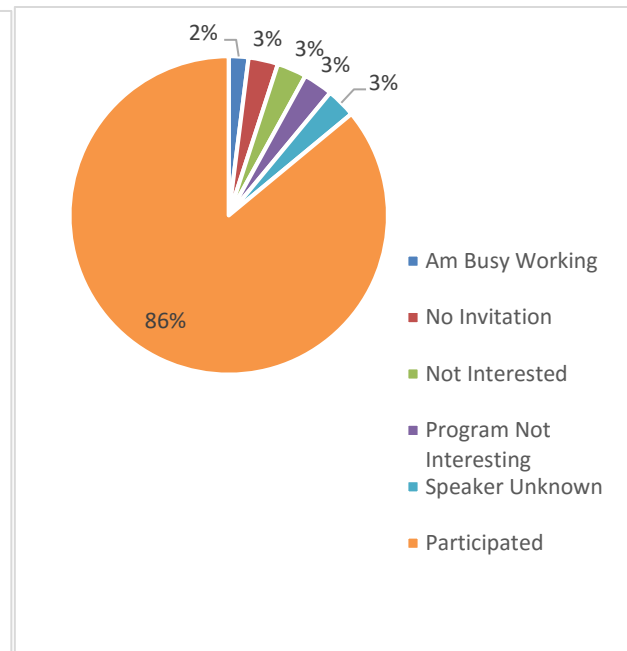


Figure 4.33: Religious Participation

Most the respondents (86%) participated in the religious activities organized. Those who do not participate in such activities gave a number of reasons: that they were not invited (3%), were not interested (3%), the programme was not interesting (3%), the speaker was unknown (3%) and they were busy working (2%). Refer Figure 4.33.

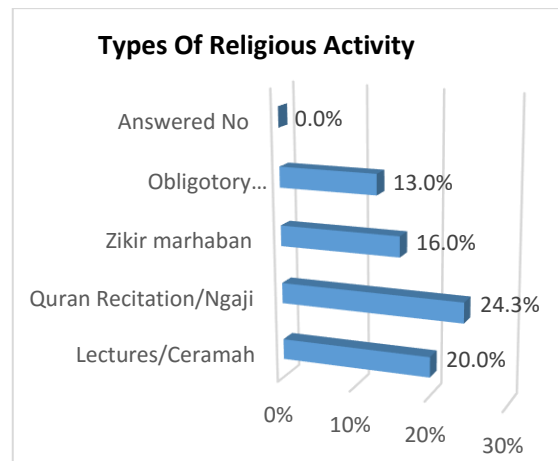


Figure 4.34: Types of Religious Activity

The respondents also said that the village mosque committee organizes activities such as Quran recitation classes (24.3%), religious lectures (ceramah) (20%), basic classes known as 'Fardu Ain' (13%) and also a religious-cultural classes known as zikir marhaban (16%). (Refer Figure 6.34).

4.4.14 Community Development

The community leaders suggested that among the activities that can be organized as a community development programme are memorization of the Quran and religious talks, organized religious motivational activity on a monthly basis, religious lectures and compulsory courses. They want a full time religious teacher, preferably one who can teach students to memorize the Al Quran. The mosque should be used to the fullest for activities to encourage the youth. They believe that adult Al Quran classes should also be held.

4.4.15 Infusing Values in the Community

The community leaders claim that good values such as striving for the better, patient, hardworking, respecting elders and parents are infused within the communities as well as those good values like honesty and integrity. They want more religious classes to be organized as they felt that the present classes are not sufficient. Almost all the community leaders agree that the values preached are practised in the community. According to them, their children are more motivated to study and are working hard to earn a better income. Nevertheless, they believe that the situation can be improved further especially in relation to education. They are glad that within the community there

is respect for elders. Feedback from the community shows that there is a need to have Quran memorizing classes with a full time teacher, religious motivational classes and obligatory classes for both children and adults. The leaders also agree that the villagers internalise religious values taught to them into the community.

4.5 Economic Well-Being

This section presents the findings on the economic aspects of the community namely household income, cooperatives, community business potential and tourism in the village.

4.5.1 Income

The income of most of the villagers is below poverty level and they have to work for extra income. They claimed that is difficult to generate additional income. Most villagers (86.3%) indicated that their present incomes are insufficient. To supplement their income, 87% stated that they undertake extra jobs even though the household members also contribute to the household income (65.7%). Refer to (Appendix 3)

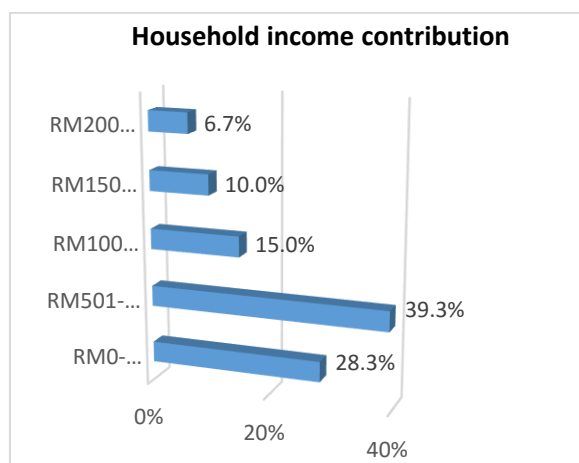


Figure 4.35: Household Income Contribution

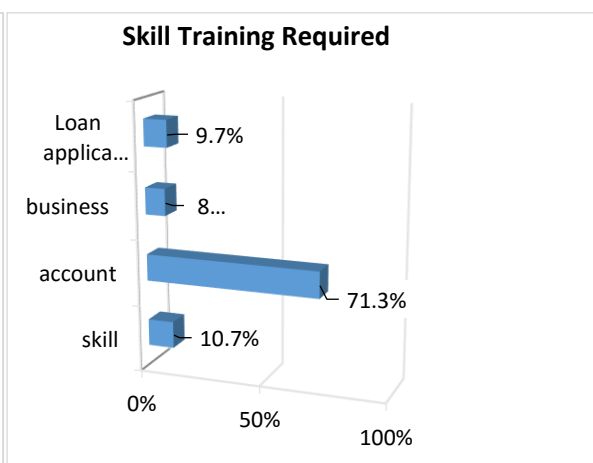


Figure 4.36: Skill Training Required

4.5.2 Generating income

Most of the respondents (94.3%) never have training in business management. They need training in account (71.3%), skill (10.7%), loan application (9.7%) and business (8.3%) (Refer Figure 4.36). Almost all (94.3%) said that they get no assistance for small scale Industry (Figure 4.38). The respondents said that their non-involvement in business is due to no training (45.0%), no capital (29.7%) and no support (25.3%). The respondents strongly disagree (20.3%) and disagree (45.0%) that it is difficult to generate income in the village while only 7.4% agree that it is difficult and 27.3% are not sure. (See Figure 4.37).

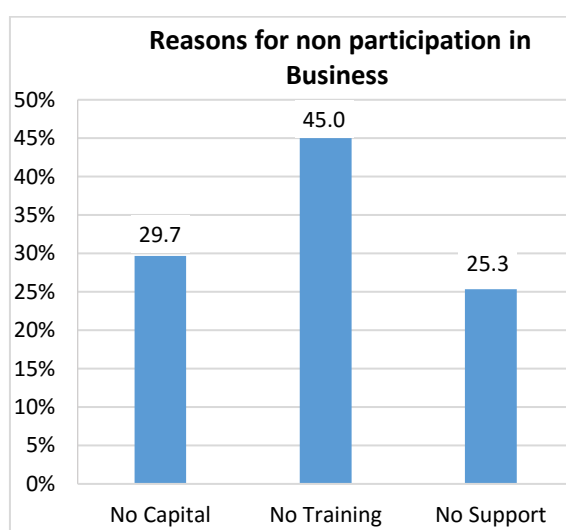


Figure 4.37: Reasons for non-participation in business

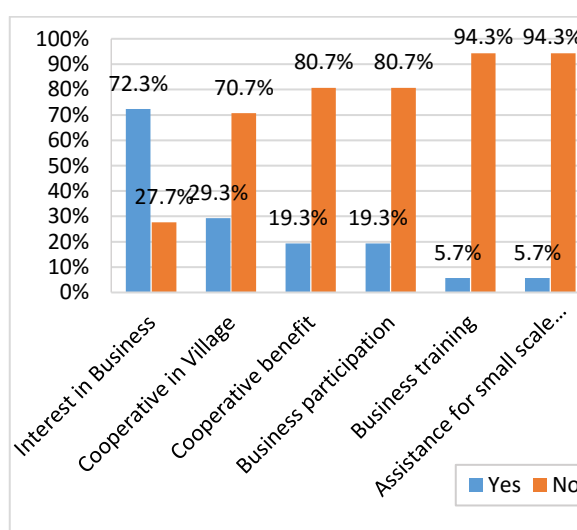


Figure 4.38: Village Economic Indicators

4.5.3 Business Potential

This section discusses respondents' interest in business, current business in the village and type of businesses that the respondents aspire to participate.

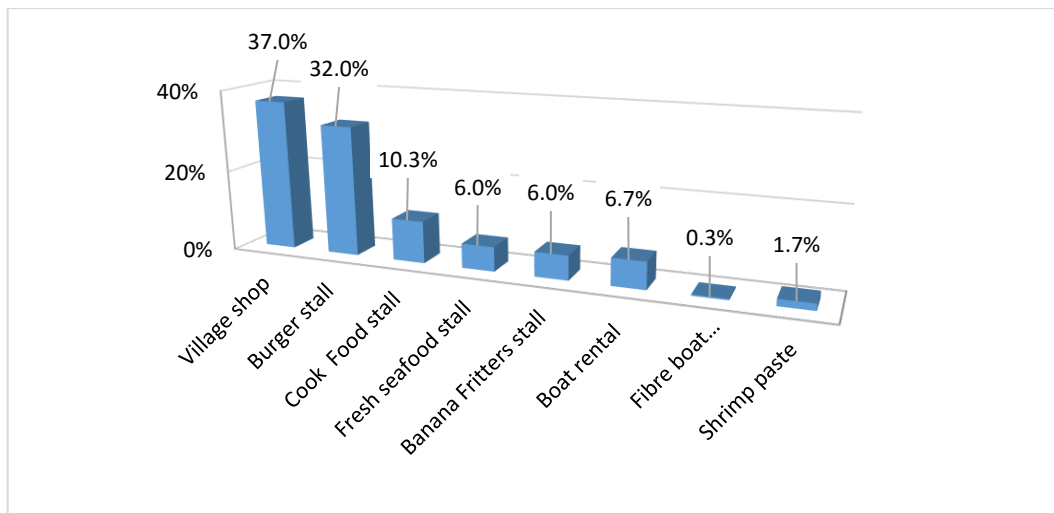


Figure 4.39: Current Business in Village

In Figure 4.38, the respondents show great interest in undertaking business (72.3%). The respondents gave a number of reasons for not being involved in business such as lack of training (45.0%), no capital (29.7%) and no support (25.3%) (Refer Figure 4.37). Some villagers operate businesses on a small scale and the type of business commonly found in the villages are village shop (37%), hamburger stall (32%), fresh seafood (18.3%), banana fritters' stall (18.3%), fast-food stall (10.3%), boat rental (6.7%), shrimp paste business (1.7%) and fibreglass boat fabrication (0.3%). See Figure 4.39.

The respondents are willing to be involved in business activities if given training and loans. They would like to go into food processing (27%), cake making (18%), sundry shops (17%), fishing (17%), ecotourism (7%), handicrafts (7.0%), homestay (3%), aquaculture (2%) and chicken rearing (2%) (Refer 4.40). They need financing to help them to start their business. Most respondents (59%) said that they have never received any form of assistance from any agency.

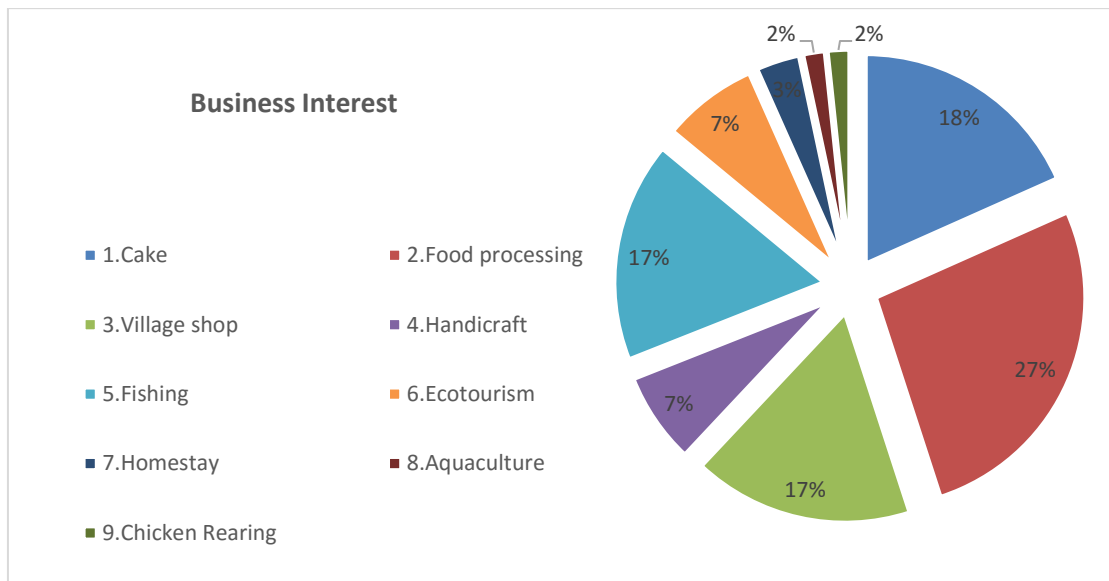


Figure 4.40: Business Interest

4.5.4 Business

The community leaders believed that the villagers are interested in selling fresh, salted and dried fish, shrimp paste, traditional and modern cake making, fishing and selling fish products, and operating village shops. Also, they believed that the communities would be interested in businesses related to tourism such as bringing tourists for fishing and for enjoying the tropical flora and fauna. The study conducted by Badang, Komoo & Leman (2016) reported in Sustainable Geological Heritage Development Approach in Sarawak Delta, Sarawak, Malaysia, concluded that the geo-parks provide a sound approach for sustainable development in the Sarawak Delta since it can enhance conservation of resources whilst at the same time promote socio-economic benefits for the local communities.

The community leaders are of the opinion that the business opportunities for the villages includes handicrafts, ecotourism, seafood restaurants, dried fish preservation and cake making, fibreglass boat fabrication, boat rentals in the Bako National Park, homestay, fresh fish stalls and cooked food. They suggest developing fish production as a downstream industry for items like fish balls and fish crackers. They also feel that there is a potential for industries related to ecotourism such as home stays, handicrafts, local traditional cake making and gifts shop and seafood restaurants. The suggestions by the experts correspond with a study reported by Harris, (2009) in Bario, Sarawak, Malaysia: *A Case Study of Pro-poor Community-based Tourism Integrated into*

Community Development. As a case study, tourism in Bario depicts how a pro-poor community-based approach to tourism can integrate with local development in a mutually reinforcing process that has delivered income-generating opportunities, which also fosters a wider reinvigoration of the local economic and social life of the community.

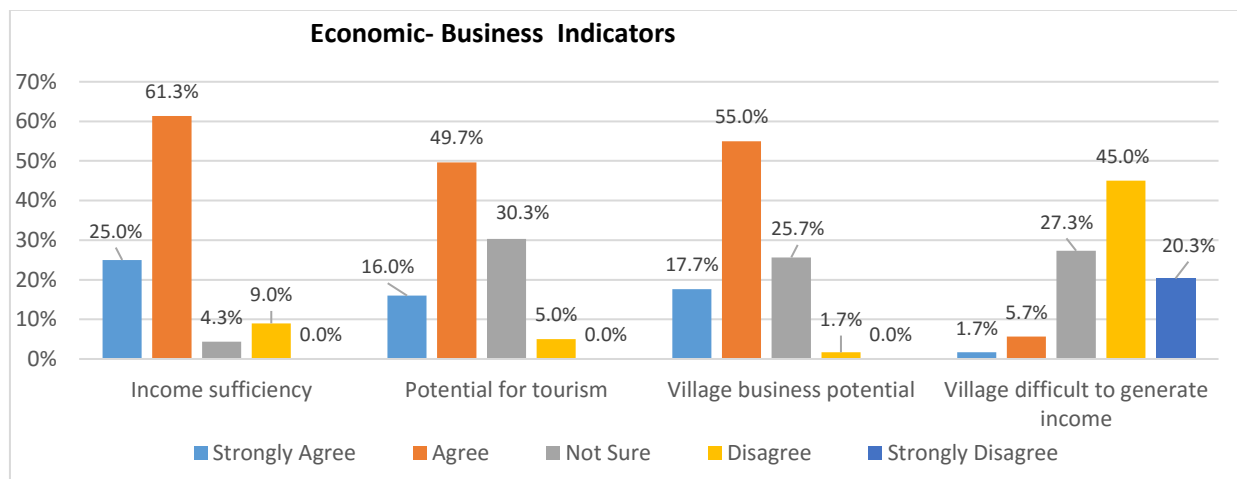


Figure 4.41: Economic-Business Indicators

The community leaders perceived that more than 60% of the community in their village are interested in business. Only one leader does not support the idea of venturing into business.

4.5.5 Village Cooperative Societies

This section discusses on the perception on the cooperatives, their performance, business potential and their contribution to the village economy. (Refer Figure 4.42)

The cooperatives at the village level are in their infancy and most of the respondents (70.7%) did not know their existence. Most of the respondents said they do not benefit from the few existing cooperatives. The villages need government assistance in creating jobs, attracting the tourism industry into the villages and also training the communities in business skills.

Community leaders said that the existence of cooperatives in the villages is a new concept and there is no one from the villages who are trained to manage a cooperative. In some of the villages, the cooperatives are inactive. Another community leader claimed that in his village there is a Fisherman' Cooperative known as KOPERDESA, There was one village without a cooperative society and interested to establish one.

The community leaders suggest that the dormant cooperatives need to be activated and suggest a new approach to manage it. Most of the respondents do not know of the existence of the cooperatives in the village neither do they feel that they benefitted from the cooperatives.

The society's cooperative performance reported by the community leaders vary in term of the cooperatives in the village. The cooperative in one of the village involved as a grass cutting contractors. Two community leaders confirmed that their cooperatives are doing well. One of the leaders said that their cooperative is not doing well. Another leader said that there is no cooperative in the village. Another leader said that the village cooperative needs proper training of personnel in order to manage the cooperative. There is a dormant cooperative in one of the village and the community leaders suggested that the cooperatives need to be activated.

The Cooperative Business Potential as identified by the community leaders such as selling fish, salted fish and shrimp paste and traditional cake making are good cooperative businesses. They also suggested exploring deep sea fishing as an option. The cooperative could undertake an ecotourism project such as making a village an eco-tourism hub. The leaders believed that the cooperatives could produce such as handicrafts or even metalwork making such items as traditional craft for tourism. They believed a nearby steel factory could be utilised for this. The leaders believed that a cooperative involvement help could be given to the poor in the villages by providing work for them.

“Definitely. It is the community's cooperative and it belongs to the people. The profit goes back to the people”. (A village head)

Also they said that it can help the community especially with the poor. If a cooperative can operate in the village it can employ the poor, thus giving them work and enabling them to earn a living. The leaders recognised that the problem with the cooperative in the village is the people managing it are not trained. They need more training. Also, they would like to see a successful cooperative in this village with one having the right model. They recognise that transparency in the activity is important in order to avoid conflict

The leaders acknowledge that the government is encouraging the formation of cooperative societies. The government is willing to offer a grant. They believe that a village cooperative will get government support to help the economy of the community. They said in the past they used to attend awareness courses conducted by DBKU but not now. They also think that DBKU can help to make their cooperative societies successful.

4.5.6 Training and Agency Assistance

This section discusses on the training required by the community and the agencies assisting them. In Figure 4.42, majority of the respondents (94.3%) claimed that there is no assistance from any agency for the community

The community leaders stated that the agencies that assisted the community are AIM, SEDC, TEKUN, WI, MARA and LKIM. The community leaders agreed that, on average, the majority of the villagers are interested in business of various types including handicraft making, ecotourism, cooking food or running a seafood restaurant, dried fish, making traditional cakes, fresh sea products, fibreglass boat fabrication, boat rentals and homestays. They also stated that any budding businessman needs to be trained in the various skills and knowledge required for managing a business. Additionally, they stated that trained members to run a cooperative will help the community.

The respondents differed in opinion with the community leaders on the agencies that assist the community. The leaders listed six agencies that assisted the village but only small number of villagers (5.7%) received the assistance.

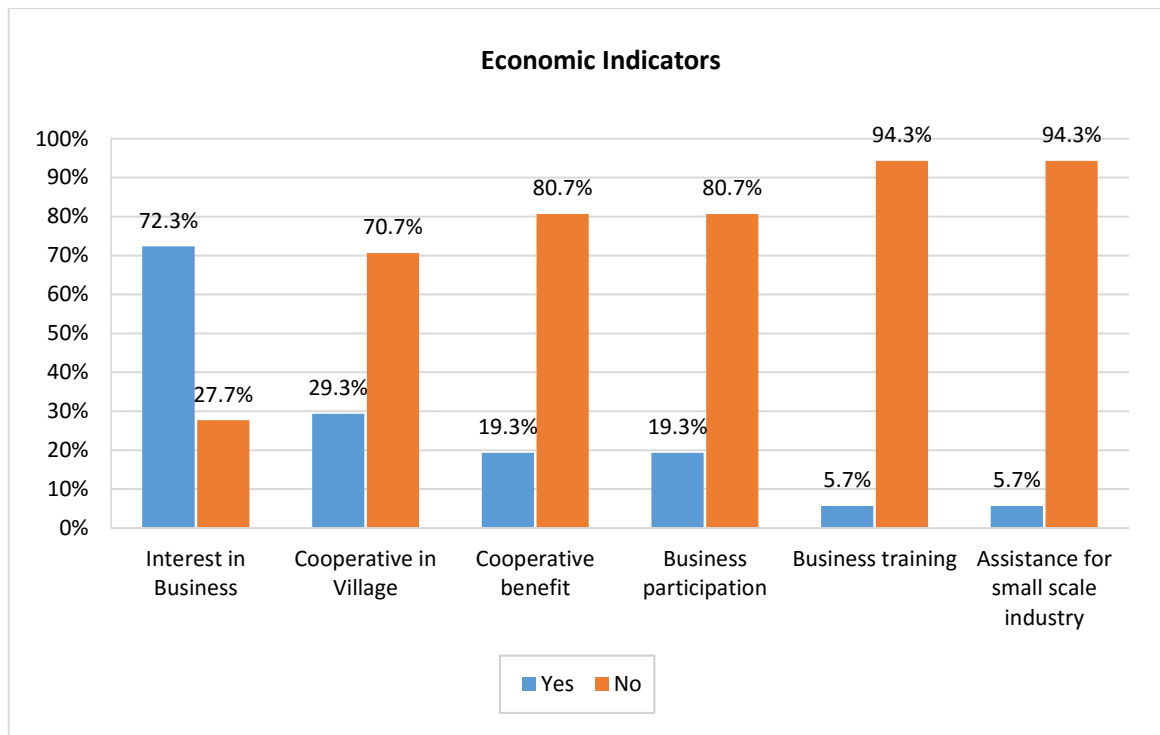


Figure 4.42: Economic Indicators

4.5.7 Tourism in the Village

This section discusses the respondents' views on the village potential for developing tourism industry and the respondents' perception on initiatives that can assist them in improving their economy. (Refer Figure 4.41)

Based on the figure, most of the respondents (65.7%) agreed that their villages have the potential to attract tourists and that this could help them improve their economy. Part of the attraction for the promotion of tourism would be to produce products at the local level through small scale industry. The villages have the potential to develop such an industry (72.7%). Only 5.7% stated that the villages find it difficult to generate additional income. Those that felt that there was potential in tourist-related businesses suggested potential products that could be sold to the tourists which are fish crackers (14.3%), shrimp paste (14%) stock within village shops (13.3%), homestays (10.3%), cakes baking (10%), handicrafts (9.7%), ecotourism (9.3%), boat rentals (3.0%) and stock within souvenir shop (0.3%). Such products can be produced cheaply in the villages.

4.5.8 Business Tourism at villages

In Figure 4.41, more than half (65.7%) of the respondents agree that the villages have potential for tourism. Only 5% disagree and 30.3% are not sure.



Figure 4.43: Business Related to Tourism at the Village

The respondents indicate that the village has potential to develop tourism related product such as village shops (13%), souvenir shops (0%), fish crackers (14%), shrimp paste (14%), cake baking (10.0%), handicraft (10%), homestay (10%), seafood restaurant (16%), ecotourism (9%) and boat rental for fishing (3.0%). (See Figure 4.43).

4.5.9 Eco-Tourism Business

The community leaders suggested those interested to undertake business management course such as being boats operators shuttling tourists to Bako National Park or in cake making. Eco-tourism is a new business for the villagers but given proper training, the leaders believe that they can succeed. Skills development is needed to prepare the villagers for business. Training is also needed for those interested in fishery skill to handle bigger fishing boat. Amat & Abdullah (2004) conducted a study

titled 'A New Proposition for Sustainable Development and Environmental Conservation in Malaysia' In the report, they mention by empowering the locals with their own governance within the area, community-based ecotourism may reduce economic leakages, minimize negative impacts and maximise the benefits locally. The community leaders see the potential of eco-tourism as it can generate opportunities and the products can be marketed to generate income for the villagers.

4.6 Environment

This section presents the finding on environment indicators including general perception, agriculture and natural resources, pesticide management, waste collection, recycling and composting and pollution. (Refer Figure 4.44)

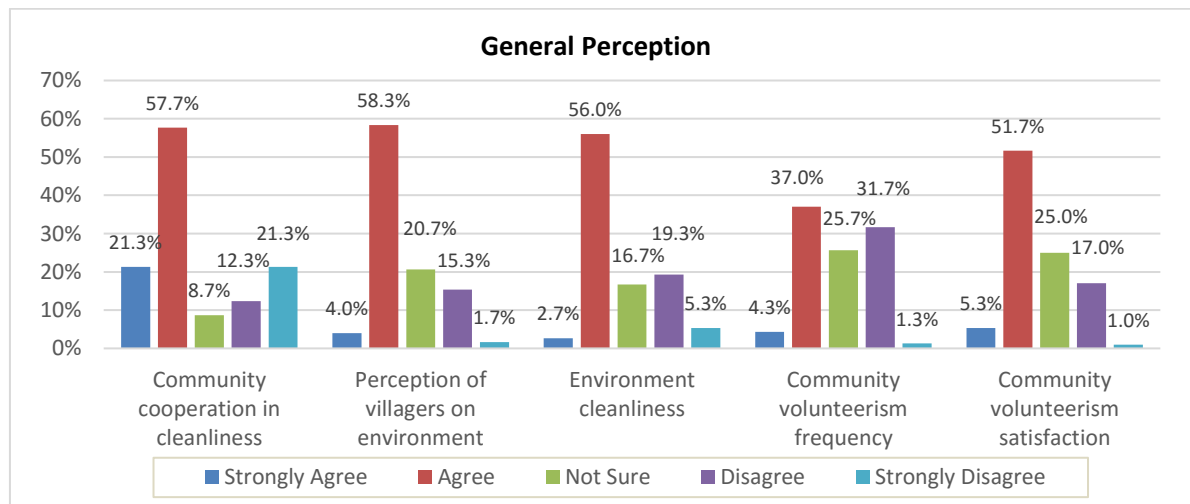


Figure 4.44: General Perception

4.6.1 General Perception

The general perception covers indicators such as community cooperation, perception of villagers on environment, environment cleanliness and volunteerism as in Figure 4.44. In general, the community leaders agree that the drainage system in their areas are satisfactory.

4.6.2 Community Cooperation in Maintaining Cleanliness

Figure 4.44 indicates that 79. % of the respondents agree that the community cooperate to maintain the village cleanliness (21.3% strongly agree and 57.7% agree while 33.6% disagree (disagree 12.3%, strongly disagree 21.3%) and 8.6% are not sure.

4.6.3 Village Cleanliness

More than half (57.7%) of the respondents agreed that the villages' cleanliness is satisfactory. These statements are contradicted by the surrounding conditions where refuse were littered throughout the villages especially near the river bank. The villagers agreed (79%) that they needed help to keep the village clean. (Refer Figure 4.44)

4.6.4 Perception on Environment

More than half (62.3%) of the respondents agreed (4.0% strongly agree, 58.3% agree) that the community perception on overall environment condition is satisfactory. Nevertheless, 17.0% (15.3% disagree and 1.7% strongly disagree) disagreed with this statement. The rest 20.7% were not sure. (Refer Figure 4.44)

4.6.5 Environment Cleanliness

Slightly more than half (58.7%) of the respondents (2.7% strongly agree, 56.0% agree) agreed that the environment is clean. Nevertheless, 24.6% disagreed (19.3% disagree and 5.3% strongly disagreed) with this statement. The rest (16.7%) were not sure. (Refer Figure 4.44)

4.6.6 Community Volunteerism Frequency

Less than half (41.3%) of the respondents agreed (4.3% strongly agree, 37.0% agree) that the community volunteerism in the village is satisfactory. Nevertheless, 33.0% (31.7% disagree and 1.3% strongly disagree) disagree with this statement. The rest (25.7%) were not sure. (Refer Figure 4.44)

4.6.7 Community Volunteerism

Slightly more than half (57.0%) of the respondents agree (5.3% strongly agree, 51.7% agree) that the environmental volunteerism in the village is satisfactory. Only 18.0% disagreed (17.0% disagree and 1.0% strongly disagree) with this statement. The rest 8.3% were unsure. (Refer Figure 4.44)

4.6.8 Agriculture and Natural Resources

This section discusses agriculture and natural resources on land usage, flora fauna, forest, jungle product from the village, and pesticide management.

4.6.9 Land Usage and Flora Fauna

There are lands within the villages designated as traditional village common lands whereas other lands nearby are for farming. The respondents (60%) said that there had been no change in the flora and fauna of the village in recent years as shown in Figure 4.45.

4.6.10 Forest

Almost two third (73.0%) of the respondents said the forest is a distance away from village. The respondents (64.3%) also said that they did not have land designated for farming and 60% indicated that there is no change of the flora and fauna at the village. (See Figure 4.45a)

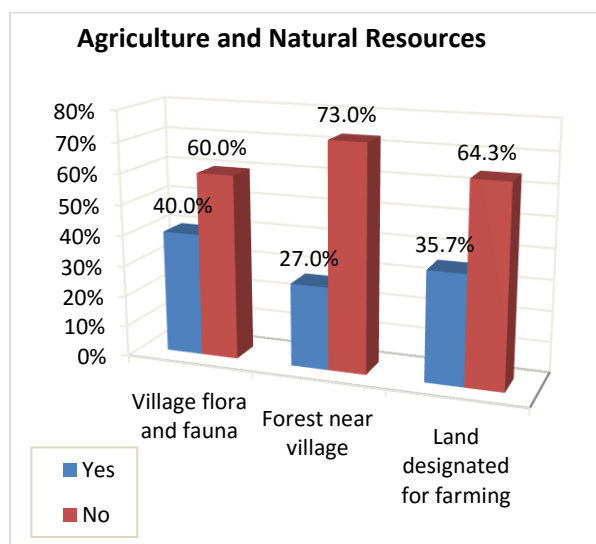


Figure 4.45a: Agriculture and Natural Resources

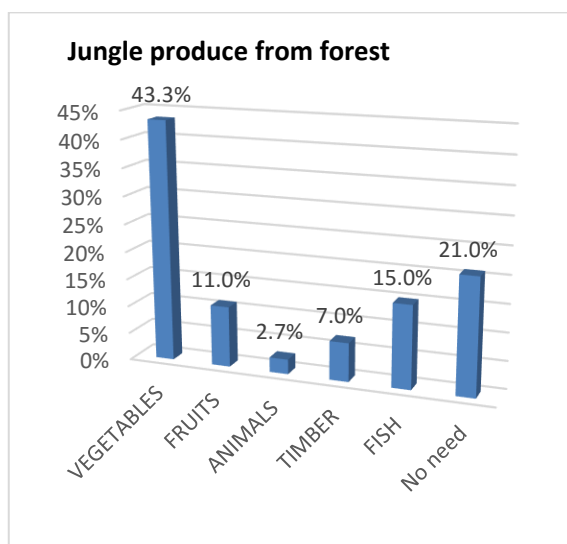


Figure 4.45b: Jungle Produce from forest

4.6.11 Jungle Product from Forest

Many respondents indicated that they obtained vegetables (43.3%), fruits (11.0%), animal (2.7%), timber (7.0%), fish (15.0%), while 21.0% do not depend on forest for their daily need. Slightly more than a third (35.7%) of the respondents said that they have land designated for farming while 64.3% did not do any farming (Refer Figure 4.45b).

4.6.12 Pesticide Management

The usage of pesticides among the respondents is low and most (71.3%) did not purchase pesticide as in Figure 6.46. There was no training given on proper use of pesticide. Most (79.7%) of the respondents did not know of alternatives means to replace pesticide.

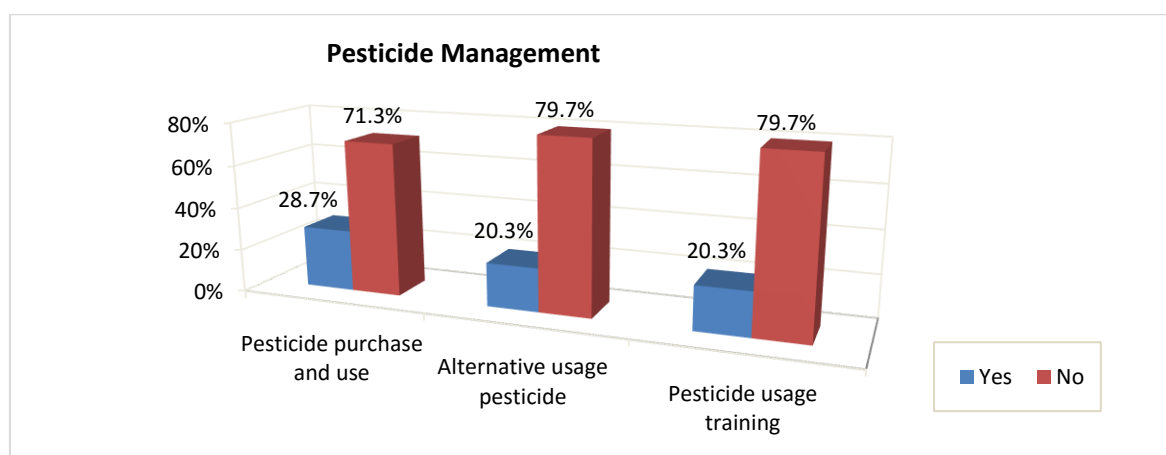


Figure 4.46: Pesticide Management

4.6.13 Waste Collection

DBKU collects the rubbish twice a week. Feedbacks from the respondents show that 55.3% agree that rubbish is collected regularly. However only 55.3% said that DBKU waste collection is good and satisfactory (5.0% strongly agree, 50.3% agree) and 30% disagreed (27.7% disagree, 2.3% strongly disagree) with the statement and 14.7% were not sure. (Refer Figure 4.47)

All the community leaders agreed that the domestic waste collection is frequent and the waste collection is satisfactory. The community leaders reiterated that the community members needs to cooperate to ensure the environment is clean but admitted that not all the community participated in voluntary work (Gotong Royong).

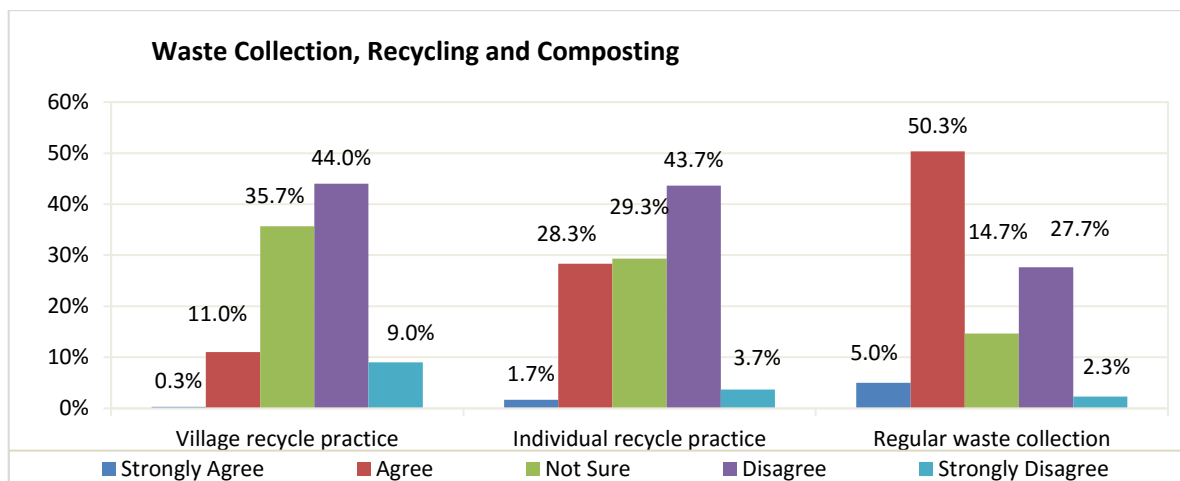


Figure 4.47: Waste Collection, Recycling and Composting

The respondents revealed that 40.0% of the community practise composting and 60.0% do not. Reasons for not practising are that the respondents have no knowledge (22.3%), not aware (45.7%), and have no suitable equipment (7.0%) while 25.0% gave no response. (Refer to Appendix 4)

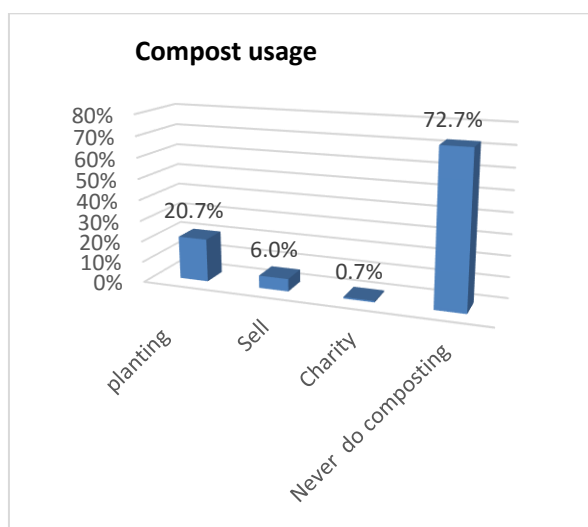


Figure 4.48: Compost Usage

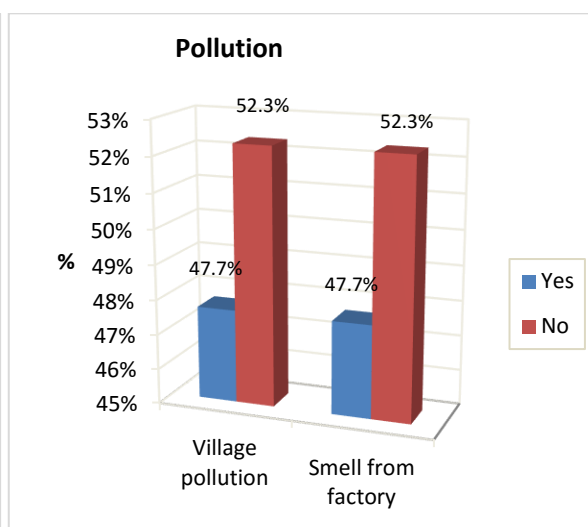


Figure 4.49: Pollution

Figure 4.48 shows that majority (72.7%) did not practise composting, and 20.7% used compost for planting, 6% sold the compost and 7% gave to charity.

4.6.15 Recycling and Composting

The community leaders admitted that not much recycling and composting are carried out. Recycling is undertaken by a few people who collect aluminium cans to earn extra money. The villages are littered with plastic bags.

4.6.16 Pollution

Less than half (47.7%) of the respondents said that the villages are polluted and 52.3% said that the pollution was from the indiscriminate dumping of rubbish, (23.3% mention that air pollution, 20% water pollution, and 8.0%) oil pollution (Figure 4.49). Even though there are factories nearby the villages 70% of the respondents said that the air quality is moderate to very good and 66.7% confirmed that no odour is emitted from the nearby factories as shown in Figure 4.49.

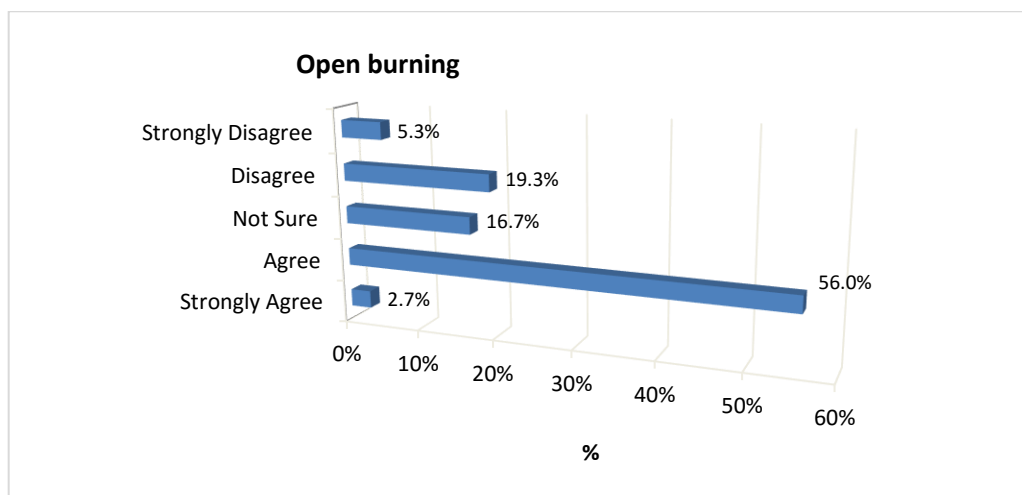


Figure 4.50: Open Burning

Two community leaders claimed that their villages are free from pollution. The rest claimed that rubbish is the major pollution source. The leaders believed that the community need to be educated continuously regarding pollution. Those living in stilt houses dispose their waste outside their house and during high tide the rubbish will be washed back to the village.

4.6.17 Open Burning

Only 24.6% of the respondents indicated that they practise open burning especially in the evening. 58.7% do not practice open burning. This is a usual practice in the village especially the burning of grass in their own compound. (See Figure 4.50)

4.6.18 Air Quality

All the community leaders except one agreed that the air quality in the village is good. The village located near the coal power plant harvests polluted rain water. According

to the other community leaders, the villages are free from pollution except from the rubbish which are dumped into the river and end up at the river bank.

4.7 Transport and Connectivity

The villages are connected to the city by good roads except Bako Village which is separated by a river. Most respondents (54.4%) agreed that the conditions of the roads are satisfactory (5.7% strongly agree and 48.7%, agree) and 36.6% disagreed (28.3% disagree and 8.3%, strongly disagreed) with this statement while 9.0% were not sure. Nevertheless, there are some roads that need improvement. (See Figure 4.51

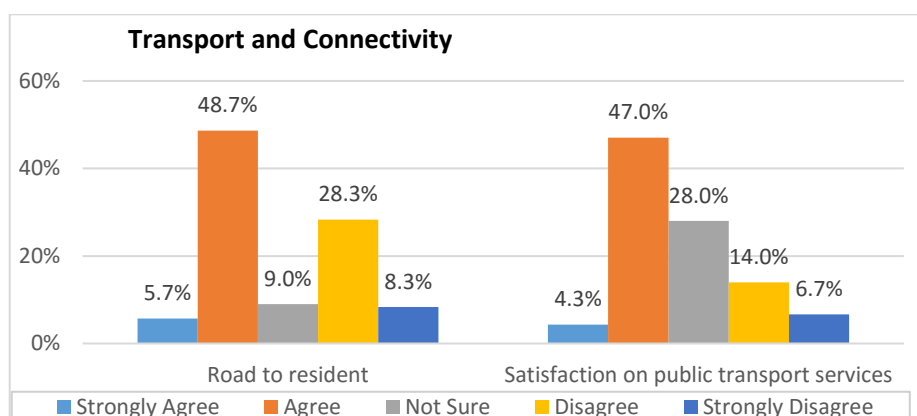


Figure 4.51: Transport and Connectivity

Most respondents have their own means of transport: 49.3% cars, 41% motorcycles, van (2.7%), Lorries (1.0%), and only 5.3% are without any form of transport. The public transport is unsatisfactory as 53% are not satisfied with the service.

4.7.1 Satisfaction on Public Transport Services

Public transport serving the villages is in the form of bus services and rented vans that ply between the villages and the city. Only 35.5% of the respondents stated that the public transport is satisfactory (strongly agree 4.3%, agree 47.3%) while 20.7% disagreed that public transport were satisfactory (14.0% disagree and 6.7% strongly disagree) (See Figure 4.53).

4.8 Services

The services provided by agencies include health, electricity, water, waste collection, agencies visit and the frequency of agencies assisting the community.

4.8.1 Health

A high percentage of the respondents are healthy (79.7%) as in Figure 4.52 and the services provided by the health department are the preferred health services for the respondents. The respondents enjoy a good health service in the village.

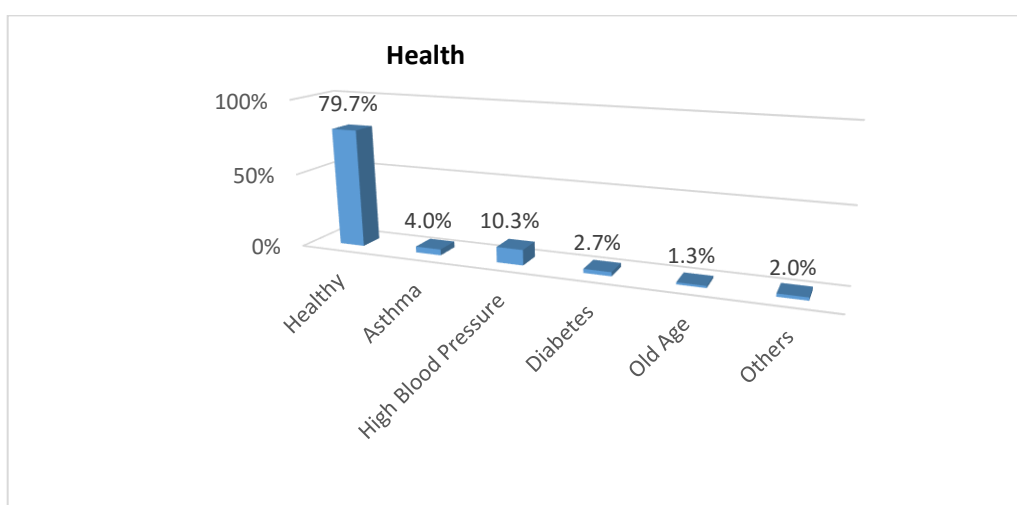


Figure 4.52: Health

4.8.2 Electricity Supply

The villagers are happy with the electricity provided. Figure 4.53 show that 93.7% of the respondents agreed (strongly agree-30.7%, agree- 62.7 %,) while 3.4% disagreed the electricity supply is satisfactory (2.7%-disagree and 7%-strongly disagree) while 0.4% are not sure about that the service. Almost all the respondents (99.0%) are supplied with electricity and used by the respondents for cooking. It is still cheaper to use gas stove. The appliances that uses electricity used by respondents are rice cooker (62.3%), dishwasher (3%), electric blender (18.35%, electric oven 9.7%, washing machines (4.7%) while 4.7% do not use any electric appliance. In the event of power failures the alternatives energy sources are kerosene lamp/stove (50.7%), individual generator (4.0%), battery (6.3%), shared generator (38.7%) and others (23.0%). (See also Figure 4.54).

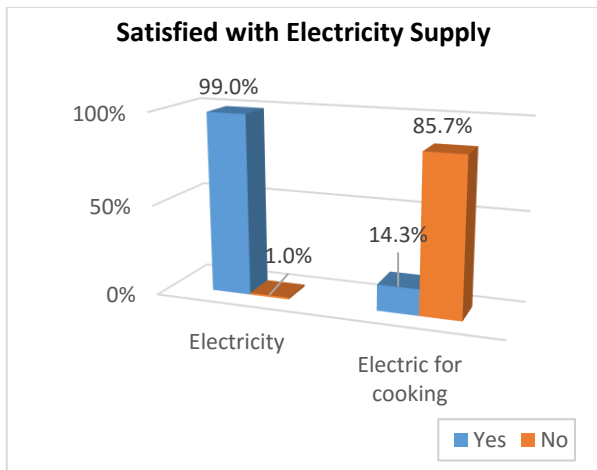


Figure 4.53: Satisfied with Electricity Supply

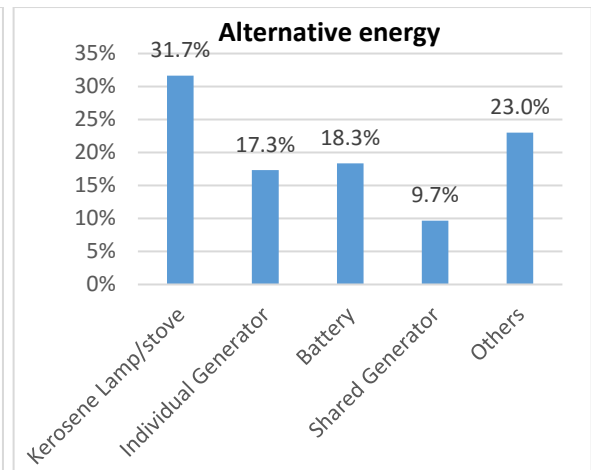


Figure 4.54: Alternative Energy

4.8.3 Alternative water

When there is water shortage, the respondents utilise rain water (51.0%), river (4.0%), underground waters (6.3%), KWB water tanker (38.7%) as in Figure 4.55.

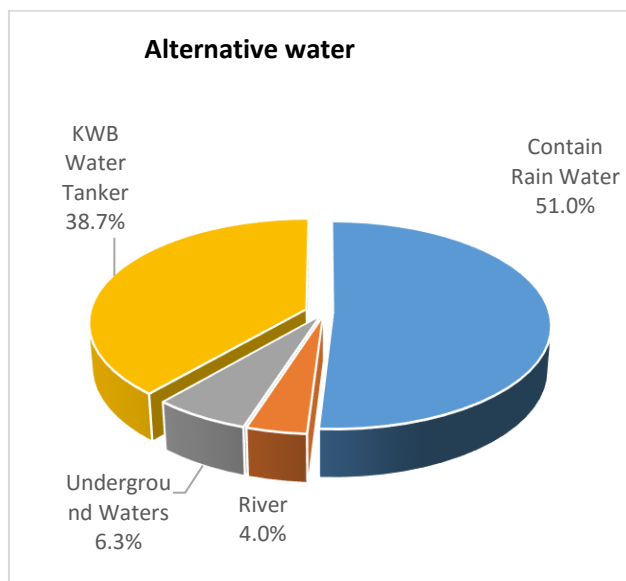


Figure 4.55: Alternative Water

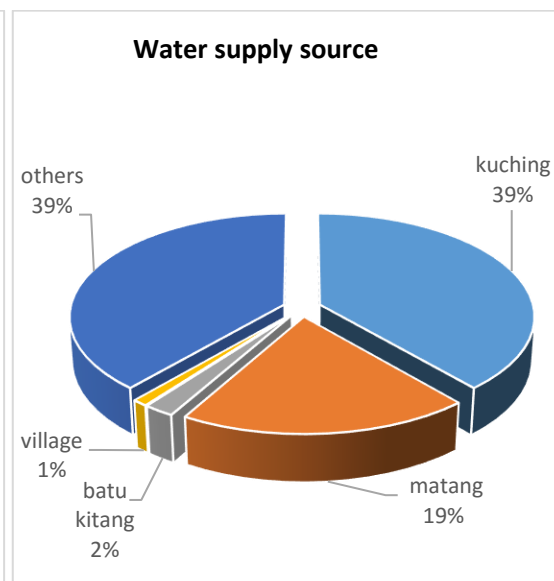


Figure 4.56: Water Supply Source

Nevertheless, 92% of the respondents' indicated that the water supply is satisfactory and 98% of the respondents did not know the source of their water supply. (Refer Figure 4.56)

4.8.4 Agencies Visit Villages

The respondents rated the services provided by agencies to the village as very good (14.3%), good (49.3%), moderate (3.7%), poor/bad (4.7%), very bad (14.3%). 44.0% of the respondents stated that DBKU officers frequently visits the villages followed by KRT (34%), the Fisheries Department (12%), R&DO (7.0%) and the Health Department (4%). See Figure 4.57

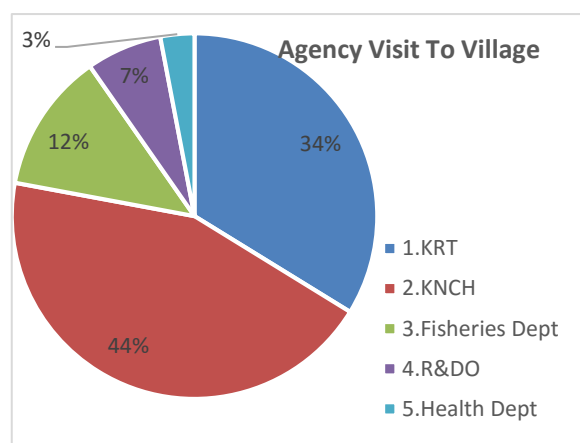


Figure 4.57: Agency Visit to Village

DBKU is well-received by the villagers and 63.6% of the respondents are satisfied with the services provided by these agencies. The respondents requested that agencies assist the villages in improving the drainage (49.3%), providing skill courses for the villagers (30.0%), business funding (27%) and in helping to repair houses (10.3%). (See Figure 4.57).

4.8.5 External Agency Visit

According to the community leaders, the agencies that frequently visit their villages are UNIMAS, RELA, associations from Peninsula Malaysia and DBKU. LKIM visits the village as and when needed by the community.

The community leaders mentioned that the agencies that assist the village are Fishermen Association, JPN, RELA, DBKU, KRT, R&DO and LKIM. Visits are often initiated by the agencies and the villagers' assist the agencies in implementing the programme in the villages. According to three of village leaders, DBKU seemed to be the organisation that frequently visit the village followed by RELA, UNIMAS, LKIM and also social visits from Peninsula Malaysia. The leaders confirmed that the agencies

that provide services to the villages are DBKU followed by R&DO, RELA, JPN, LKIM and Fisherman Association.

4.8.6 Potential of SCD in the Villages

The community leaders maintained that the villages have the potential to implement the SCD initiatives provided that the village leaders take the lead.

All the community leaders except one said that there are already SCD initiatives in the villages and for future SCD cooperation the leaders are of the opinion that the following are needed:-

- That there are in place strong leaders able to carry out the programs
- That all sectors of the community need to work together
- That there is good team-work among all the leaders in the village
- That there are joint effort between NGOs, Government and the private sector
- That the villagers are willing to participate if they understand the purpose of an action
- There is a need to explain initiatives to the villagers and to explain what they can benefit out of it

With regard to SCD implementation, there must also be sufficient motivation amongst the villages. The villagers must have a clear knowledge of the purposes and understand the benefits for them and their villages. Teamwork is also required amongst the leaders themselves and this can be acquired through co-operation towards a common goal.

4.9 Summary

The elements that would support SCD are:-

- The leaders have a basic knowledge of community development even though the concept is new to them. The leaders desire to see a successful and prosperous village, especially for the children and the youth to provide a platform to kick start the SCD which will assist their villages' future generation.

- The social aspects for the villagers especially education, health services and sport facilities are good. The primary and secondary school are within the village. The tertiary institutions are available in the city.
- The communities have suggested extra classes for students and parenting skills training to improve parents skill in bringing up children to improve academic performance.
- The sport facilities available in the village are good and encompassing all types of popular sports. The health facilities provided by the government are within reach and are the preferred health service. These facilities can be used to organised SCD activities.
- The communities are concern and responsible for tackling the social problems. Housebreaking and vandalism do happen in the village but are not serious problems. Drug and glue sniffing exist but not at an alarming level. Drinking occurs in the village but there is no addiction. Most of the respondents and community leaders agree that organized gangsters do not exist, only youthful delinquency.
- Overall, the respondents and community leaders indicate that the village is safe. Strolling at night in the area is safe. Cultural activities are organised in collaboration with external agencies but no cultural education are organised neither is there any significant cultural training conducted for the community.
- The communities have suggested that parents show good example and should utilise religious upbringing and be involved in PTA. The community participates and claims that they benefit from religious activity such as Quran recitation classes, lectures and obligatory religious classes. Suggested religious activity that need to be incorporated in community development are memorization of the Quran and religious values, monthly organized religious- motivational activity, religious lecture and obligatory course.
- The community enjoying good relationship is essential requirement for the effective implementation of the programme. In terms of community relation and village safety, the community shows a good relationship.
- The mobile phone usage is high and communicability is good. This will make it easier to communicate for any SCD initiatives to be organised.

- In the village, some houses have extra rooms which can be used for homestay to supplement the income.
- The community is highly mobile with high vehicle ownership and movement. This will facilitate to get programme organised especially programmes that need transportation.
- The unemployment rate is high at 13.7% in comparison to the national unemployment in Malaysia (3.2% in, 2015). (Department of Statistics Malaysia, 2015). Most of the villagers' income is low and others in the houses contributed to their total income. This will be an advantage for any economic base activity such as eco-tourism and cottage industries as there is available manpower to spur the industry.
- The community is enjoying a fairly safe environment. There is very small crime rate and incidences of serious crimes are minimal. Drug and substance abuse do occur but is under control. A lot of petty crimes are attributed to broken homes.
- Religion plays a very important role in regulating the behaviour and lifestyle of the community. Religion values are adhered to and religion rituals like the daily prayers, compulsory Quran classes are practised and the religious institutions need to send competent teacher to assist them. Since religion can be a driving force for change, this social factor can be capitalised upon in order to assist the community to change for the better in attaining a sustainable community. The community leaders have high expectations that the religion they practised would be able to guide them towards progress. Religion plays a pivotal role in the communities and any programmes that are contrary to the teaching of the religion will be rejected.
- Community volunteerism in the villages (known as Gotong Royong) takes place but there is a need to organize such activities more frequently in the village and to improve the participation.
- The aspects of land usage, flora fauna, forest, jungle product and pesticide management in the village are good and sustainable.
- The waste collection in the village can be improved further especially within the village with each household having a proper receptacle and practising proper

disposal means. To minimize waste generation the composting and recycling practices need concerted effort both from the community and DBKU.

- Pollution is not a serious problem in the villages. The villages enjoy a fairly clean environment. This is important especially in the eco-tourism activity. Visitors will prefer and are attracted to pollution-free areas.
- In term of the economic aspects of this research indicates that the villages have ample resources to increase the income and create job opportunities in eco-tourism, food processing and fisheries. The cooperative society in the villages can be used as a vehicle to transform the village economy but it needs a good management. Of them all, the Fishermen Associations is the most helpful and prominent in helping the villagers in generating income.

The elements that need to be addressed to enable the villages to achieve sustainable community development are:-

- The leaders understand only in short-term planning and there is no long-term written shared vision. One third of the community had no vision for the future. Most of the associations within the villages have no written vision statement. There is no comprehensive plan of action for the development of the villages' vision. The villages need a long term vision so that the communities can align themselves to achieve a common vision. Training need to be conducted among the leaders to train them to create vision for their villages.
- The root causes of social problems according to the community are from broken home, divorce, and from children raised by single parents and also due to poverty. The lack of parenting skills is also a contributing factor. Perhaps what is lacking in the community is quality leadership. There is a need to equip local leaders with basic knowledge of strategic planning and establishing networking with the government agencies and NGO's especially in the communication for SCD.
- Houses on stilt at the river edge need to be resettled.
- Computer usage is still low and so is the internet usage. Parabola or satellite disc usage is higher compare to computer usage. Insurance and credit card usage is low.

- However, there are issues of littering and open burning. There is a need to educate the public in regard to recycling, composting and minimizing waste.
- The road leading to the houses and the poor unsustainable public transport need improvement.
- The agencies visiting and assisting the village have been listed by both the respondents and the community leaders and these agencies are potential partners to develop the community especially the SC future initiatives.

The above findings are used in the GAP analysis in Chapter 7 to evaluate the villages' sustainability status and to identify the main factor that hinders the village in achieving a sustainable status. A SWOT Analysis and TOWS matrix will be used to assist in generating various interventions programmes that are needed to achieve a sustainable status.

CHAPTER FIVE: NAISSANCE (BIRTH) OF SUSTAINABLE COMMUNITIES IN SUBURBAN SETTING

5.0 Introduction

This chapter attempts to analyse the quantitative data and qualitative data using SWOT Analysis. The data elicited from quantitative survey and qualitative interviews are then triangulated using TOWS Matrix which produces an array of interventions that could be implemented. The data is further used in the Gap Analysis to identify the core barriers that would slow down the process of achieving sustainable community status.

5.1 SWOT Analysis on Quantitative Survey Findings

This section analyse all the indicators and categories the quantitative and qualitative data into strengths, weaknesses, opportunities and threats based on the finding in Chapter 4. These proposed interventions then undergo a brain storming session with the experts to prioritise based on the current community capacity and capability and the urgency and importance of the proposed interventions. The summary of the SWOT Analysis of indicators for quantitative findings is tabulated as in Appendix 4 while the analysis for qualitative findings is as in Appendix 5.

5.1.1 Basic Needs

The strengths of the village include are the number of dependents, their skills, good health, number of rooms, steady electricity supply, alternative energy and water sources, vehicle ownership, hand phone and internet access. The villages' area of weaknesses includes low level of education, high unemployment, low personal and family income, household income, housing, computer, internet access (and parabola disc) as in Table 5.1.

The strengths of the community basic needs component such as:

- The number of dependent in the village is high. This will supplement the required manpower for any economic activity to be held in the village.

- The skilled members of the community are also required for the new economic activity.
- The good health of the community is an advantage.
- Those houses having extra rooms have potential for homestay for tourist.
- The good supply of water and electricity with good alternative source are important for any economic activities.
- High vehicle ownership is important for transportation and business in the villages.
- The mobile phones and internet access are important for marketing of economic product.

SWOT Analysis Based On Indicators From The Questionnaire			
Strengths		Weaknesses	
Table 5.1: Strength and Weaknesses for Basic Needs			
BS1	Number Of Dependents	BW1	Education level
BS2	Skills	BW2	Employment
BS3	Health	BW3	Income
BS4	No Of Rooms	BW4	Income Household
BS5	Electricity	BW5	House - Type Of House
BS6	Alternative Energy Source	BW6	Computer
BS7	Alternative Water Source	BW7	Internet
BS8	Vehicle Ownership	BW8	Parabola Disk
BS9	Hand phone		
BS10	Internet Access		

The weaknesses of the basic needs component are:-

- Most of the respondents have only primary education and the employment rate is low.
- People do hold part time jobs to supplement their income.
- The villagers especially those on the river banks need assistance.
- Computer and internet usage is still low and the internet coverage is low

5.1.2 Services to Villages

The services to village as measured by indicators are continuous water supply, electricity supply, roads connecting the villages; the community centres condition and community relations. (See Table 5.2)

Continuous water supply and consistent electricity supply is necessary for economic activities. The road linking the village to the city is good.

SWOT Analysis Based On Indicators From The Questionnaire			
Strengths		Weaknesses	
Code	Services To Villages	Code	Services To Villages
GVS1	Continuous water supply	GVW	Village Safety
GVS	Electricity Supply Consistency		
GVS	Roads connecting the Villages		
GVS	Community Centre Condition		
GVS	Community Relations		
GVS	Community Concerns for members		

Table 5.2: Strength and Weaknesses for Services to Villages

The community centres are in good condition and with harmonious relation among members of the community is strength for the villages. The village are safe but it could be further improved.

5.1.3 Social Indicators

The social indicators that are categorised as strengths are community concern for social problems, locations of the primary and secondary schools, tertiary institutions, associations' activities, village sport facilities, type of sport facility in village, services provided by agencies, distance to Government clinic, preferred clinic and incidences of communicable diseases outbreak. (See Table 5.3)

The weaknesses identified are:-

- House-breaking, vandalism, drug abuse and glue sniffing, alcohol consumption, gangsterism, and loitering happen in village and need to be tackled.
- The PTA involvement is low but this can be enhanced.
- Cultural education can be improved further
- The need to organise an effective village culture activities.

General safety and night safety need to be improved to ensure that all members of the community are confident of their safety especially at night.

SWOT Analysis Based On Indicators From The Questionnaire			
Strengths		Weaknesses	
Code	Social	Code	Social
SS1	Community Concern for Social Problems	SW1	House Break Ins / crimes
SS2	School Distance To School	SW2	Vandalism
		SW3	Safety
	Secondary School—Distance To Secondary School	SW4	Drug Abuse and substance abuse
SS3	Tertiary Institution	SW6	Drinking Alcohol
SS4	Distance from Tertiary Institutions	SW7	Night Safety
SS5	Associations' Intended Activity	SW8	Gangsterism
SS6	Village Sport Facilities	SW9	Loitering
SS7	Type Of Sport Facility In Village	SW10	PTA Involvement
SS8	Services Provided By Agency	SW11	Cultural Education
SS9	Distance To Government Clinic	SW12	Effective Village Culture For Organising
SS10	Preferred Clinic	SW13	Associations In Village
SS11	Communicable Disease Outbreak	SW14	Types Of Associations In Village
		SW15	Association Involvement
		SW16	Village Organisation POA
		SW17	Cooperative In Village
		SW18	Cooperative Benefits

Table 5.3: Strength and Weaknesses for Social Indicators

The governance weaknesses are:-

- The associations' had no long-term intended activity,
- The associations in village are too many with various types, some are duplicating in function. This can lead to negative consequences like backstabbing and sabotaging.
- Involvement in association among community members is low,
- The village organisation has no plan of action,
- The cooperative societies in the village is not active,
- The community don't know how the cooperative society can benefit them.

5.1.4 Economic Indicators

The economic strengths of the village include household income contributions which indicate a collective responsibility among household to assist and supplement their

income. The interest in business among the community is high and this is important for the generating of economic activities. (See Table 5.4)

SWOT Analysis Based On Indicators From The Questionnaire			
Strengths		Weaknesses	
Code	Economy	Code	Economy
ECS1	Household Income Contribution	ECW1	Income Sufficiency
ECS2	Interest In Small Business Industry	ECW2	Business Non Involvement

Table 5.4: Strength and Weaknesses for Economy Indicators

The low income of the villages poses a difficulty in raising capital for business. The non-involvement of the communities in businesses is a drawback which needed to be addressed.

5.1.5 Environment Indicators

The environmental strength indicators are regular waste collection, community cooperation for environmental concern, village cleanliness, pollution in village, pollution from factory, village flora and fauna, water supply quality, water supply source, forest area, jungle produce, pesticide-purchase and uses, and alternative to pesticides.

The weaknesses include poor perception on environment conservation, environmental cleanliness is still low, open burning is still practised, low frequency of community volunteerism and low community volunteerism participation, village recycling practices is still low, individual recycling practices is still low, some villagers perceived that pollution happen in the village, sources of pollution in village, village composting is not active, individual composting is unenthusiastic. (See Table 5.5)

SWOT Analysis Based On Indicators From The Questionnaire			
Strengths		Weaknesses	
Code	Environment	Code	Environment
ENS1	Regular Waste Collection	ENW1	Perception Of Villagers On Environment

ENS2	Community Cooperation For Environmental Concern	ENW2	
ENS3	Village Cleanliness	ENW3	Environmental Cleanliness
ENS4	Pollution In Village	ENW4	Open Burning
ENS5	Pollution From Factory	ENW5	Frequency Of Community Volunteerism
ENS6	Village Flora & Fauna	ENW6	Community Volunteerism
ENS7	Water Supply Quality	ENW7	Satisfactory
ENS8	Water Supply Source	ENW8	Village Recycling Practices
ENS9	Forest Near Village	ENW9	Individual Recycling Practices
ENS10	Jungle Produce From Forest	ENW10	Village Pollution
ENS11	Pesticide - Purchase And Use	ENW11	Type Of Pollution In Village
1NS12	Alternative To Pesticides	ENW12	Village Composting

Table 5.5 Strength and weaknesses for Environment Indicators

5.1.6 Religious Indicators

The religious indicators for strength include religious activities, individual religious participation and benefit from religious activities. (See Table 5.6)

SWOT Analysis Based On Indicators From The Questionnaire			
	Strengths		Weaknesses
Code	Religious Activity In Villages	Code	Religious Activity In Villages
RS1	Religious Discussion	RW1	Individual Activity Participation
RS2	Individual Religious Activity / Rituals		
RS3	Village Religious Activity		
RS4	Individual Religious Participation		
RS5	Benefit From Activity		

Table 5.6: Strengths and Weaknesses for Religious Indicators

The weaknesses from the religious perspective include the low individual participation in religious ritual activities among the community members.

5.1.7 Village Vision

The community members' strengths are their desired need and sustainable community Cooperation. They have a long-term vision for their children and aspire to excel in business. (See Table 5.7)

SWOT Analysis Based On Indicators From The Questionnaire			
Strengths		Weaknesses	
Code	Village Vision	Code	Village Vision
VS1	Desired Need	VW1	Associations' Vision
VS2	Sustainable Community	VW2	Problems In The Associations
VS3	SC Village Cooperation	VW4	Village Plan Of Action
VS4	10 Years' Vision		

Table 5.7: Strength and Weaknesses for Village Vision Indicators

The village associations' having no written vision, social problems in the associations and village Plan of Action are identified as the weaknesses of the village.

5.1.8 Basic Needs-Opportunities and Threats

The basic needs indicators classified as opportunities are insurance coverage, electricity for domestic use, electrical appliances used, culture activities in village, training for cultural performance, participation in associations, agencies' visits and assistance, subsidies for house building and agencies providing general assistance. The condition of the public transport is a threat to the village. (See Table 5.8).

SWOT Analysis Based On Indicators From The Questionnaire			
Opportunities		Threats	
Code	Basic Need	Code	Basic Need
BO1	Insurance	BT1	Public Transport
BO2	Electricity For Domestic Use		
BO3	Electric Appliances Used		
BO4	Agencies Organise Culture Activities In Village		
BO5	Cultural Training		
BO6	Participation In Associations		
BO7	Agencies' Visits To Village		
BO8	Agencies' Assistance For Village		
BO9	House Building Assistance		

Table 5.8: Opportunity and Treat for Basic Needs

5.1.9 Economic Opportunities

The economic opportunities identified for the village are for eco-tourism, small scale village business, existing business in the village, business participation, business interest by type, business and entrepreneurs training, skills training, business related to tourism prevalent in the village and business related to tourism opportunity at the village. The village community finds it difficult to generate steady and good income and this is a threat to the villages. (See Table 5.9)

SWOT Analysis Based On Indicators From The Questionnaire			
Opportunities		Threats	
Code	Economy	Code	Economy
ECO1	Potential For Eco-Tourism	ECT1	Villages Find it Difficult To Generate Income
ECO2	Village Business Potential		
ECO3	Current Business In The Village		
ECO4	Business Participation		
ECO5	Business Interest Type		
ECO6	Business Training / Entrepreneurs Training		
ECO7	Skills Training Required		
ECO8	Business related to tourism prevalent in the village		
ECO9	Business related to tourism opportunity at the village		

Table 5.9: Opportunity and Treat for Economy Indicators

5.1.10 Environmental Indicators

The environmental indicators identified as opportunities are availability of land designated for farming and the usage of compost. There is no environmental threat. (See Table 5.10)

SWOT Analysis Based On Indicators From The Questionnaire			
Opportunities		Threats	
Code	Environment	Code	Environment
ENO1	Land Designated For Farming		Nil
ENO2	Compost Usage		

Table 5.10: Opportunity for Environment Indicators

5.1.11 Religious Indicators

The attendance at the mosque for daily prayers is an opportunity for the mosque committee to organise program that can lure more participation of the community. This attendance is poor. The community has requested the religious activity to be organised and the need for infusion of religious values into the community. There is no threat identified. (See Table 5.11)

SWOT Analysis Based On Indicators From The Questionnaire			
Opportunities		Threats	
Code	Religious Activity In Villages	Code	Religious Activity In Villages
RO1	Non Participation		
RO2	Religious Activity Sufficient		
RO3	Infusion of Religious Values		

Table 5.11: Opportunity and Threat for Religion Indicators

5.1.12 Village Vision: Opportunity and Threats

The opportunity identified by the community is a vision to meet the community needs. Lead agencies have been identified by the community. There is no threat for the village vision. (See Table 5.12)

SWOT Analysis Based On Indicators From The Questionnaire			
Opportunities		Threats	
Code	Village Vision		Village Vision
VO1	Need Is Met		
VO2	SC Lead Agency		

Table 5.12: Opportunity and Treat for Village Vision Indicators

5.2 SWOT Analysis on Qualitative Survey Findings

The SWOT analysis identified the strengths and weaknesses within the villages and identified the relevant indicators. Based on the categorization of the qualitative and quantitative data into strengths, weaknesses, opportunities and threats, a triangulation of the data was carried out. The TOWS analysis generates a list of intervention programmes that need to be implemented in order to achieve the desired sustainable community status. Special attention should be given to the organizations and associations in the villages as they provide the vital linkages between the communities and the agencies.

The classification of the qualitative survey findings into SWOT is tabulated in Appendix 7. Four themes emerged as strengths, seven as weaknesses, seven as opportunities and three as threats. For the purpose of this classification the opportunities and threats are differentiated against strengths and weaknesses by identifying the internal and external factors. The SWOT analysis was carried out as and the classification of the qualitative survey findings into SWOT is based on the discussion described in Table 5.13.

5.2.1 Strengths

The three themes that contribute to the strengths are:

1. Education: Improvement of Academic Performance.

The community leaders believe that the villages can organise more tuition classes for students to improve their academic performance. With their backing and enthusiasm, any attempt to implement such educational initiatives should be possible.

2. Religion in SCD

Religion is considered as a source of strength and most of the community leaders wanted more religious classes to be organised. They even requested a Quran memorization class with a permanent teacher to teach the students and adults.

3. Potential of SCD in the Villages

The leaders are optimistic that the community would be willing to be involved in the initiatives for the betterment of their villager's welfare.

5.2.2 Weaknesses

The seven themes that are classified as the community weaknesses within the villages are shown in Table 5.13.

1. Organizational Leadership Problems and Suggestions - The community leaders identified the leadership problems as follows:-
 - There is no coordination amongst the association organizations.
 - There are no youth training programmes.
 - The associations are not properly managed.
 - Leadership within the associations is seen as a problem. The leaders do not have experience and are not trained to manage an association.
 - There is little cooperation among the leaders.
 - Conflict within the associations cannot be sorted out as their objectives are unclear.

If the associations have the similar vision concerning the development of the community, there would be less conflict. A good relationship can be maintained through a common vision. There are a number of problems with running the associations as stated by the respondents. Among them include no coordination among the associations and inexperienced leaders.

STRENGTHS		WEAKNESSES	
ST2	Theme 2: Good Selection of Organizational Committee Members	WT7	Theme 7: Organizational Leadership Problems and Suggestions
		WT8	Theme 8: Village Plan of Action
		WT9	Theme 9: Village Organizations' Written Vision Statement
ST13	Theme 13: Education: Improvement of Children Academic Performance	WT11	Theme 11: Lead Agency- KNCH
ST20	Theme 20: Religion in SCD	WT12	Theme 12: Social Problems and Root Causes
		WT18	Theme 18: Village Green Initiatives
ST22	Theme 22: Potential of SCD in the Villages	WT21	Theme 21: Community Leaders' Effort and Vision
OPPORTUNITY		THREAT	
OT1	Theme 1: Organizations/Associations in the Villages	TT3	Theme 3: Organizational Funding
		TT4	

OT6	Theme 6 : Organizational Cooperation		Theme 4: Organizational Reporting Process
OT10	Theme 10: Selection of Agencies in the Village		
OT14	Theme 14: Village Cooperative Society		
OT15	Theme 15: Potential for Community Business	TT5	Theme 5: Process of Acquiring Funding Approval of Project Implementation
OT16	Theme 16: Eco Tourism Business		
OT19	Theme 19: Village Pollution		

Table 5.13: SWOT Analysis of Qualitative Theme

2. Village Plan of Action

The associations in the villages have no written action plan. This weakness can be overcome by giving them basic leadership course.

3. Village Organizations' Written Vision Statement

In addition to writing an action plan, the community leaders also need to be trained on strategic planning.

4. Lead Agency – DBKU

Most of the community leaders agreed that DBKU should be the lead agency. It can catalyse the transformation of the villages into sustainable community.

5. Social Problems and Root Causes

Most of those who are involved in the social problems are from broken homes. Being looked after by single mothers, who themselves had very little education. Among those involved in social problems have no proper religious upbringing. Some of them are alcoholics. These parents are not able to teach their children good values. These values are also taught in school and are important in moulding the children. Parents who are involved in the PTA show their concern for children's education. Some parents need to learn parenting skills to bring up their children. If parents can learn more about their role as parents, they will be able to raise their children well. They reiterated that previously when they have to travel by boat to Kuching they hardly ever had these problems. Poverty also contributes to increase in petty crimes like housebreaking. This is also partly due to addiction. The prevailing social problems in the villages are categorised

as the weaknesses and intervention programmes to combat these problems can be suggested after a TOWS analysis.

6. Village Green Initiatives

The villages' green initiative include, villages water harvesting and recycling. Composting needs to be continuously carried out for a sustainable practice.

7. Community Leaders' Effort and Vision

Presently the leaders had no written vision for the villages. They expressed their desire to see successful, prosperous and exemplary villages with many graduates.

5.2.3 Opportunities

The themes that provide opportunities include organizations/associations in the villages, organizational cooperation, agencies and the villages, village cooperative, community business potential and eco-tourism business.

1. Organizations/Associations in the Villages - The organisations and associations in the villages provide the official links through which the community can channel their needs and aspirations. They are a vital part of the community. They need to operate efficiently.
2. Organizational Cooperation - The Fishermen Associations only assists local fishermen. All the associations listed previously need to cooperate. The cooperation can be improved. Some organisations are at odds and this strained the relationship between them. There is no venue for a platform among the associations (University Malaysia Sarawak (Unimas), Fishermen's Association and Jabatan Perpaduan, RELA, KRT, DBKU, R&DO and Jabatan Perpaduan Negara). LKIM do visit the villages as and when needed LKIM and R&DO, DBKU also organise activities in the village.
3. Agencies and the Villages- The leaders claim that only the Fishermen Association assists the villagers. They also believed that there is conflict among the associations which causes strained relationships but they are optimistic that the situation can be improved. The villages are frequently visited by the DBKU to help organise activities. Other agencies that make visits are R&DO, LKIM, RELA and other cooperatives.
4. Village Cooperative - The villages' cooperatives need to be revamped and be more energetic and vibrant.

5. Community Business Potential - A further analysis of the business potential needs to be undertaken in TOWS to determine the initiatives that can boost business activists in the villages.
6. Eco Tourism Business - A further analysis on eco-business needs to be undertaken in TOWS to determine the initiatives that can advance eco-tourism business in the villages.
7. Village Pollution - The pollution in the villages is mostly caused by littering.

5.2.4 Threats

The threats that require urgent attention by external agencies are: - Organizational Funding, Organizational Reporting Process, Process of Acquiring Funding Approval and Project Implementation.

5.3 Triangulation

The analysis of both the quantitative and qualitative findings are grouped under strengths, weaknesses, opportunities and threat and are triangulated as in Figure 5.1. This data is then analysed using TOWS Matrix to come up with interventions programme as in Appendix 8.



Figure 5.1 Triangulation of Quantitative and Qualitative data using SWOT Analysis

5.4 TOWS Matrix Analysis

In this section, the TOWS Analysis is used to identify the interventions programmes that are required that can upgrade the current SCD status of the villages to a new desired sustainable community status. The analysis is undertaken by triangulating both the quantitative and qualitative data into the categories of strengths and weaknesses and also into opportunities and threats as listed in the preceding sections. The colour scheme used for this analysis as follows:

1	Blue - to denote strengths
2	Red - to denote weaknesses
3	Green – to denote opportunities
4	Yellow – to denote threats

5.4.1 Results from Tows Matrix Analysis

The triangulation of both the quantitative and qualitative findings by using TOWS Matrix conducted as in Appendix 8. From this triangulation of the data, a list of intervention programmes is tabulated in the Table 5.14 below.

Federal Government	State Government	Local Government	NGOs, private and political parties
Transforming villages' economy through fisheries	A clean and safe village	Lead agency	Kanita businesswomen.
Eco- school	Towards a sustainable community	Sustainable village associations	Women in business
Strengthening village cooperatives	A historical cultural and sustainable village.	Strategic planning for community leaders.	Annuity for community
Sustainable healthy community	Towards a sustainable civil community	Environmental sustainability	Historical village
LA21 model villages	No open burning		A sustainable constituency
Smart village community	Affordable homes for the community		
A caring and safe village	One product one village		

Table 5.14: Proposed Interventions by Agencies

Table 5.14 shows a list of interventions which can be adopted by both the Federal and the State governments, as well as by local authorities, NGOs, private and political parties.

5.4.2 Prioritising the Potential Interventions

The list of potential interventions is drawn based upon the community's capability and capacity (CCC) and upon the successful transformation of the governance and institutional structure. They are prioritised based upon the urgency and importance (U&I) of the interventions for immediate action, short term action (3-5 years) and long term action (5-10 years). The current community's capacity and capability is listed under A whilst B is the expected community capacity after intervention is undertaken. The urgency and importance is averaged out from the experts rating under column C. The summation of B+C will determine the overall rating. The rating of the interventions was conducted together with the 10 experts by averaging out their scores. The results are presented in Appendix 9 .

The experts opine that the formation of the '*Lead Agency*' as the most urgent and the most important. Once the lead agency has been officially agreed by the government the it can initiate a '*Strategic Plan for Community Leaders*'. Programmes that can be executed by the community should be dealt with first. The next step is to develop the present associations into '*Sustainable Village Associations*' through training and developing a vision and plan of action for the associations followed by the transformation of the schools to be an '*Eco-School*' with the PTA being activated. The transformed associations will embark on the 'Caring and Safe Village', 'A Clean and Safe Village', in achieving sustainable community development programme 'Towards a Sustainable Civil Community'. All these self-sustaining programmes will be implemented with the assistance from the lead agency. All these actions can be carried out once the village association is organised and activated.

The external assistance from other stakeholders such as other Government agencies and non-government organisation need to be coordinated by the lead agency including all other stake holders. The formation of the Sustainable Community Development Committee (SCDC) is vital to ensure the success of the SCD implementation. This SCDC will discuss the proposal and issues raised by the community leaders and programmes such as '*No Open Burning*', '*Women in Business*', '*Kanita business*

women', 'Environmental sustainability', 'A Sustainable Constituency', 'One Product One Village', 'Towards a Sustainable Community', 'Sustainable Healthy Community', 'Strengthening Village Cooperative', 'LA21 Model Villages', 'Smart Village Community', 'Transforming Villages', 'Economy Through Fisheries', 'A Historical Cultured and Sustainable Village'. 'Annuity For Community, Historical Village', 'Affordable Homes for the Community' can be decided by the committee for implementation.

In order to achieve a sustainable community, all the proposed interventions by the experts need to be implemented. Their implementation will depend on the ability of the community to organise itself. Potential hindrance and constraint in the implementation will be assessed by using the GAP Analysis with the experts.

5.5 GAP ANALYSIS

A GAP analysis was conducted on the indicators and actions to close the gap's as recommendation as in the Table 5.1 below. The present condition of the village is discussed through the experts brainstorming on approaches and actions required to abate and overcome the potential hindrances that obstruct or slow down the process of change towards achieving a sustainable community. The detail data is tabulated in Appendix 4,5,6, and 7.

5.5.1 Basic Needs Components

The basic needs analysed include house and vehicle ownership in the village, employment and income of the community as in Table 5.15.

All the categories under basic needs come under sustentation. The needs for assistance from other agencies for improvement are inevitable as follows:-

- To create employment, the village associations need to be consolidated and restructured.
- Improvement in the housing sector requires strong leadership at the village level to put forward proposal to Housing Commission on the resettling of the houses at the river edges to a higher ground

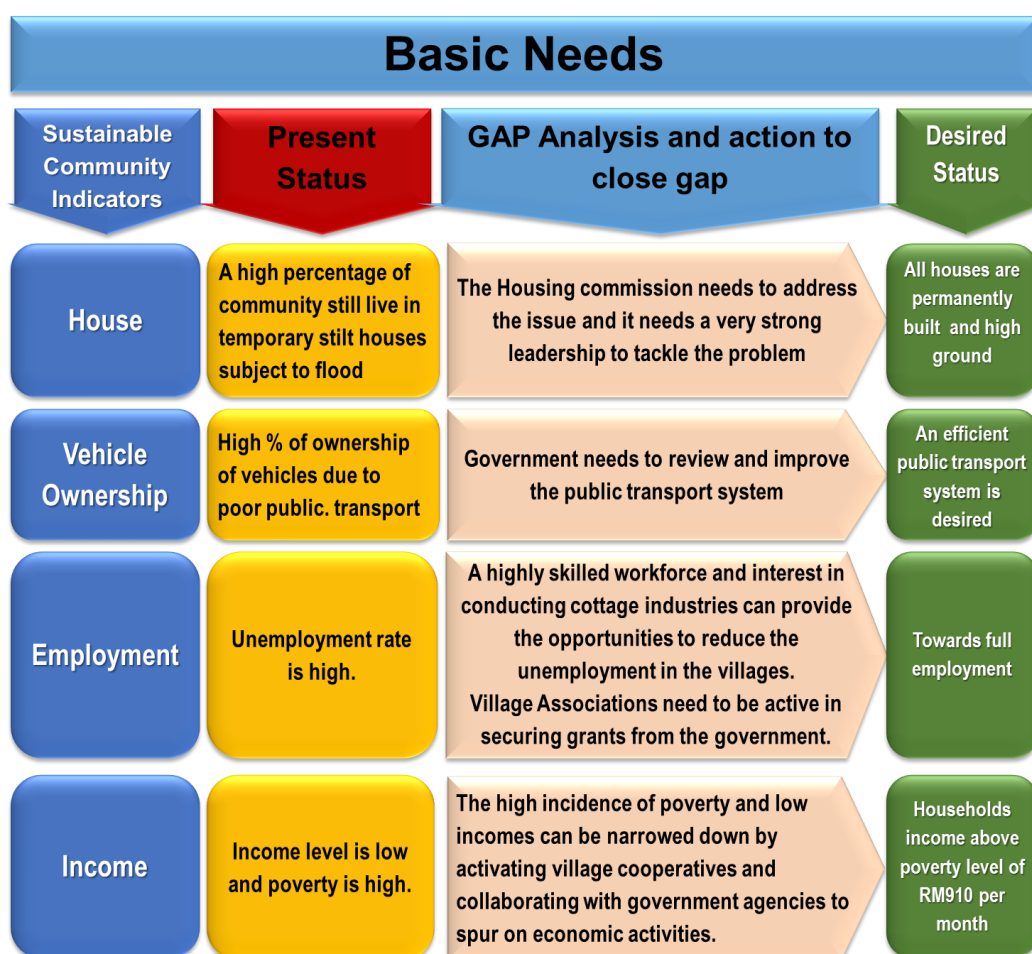


Table 5.15 GAP Analysis on Basic Needs

- The Government needs to take the lead in planning public transportation and reduce the vehicle ownership
- Activities that can spur the economic activities in the village can increase the income of the community

5.5.2. Governance Components

The governance components that are analyzed include individual and village vision, .SC acceptance and cooperation, association involvement and problems in the association. The village plan of action, association in village, SC lead agency and community relations is in Table 5.16. Out of the eight themes incorporating the governance component 12.5% are sustainable, 62.5% self- sustaining and 25% are sustention as follows:-

Village vision: The village associations need to undertake a strategic management workshop to enable them to identified strategies and formulate a vision.

Governance			
Sustainable Community Indicators	Present Status	GAP Analysis and action to close gap	Desired Status
Respondent's Vision	Present youth are unemployed	Parenting skill, and tuition classes need to be organised with the appropriate associations' organising the activities.	Youth are employed, graduate, better income and successful in business.
Village vision	80% of the respondents said that the villages' associations have no vision	The village associations need to undertake a strategic management workshop in order to enable them to define strategies for a vision. The lead agency needs to play this role, i.e. lead the workshop.	All villages have a written down community vision.
SC acceptance and cooperation	Community acceptance towards propose SC initiative is good	The existing good SC acceptance and cooperation among community should be enhanced through the associations in the village	All the community involved in SC initiatives
Problems in the association	The associations problems need proper remedy and diagnosis	A systematic and holistic approach is needed to improve the associations	Well managed associations that practice good governance
Association Involvement	Community Involvement in the association is low	The associations need to organise a campaign to encourage the community members to be involved in their activities.	An active and cooperative community
Village plan of action	There is no plan of action for the village	A strategic planning workshop for the community leaders need to be organised with the assistance of DBKU	A village with a comprehensive plan of action
Association in Village	Associations in the village need to be revamp.	A leadership courses to train the association leaders to be good leaders. Associations need to be consolidated and restructured	Well organised village associations with good governance in place
SC lead agency	DBKU as the lead agency	Based on the respondents' agreement with the Local Authority, DBKU should lead in establishing a proper institutional structure at village level	DBKU catalyses the SCD programmes in the villages .
Community relations	The present community relation is good but can be improved	The associations can organise activities for the community.	An inclusive community in place

Table 5.16 GAP Analysis on Governance

The lead agency needs to play this role and organize the workshop and training for the associations' members. SC acceptance and cooperation: The good acceptance by the community is the foundation for future implementation of sustainable community development initiatives.

All the associations should be unified under a single village vision and a campaign should be undertaken to encourage the involvement of the community in the associations' activities. The problems in the associations need to be diagnosed and the prognosis is to address the problems urgently. The village associations need to embark on strategic planning. The association needs to be revamped and a new set up to be formalized. DBKU should lead in establishing a proper institutional structure at the village level. The communities need to be informed about the initiative and programmes which will benefit them.

5.5.3 Social Components

The social components analyzed include education, sport, health, social problems, village safety, cultural aspects and religion as in Table 5.17. The social component analysis indicates that 3% are sustainable, 42.3% sustenance and 15.4% are self-sustaining as follows:-

Social Indicators			
Sustainable Community Indicators	Present Status	GAP Analysis and action to close gap	Desired Status
Social problems	Occurrence of social problems in the villages is high	The social problems need multiple approaches in collaboration with other government agencies such as parenting courses, awareness on drug abuse and etcetera. To coordinate these activities the village associations need to be actively involved.	No social problems in the villages
Sport	The sport facilities are available	More activities to be organized by the village associations and DBKU can organize competition to encourage youth to be involved in sport	To sustain sport activities
Health	The health of the community need to be improved	More frequent health programmes need to be organized in collaboration with the health Department	A healthy community
Education	The present school is sustainable	The village associations in charge of education and the PTA's need to work together to improve parent involvement in school activity	To achieve an Eco school status with PTA involvement.
Village Safety	Feeling of being insecure is prevalent among the villagers	Village security can be enhanced by collaborating with the police through the Village Security Committee.	Everyone in the villages feels secure about living in the villages
Cultural	The cultural and educational lacking in the community.	The cultural activity and education can be improved by jointly organizing with NGO's and government agencies.	A culturally active village in place
Religion	Religious practices are good but can be improved. Villagers request a proper religious programme especially a special Quran memorization class for children	More religious classes for all categories of people organised. On such topics as parenting, motivational talks etc. The mosque committee should organize more classes. A concerted effort by the Religious Department and related agencies to assist the village associations.	Social problems are eradicated and the villages are safe. All villages have a special teacher for Quran memorization.

Table 5.17 GAP Analysis on Social

Education: The schools facilities are sustainable but more can be done to encourage the parents to be involved in the school's PTA

Sport: Sports facilities are good and the associations in charge of sports should collaborate with the government agencies to organize competition to stimulate and enhance the interest.

Health: The health facilities are good and within the village. The Health Department and the associations can embark on well-being programmes for the community.

Social Problems: The village association need to coordinate activities and be actively involved in curbing these problems.

Village Safety: The Village Security Committee should get assistance from the appropriate government agencies.

Cultural: The community should be involved in the village organizations that are proper and well planned.

Religion: The mosque committee should organize more classes. The village associations need to organize more classes for the community.

5.5.4 Economic Components

The economic components analysis include community income, village cooperation, cooperative, community business potential, business participation, training and agency assistance, small scale industry, tourism and other business potential as in Table 5.17. The economic components need to be addressed immediately as only 10% are sustainable and 90% are sustentation summarise as in Table 5.17.

Village Cooperation: The community good networking can be capitalized to encourage the community to form a cooperative society that can benefit the society.

Cooperative: The cooperatives need to be run by qualified people to ensure a smooth operation. Qualified individuals should be invited to join the cooperatives. Activating village cooperatives will increase household incomes.

Community Business Potential: The communities' members with various skills and interest can be capitalize to develop new entrepreneurs.

Business Participation: The relevant agencies should provide training and financial assistance. The lead agency and other agencies should play a role in coordinating with the villages to motivate the community to be involved in business.

Training and Agency Assistance: The business training should be undertaken by active associations.

Economic Indicators			
Sustainable Community Indicators	Present Status	GAP Analysis and action to close gap	Desired Status
Community income	Present income is insufficient	More effort needs to be done to liaise with agencies to generate economic activities and to do this the community leaders through the associations can approach the agencies.	The income of the community increase for sustainable living
Village Cooperation	Citizen Involvement is high in the villages	The involvement of villagers is high and thus they are ready for changes towards SD. They need associations that have proper planning to lead them.	All villagers are motivated to be involved in the villages' activities
Cooperative	The present cooperatives are unknown to some of the villagers	The cooperatives need to be run by qualified people to ensure a smooth operation. Potential likely useful individuals with potential should be invited to join the cooperatives.	Cooperatives are utilized as a major contributor to eradicating poverty
Community Business Potential	The villagers who are interested in business activities is around 65% of the villages' population	High interest in business (strength) can be used to create cottage industries and tourism industry. The lead agency should play a role in coordinating village associations and other agencies to operationalize the business activity	Enterprising villages with economic activities
Business Participation	Participation is low	Even though business interest is high the participation is low due to a lack of proper training, capital etc. This can be coordinated with the relevant agency to train and assist financially	Business becomes the villagers' livelihoods.
Training and Agency Assistance	Training seldom held	How does an agency know who needs training? Only through active associations can the potential candidates who can undertake business be identified	More training organized in order to develop skilled manpower in place
Small Scale Industry	The villagers are interested in business but need training	The agency needs to know who is interested in doing business. The associations can assist in identifying the right candidates.	Businesses are able reduce unemployment
Tourism in the Village	The villagers agree that there is potential in the tourism business	The tourism business needs government involvement especially for building infrastructure and the village associations need to identify any potential areas and indicate their readiness to participate in the industry	Setting up and operating the potential areas mentioned by villagers such eco-tourism, home stay and etcetera
Other Business Potential	Present business is insufficient to improve the income level of villagers	The interest and skill of the communities concern in related businesses can be identified through a need analysis. Only through active associations can potential candidate be identified and then a cooperative can be formed so that people can be members, especially the hard-core poor.	Businesses are able to employ the hard core poor.

Table 5.17 GAP Analysis on Economic Indicators

Small Scale Industry: The agencies need to know who is interested in doing business. The associations can assist in identifying the right candidates.

Tourism in the Village: The village associations need to identify this potential tourism related business potential.

Other Business Potential: Active associations should scan for potential candidate intending to set up a business.

5.5.5 Environmental Components

The environmental components analyzed include general perceptions of the current drainage system, community cooperation in cleanliness, agriculture and natural resources, pesticide management, waste collection, recycling, composting, pollution, pollution and open burning as in Table 5.18.

The environment components are equally distributed with 33.3% sustainable, 33.3% self-sustaining and 33.3% sustentation and the summary are as follows:-

General Perception of Drainage: Most of the community identifies drainage as their concern. The village associations can get assistance from the local authority on this matter.

Community Cooperation - Village Cleanliness: The village association can initiate more frequent community work to inculcate the habits of cleanliness.

Agriculture and Natural Resources: The land use and the flora and fauna are sustainable. The associations must be able to do an environmental audit to ensure a sustainable environment in the future.

Pesticide Management: The community pesticide management is sustainable

Waste Collection: The village associations can work with DBKU to introduce the waste minimization programmes to encourage the community to reduce the production of waste.

Recycling: The village associations should play a role in promoting recycling.

Composting: The associations should undertake a role in promoting composting.

Pollution: The Local Authority and the associations need to play an active role in lessen pollution especially those that have impact on the quality of water harvested which is polluted.

Open Burning: An effective local committee should oversee any environmental concern.

Environmental Indicators			
Sustainable Community Indicators	Present Status	GAP Analysis and action to close gap	Desired Status
General perception	Current available drains are dug up earth drains that can easily be eroded and be silted up during the rainy season	The lead agency or the association can get assistance to improve the situation the association can also obtain assistance from the Member of Parliament to acquire funds to improve the conditions	Need a proper system of drainage
Community Cooperation in Cleanliness	Community have the spirit of volunteerism	Frequent community volunteerism to enhance habits of cleanliness. The village association can initiate the activity	A more interesting programme to sustain the practice
Agriculture and Natural Resources	Land usage for farming and the flora and fauna are still intact	The land and flora fauna need to be sustainable for future generation	To preserve the land and flora fauna intact
Pesticide Management	The community pesticide management is sustainable	The community continuously practice a sustainable method of pesticide management and the community must be able to audit their practices.	A sustainable pesticide management that preserve the environment for future generation
Waste Collection	Only 55.3% are satisfied with the waste collection service	The appropriate association and service provider must collaborate to educate and inform the public of the service provided and also to establish a system for the community to relay the feedback	All the community are satisfied with the waste collection
Recycling	The practice of recycling is still low	DBKU can be contacted to organize training for the villagers but the associations have to initiate the activity	All the community practice recycling
Composting	The community composting practice is low	The Local Authority can help to educate the villagers but there must be an association that is responsible for liaising with the agency.	All the community practice composting
Pollution	Environment is polluted with rubbish	The Local Authority is desirous of ensuring a clean environment. The associations need to play an active role to initiating volunteerism and inviting the Local Authority to supply logistics to assist them.	A cultured community that practice proper waste disposal and ensuring a non- polluted environment
Open Burning	Open burning is still being practiced	The villagers can be taught to compost their products and DBKU can provide assistance. Additionally, the villagers need to be informed of the existing law that prohibits burning. To be effective a committee overseeing the environmental concerns under the JKKK needs to be established.	No open burning in the village

Table 5.18 GAP Analysis on Environment Components

5.5.6 Housing and Built Environment Components

The housing and Built Environments components analysis include the status of houses in the village and the community centers' condition as in Table 5.19.

The housing in the village is sustention, needing assistance of the government. The built environment is sustainable (See Table 5.19):-

House: Housing assistance is required to resettle the existing stilt houses on the river edge to a higher ground .

Built Environment: The condition of the community centres is satisfactory but requires active associations' involvement to ensure the existing condition is maintained.

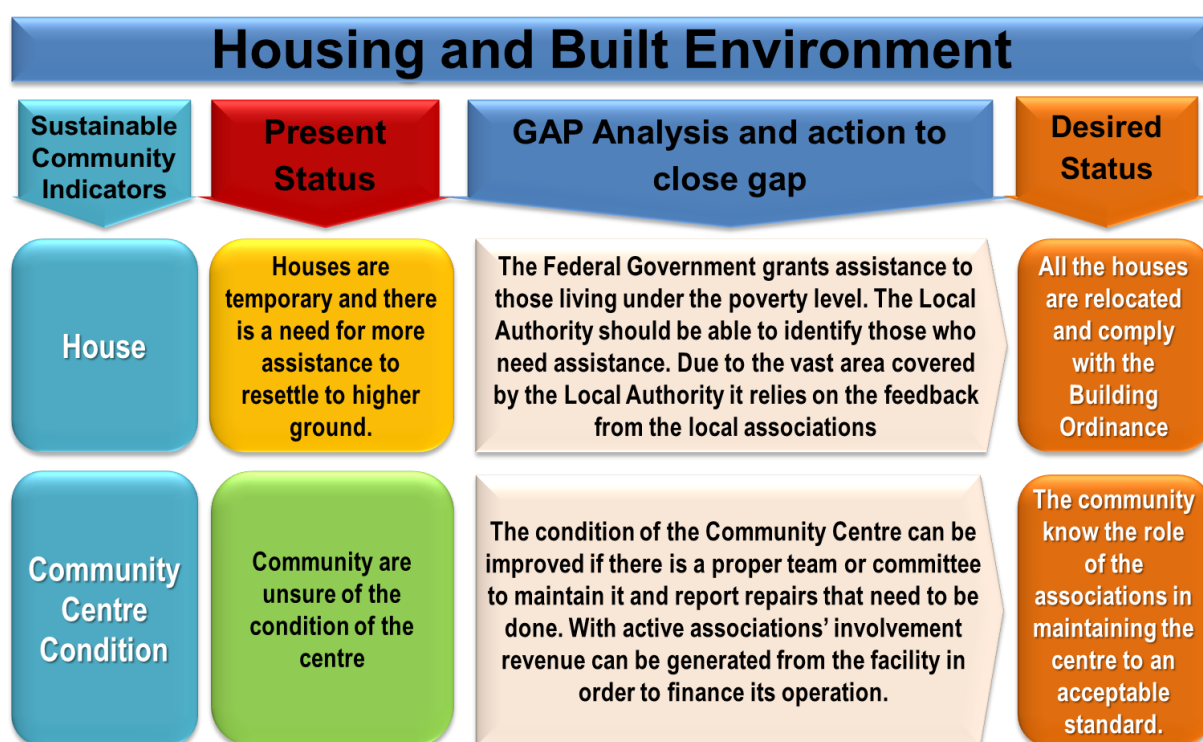


Table 5.19 GAP Analyses on Housing and Built Environment Components

5.5.7 Transport and Connectivity Components

The transport and connectivity components analysis involves roads to houses, vehicle ownership, and public transport services as in Table 5.20.

All the transport and connectivity components are sustention (See Table 5.20):-

Road to houses: Through various association the community needs to form a liaison community to act with the local authority and the political representatives in road maintenance programs

Vehicle ownership: The Government need to review the present policies and improve the public transport.

Public transport services: A better and more efficient public transport need to be introduced for better communication.

These three indicators need the interventions of other agencies and the most that the leaders can do is to organize a meeting together with the politicians and agencies including the lead agency.

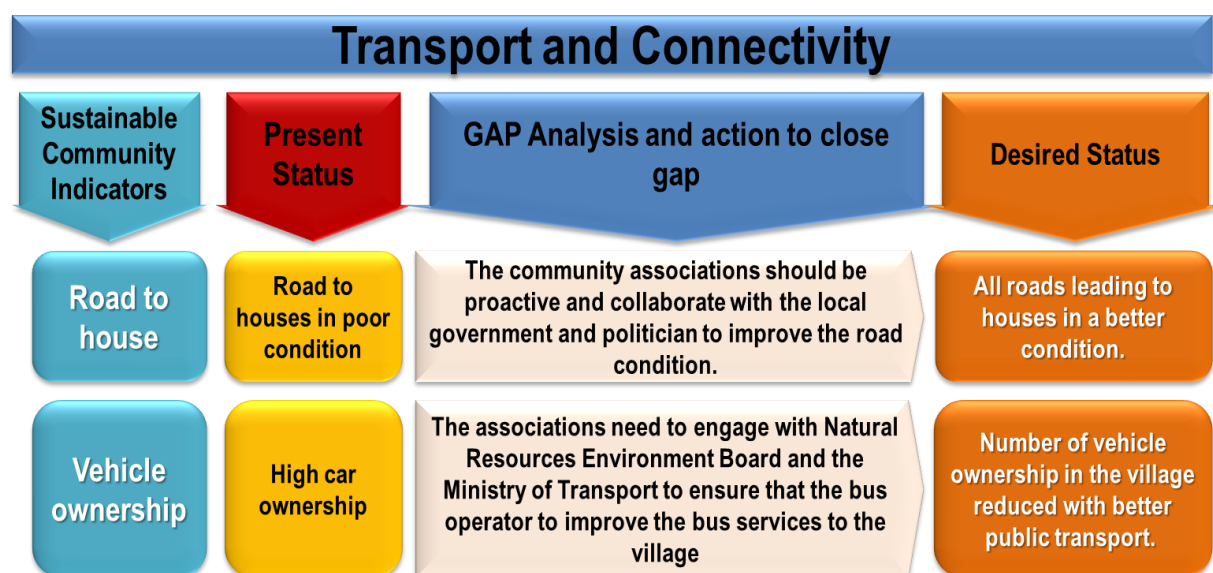


Table 5.20 GAP Analyses on Transport and Connectivity

5.5.8 Services Components

The services components analyzed include services provided by agencies, government agency visits, health services, electricity-water supply and regular waste collection as in Table 5.21.

The services component that are sustainable includes health services water and electricity supply while services provided by government agencies and agencies visit to the village are sustention and only waste management service is rated self-sustaining.

Services provided by agencies: The associations can initiate a service centre that enable the community to report to the service provider regarding the quality of services rendered.

Government agency visit: Associations should be more active and leaders in the villages need to work with the agencies to improve the services provided.

Health: The Health service by government is the preferred choice of the community.

Services			
Sustainable Community Indicators	Present Status	GAP Analysis and action to close gap	Desired Status
Services provided by agencies	The current services are unsatisfactory	The relevant association need to work in partnership with the agencies to jointly organise activities in the village	Sustainable services to the village with prompt service delivery
Government agency visit	The frequency of the visits and assistance by agencies is low and can be increased	The agencies visit very much dependent on the activeness of the associations and the leaders in the village. A friendly and welcoming village will receive frequent visits. Thus more assistance from the agencies.	Agencies committed to helping the villagers
Health	The services provided by health department is satisfactory and are the preferred clinic	The association in charge of health should embark on programme to improve the quality of life for the community.	To improve the existing service an improve the wellbeing of the community
Electricity	The services provided by Sarawak Energy are satisfactory	The associations facilitate electrical programme and ensure that all the houses are supplied with electricity.	All houses have electricity.
Water	The services provided by Kuching Water Board are satisfactory	The associations facilitate the application of water to houses and ensuring that all the houses are supplied with water.	All the houses have water supplied to
Regular waste collection	The waste collection services is dependent on the provider services	A new organisational set up to champion the environmental aspect in the village need to be formed	All the community are able to minimised waste through the recycling and composting programme

Table 5.21 GAP Analyses on Services

Electricity: The electricity supply is consistent and sustainable.

Water: The water source and services is reliable, consistence and sustainable.

Waste collection: The waste collection need to be improved through the formation of an associations that champions the environmental issue.

5.5.9 Village Sustainability

The analysis for village sustainability is tabulated as in Table 5.22 showing the numbers of indicators that are classified into sustainable, self-sustaining and sustentation.

SC Components	No of indicators			Total
	<i>Sustainable</i>	<i>Self-sustaining</i>	<i>Sustentation</i>	
Basic Needs	<i>nil</i>	<i>Nil</i>	4	4
Governance	1	2	6	9
Social	3	1	3	7
Economy	1	<i>Nil</i>	9	10
Environment	3	3	3	9
Transport and Connectivity	<i>Nil</i>	<i>Nil</i>	3	3
Housing and Built Environment	1	<i>Nil</i>	1	2
Services	3	1	2	6
Total	12	7	31	50
Percentage (%)	24	14	62	100

Table 5.22 Status of Village Sustainability

Table 5.22 shows that only 24% of the village indicators grouped into fifty themes are sustainable. 62% are sustentation while 14% are self- sustaining. The themes that are categorised as sustentation need funding and external assistance to achieve the sustainable status.

5.6 Summary

The suggested interventions programme need to be implemented to enable the villages to achieve sustainable community status as defined by Egan (2004), meeting the need of existing community and contributing to a high quality of life and provide opportunity and choice, and strengthen economic prosperity without compromising the environment future generation.

From the SWOT and TOWS Matrix, it is clear that the main issue that needs to be addressed immediately is the role of the local authority or DBKU. It should take the prominent role as the lead agency. It needs to assist the village associations to re-engineer the associations and to transform governance at the local and the community levels and assist the village leaders in envisioning their villages towards a sustainable community.

The GAP Analysis on all the indicators showed that institutional structures (such as village associations, VSDC, lead agencies, State and Federal government) are the key factor constraining the villages from achieving a sustainable status. All of the above indicate that the main causal factors that constrain the villages from achieving sustainable community status are the governance institutional framework which includes the association, lead agency, State Government agencies, NGOs and other stakeholders who are involved with the community. The present and desired gap to achieve sustainable community need to be narrowed down. The gap analysis carried out indicates that the governance institutional framework is the main factor that hinders the progress of the villages towards sustainable status. The experts believe that all the themes in each components need to be addressed in order to achieve the desired status of sustainable community.

Both the TOWS Matrix and the gap analysis indicate that the experts are of the opinion that the gap between the present SCD status and the desired future SCD status can be narrowed down. The analysis carried out indicates that in order for the villages to achieve a sustainable community status and successfully implementing the proposed interventions, the governance institutional framework need to be addressed. Chapter 6 attempts to develop a governance institutional framework using Delphi Method with the experts. This reaffirms Eberlei and Fuhrman Report (2004) that poor governance can aggravate situations and impede development. Mahadi & Sino, (2012) commented that good governance in Malaysia is yet to be appraised and generally has not been fully observed. This study attempts to appraise and develop the governance institutional framework. It is carried out together with the local experts and community leaders in a participatory approach using the Delphi method. This is in line with the United Nation report highlighting the need for the governance to engage the stakeholders in order to create a wide community support, trust and credibility.

CHAPTER SIX: GOVERNANCE INSTITUTIONAL FRAMEWORK FOR SUSTAINABLE COMMUNITY DEVELOPMENT

6.0 Introduction

This chapter attempts to analyse the status of the village institutional framework using the result of the SWOT analysis and TOWS matrix discussed in the preceding chapter. The framework is a vital link for the community to convey their needs in the form of proposals to the agencies. The various agencies operating in the villages are in the best position to assist the villages to realise their vision of a sustainable community. The framework proposed is a guide for DBKU and the Ministry of Local Government and Community Development on the ways forward to attain a sustainable community development within DBKU jurisdiction. The output of the framework was examined by the local experts to ensure that validity and reliability are achieved using a Delphi method analysis. It requires continuous expert input throughout the entire development until a satisfactory framework that gains consensual consent is established. The local experts involved in this study come from different professional background. Their interest in sustainable development enabled them to contribute by capitalising on their respective expertise. Their comments form the basis of developing of the institutional framework.

The institutional framework is developed based on the feedback from the communities. The development of the framework is constructed on the quantitative and qualitative analysis of the data acquired from residents and community representatives. This framework is then verified and validated by local experts who are involved in SCD programmes in DBKU. This framework also answers the two research questions:

1. How does governance and institutional structure related issues influence attainment of sustainable community in sub-urban villages within Malaysia?
 - What are the key factors that hinder the village community to achieve sustainability?
2. What is the suitable method to develop the community to attain sustainability in their village?

6.1 Delphi Method for Developing Governance Institutional Framework

Scott (2004) mentioned that the Institutional Theory considers the processes by which structures, including schemas; rules, norms, and routines, become established as authoritative guidelines for social behaviour within an institution. Giddens (1984) included institutional orders, modes of discourse, political institutions, economic institutions and legal institutions. They are merged together as the important aspect of an institutional structure. It needs to be formalised to enable the structure to function formally within a system of formal laws, regulations, and procedures, and within the informal conventions, customs and norms that shape socio-economic activity and behaviour. This section attempts to improve the institutional structure together with the experts in developing a new institutional structure that can transform the community towards sustainability.

This section is a continuation of the comprehensive discussion of the overall result and analysis in chapters 4 and 5. The findings indicate that the present institutional framework has brought the villages to an unsustainable state in relation to social, economic and environmental aspects. An improvement is required in order to achieve sustainable community. A summary is drawn up from the research findings and a Delphi method analysis is used to develop and analyse the framework with inputs and opinions of the experts. The new version of the institutional framework is visualised and validated. The final validated framework after undergoing a thorough Delphi method analysis is discussed in detail.

6.2 Present or First Version of the Conceptual Framework

The village associations operate independently and report directly to their sponsoring agencies. This has created extreme competition amongst the village associations and each association works in isolation. This does not help the community effort in attaining sustainability.

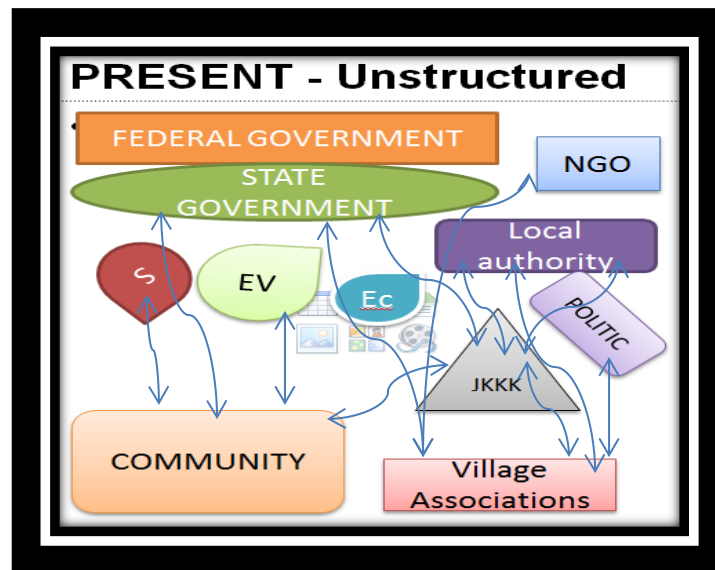


Figure 6.1: Unstructured Village Associations and Stakeholders

One respondent claimed that the VSDC has been circumvented and the Local Authority is not totally involved with village association activities. The respondents agreed that the Local Authority needs to play a more dominant role in assisting the village associations to achieve sustainable community status. The current situation among the village associations are unstructured as depicted in rich picture diagram in Figure 6.1.

The VSDC is not in control of the associations despite the fact that the chairman reports to the Resident and District Office. There is no proper chain of command linking the village associations. The local authority is detached from the village chain of command with the association championing social (S) aspects, the economy (EC) and the environment (EV) in the community. The VSDC is also circumvented. The unstructured and chaotic set up of the villages institutional structure has contributed to the inability of the villages to achieve a sustainable status.

Obviously, from the findings discussed in Chapters 4 and 5, the villages will not be able to change for the better if the existing framework stays in place. As an example, the LA21 programme has ceased for a number of reasons. One of them is that the villages' institutional structures are unable to deliver a sustainable and continuous development. This framework was given to the experts for comments and improvements (together with answers from the open-ended questions as a guide or the experts).

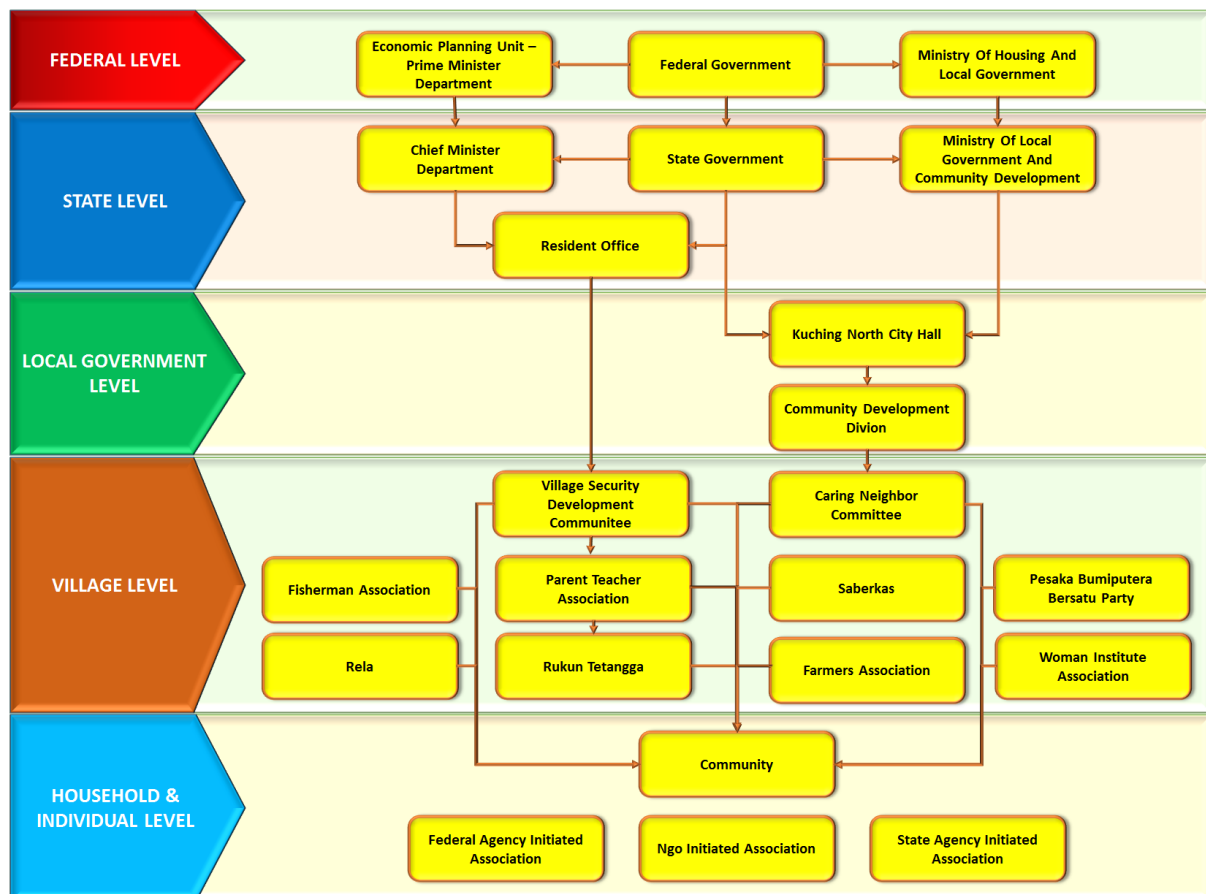


Figure 6.2: Present or 1st Version of the Institutional Framework

This present framework or the first version will be provided to the experts for their comments together with questionnaires in the first round. Feedback from the first round will be gathered and analysed and a second version will be generated.

6.3 Round One - Developing the Second Version of the Institutional Framework

The interviews in Round 1 are used to identify and gain an understanding of the factors contributing to the development of a new institutional framework which relates to the principle of a sustainable community in the village setting. This framework development seeks to identify the issues relating to governance and the institutional structure of the village setup and how best to design the framework so as to assist the village community in achieving sustainable community.

The questions asked in Round 1 are unstructured and open-ended as follows:

1 Guiding Questions for Improving the 1st Version of the Institutional Framework

1.1 Do you think that, by using this framework, the village will be able to achieve a sustainable community status?

1.2 In your opinion, what must be done to improve the governance, institutional structure and village associations set up in terms of social, environmental and economic aspects in order to achieve sustainable community status for the village?

6.3.1 Experts' Opinions

The opinions of the experts from the open-ended questions were grouped into themes.

Overview of the Present Framework - The experts are of the opinion that the present framework is unsuitable as it is not progressive and difficult. It has no clear direction and will only maintain the current status quo. The delegation of authority from the Federal Government to the villages is uncoordinated, especially with respect to the government agencies. The Federal government, through their agencies, bypasses or circumvent the Local Authority in implementing initiatives particularly within the Local Authority jurisdiction.

Training of Village Leaders - The experts recommended the training of village leaders in order to improve their leadership skills and they also suggest 'organising strategic planning course for the village leaders. It was suggested that the training for leaders should be conducted by DBKU to improve their leadership skills.

Restructuring of Village Associations - They suggest that,

'First and foremost the village associations need to be restructured to give a more meaningful role to help the village to be sustainable. DBKU should assist the village to restructure their set up'.

They also stated that villages' association should not report directly to the parent agency. This dilutes the authority of the chieftain thus making it difficult for him to control the associations' leaders.

The experts feel that the village associations need restructuring so that a better reporting system can be established. An analysis of village associations shows that it is obvious that most of them are involved only in social matters (only the Fishermen's Association assists the villagers in economic activity) and none are involved in championing the environmental cause. As for the economy of the villages, the formation of cooperative societies or re-activating the current one is recommended. The cooperative society requires members' participation and a collective capital contribution is needed for starting a business. Furthermore, the government is encouraging the formation of cooperatives with a grant awarded for embarking into a feasible business.

Lead Association - The experts believed that there is a need to promote the VSDC as the lead association chaired by the chieftain, with all the village associations reporting to him. The chairman in turn will report to the lead agency. They suggest:

'The village needs a lead association and the VSDC should play that lead role but there must be some form of law to regulate it. Currently, the village is unstructured. The village associations must be able to communicate with other agencies in order to secure projects and funding for the village'.

The VSDC, has failed to function for various reasons according to the respondents and the community leaders. The VSDC currently is recognised by the government as the representative of the community but being by-passed by other sponsoring agencies causes disrespect to the chairman from other village leaders. They also suggested provisions be made to give the chairman a legal standing to manage the village associations.

Lead Agency -The expert suggests that,

‘A local Authority like DBKU should play a dominant role in SCD. We prefer to report to DBKU and they coordinate the activities in the village. DBKU should be the lead agency and help the village in all matters. Preferably, if there is an agency that should assist in guiding the village associations, DBKU should take the lead to take charge of the village associations not just Neighbourhood Cares (Kejiranan Mesra).’

The local government seems to be the popular choice to be the lead agency, in particular DBKU. It needs to be placed in a strong central position to which the village JKKK and other associations report. The DBKU is expected to train village leaders in leadership skills and strategic planning. A reporting system needs also be established; instead of reporting to the federal agency, the associations’ report should be coordinated by the lead agency.

Reporting System - The experts suggested that

‘DBKU would not be able to control and administer the associations if the reporting system is not changed. The current system where the village leaders report direct to the agency is not proper. This practice itself will bypass the chieftain. This will make it difficult for the chieftain to be in control’.

The experts noted that the reporting system currently used in the villages has caused confusion. There is no respect for the leader as the sponsoring agencies communicate directly to the village associations. With the new proposal, the reporting system is modified with the lead agency at the centre and the other associations become a member of the newly formed committee.

Federal Government - The experts are of the opinion that,

‘Authority is concentrated at the Federal Level and that funding should be allocated to the local authority to implement projects. Also, the Federal government should delegate power to the Local Authority (LA) which will allow the LA to assist the villagers’.

The experts recommended that funding to be channelled through the local authority so that the local authority is more responsible and accountable for the development of the community.

Forming or Activating a Cooperative - The experts are of the view that,

‘A cooperative society can assist the village economically. At the moment, only the Fishermen’s Association assists and contributes to the village economy’

The experts noted that there is a lot of economic activity that can be generated from the villages. The villages are located near the sea and as such, the fishery industry can generate income for the community. The need to have a cooperative society is recommended by the experts:

‘The village should have their own cooperative society so that the community can participate in building the village economy. Some fisheries’ products could be utilised like cold storage for fish exports, fish crackers, and salted fish. Other potentials identified is the tourism such as including homestay in the tourism package. Other forms of tourist attraction are the wildlife such as the proboscis monkey, the mangrove swamps and dolphins. Tourism and other new economic activities will also provide employment and can help to eradicate poverty’.

The experts recommended that the existing cooperatives in the villages to be activated and more opportunities to create business at the village level thus creating job opportunity for the villagers.

Joint Ventures Between Village Cooperatives and External Investors - The associations requested for assistance,

‘Assist us economically and the associations should organise talks for the community and invite the agencies to speak on economic opportunities available’.

The experts called upon the village associations to work with other agencies:

'The village associations should work hand in hand with government agencies such as SEDC, WI, LKIM and MARA to create business opportunities and funding to assist the village community. Joint venture with outsiders can be undertaken especially in the tourism related industry'.

The leaders suggested that there should be a joint venture between the private sector or government subsidiaries (such as Sarawak Economic Development Corporation (SEDC) and village cooperative society. Such a business potential can be generated by utilizing the villages' resources. The potential businesses include fisheries' industries like deep sea fishing. The downstream industries include cold storage for fish export, fish crackers and salted fish. Another potential area identified is tourism which will incorporate homestay alongside a tourism package of sight-seeing wildlife (such as the proboscis monkey), exploring mangrove swamps and watching dolphins.

Environmental Committee or Association - The experts recognised the need to have an environmental committee or associations,

'The villages need better planning for environmental conservation as they are situated on a historical site. There is a need to form a committee or association to champion the issue of the environment. The villagers do not know how to look after their environment or the historical sites. The community need to be concerned about cleanliness. The village leaders can plan a programme to instil its importance to the environment. Schools can assist by raising awareness among the children'.

There are also other suggestions from the experts,

'DBKU looks after our villages and collected taxes. They should also assist us in environmental matters. DBKU can assist in telling the people about the importance of looking after the environment. My village is badly littered with waste and if DBKU can introduce recycling, it will encourage the villagers to keep and sell their household waste. The village waste is collected by DBKU. In towns, DBKU provide the

people with composting bins. I think the village should be taught how to undertake composting’.

None of the associations in the villages assists in improving the environment. Imperatively, the need to form associations to champion environment issues has to be immediately addressed in order to achieve sustainable community status. The lead agency can spearhead the transformation. Areas that should be looked into include practising green effort such as recycling, composting and establishing an eco- school.

The above expert opinions were analysed to develop the second version of the institutional framework, as shown in Figure 6.3. The lead agency, DBKU, becomes the centre and the Federal Agencies will have to channel funds to the lead agency. The lead agency has to take up new responsibilities and play a major role in helping the associations and developing them into sustainable associations. New cooperatives should be established to spur on the economy of the villages and activate the environmental committees and associations.

6.4 Improved Second Version Framework

The 2nd Version framework as in Figure 6.3 is the result of the analysis carried out above.

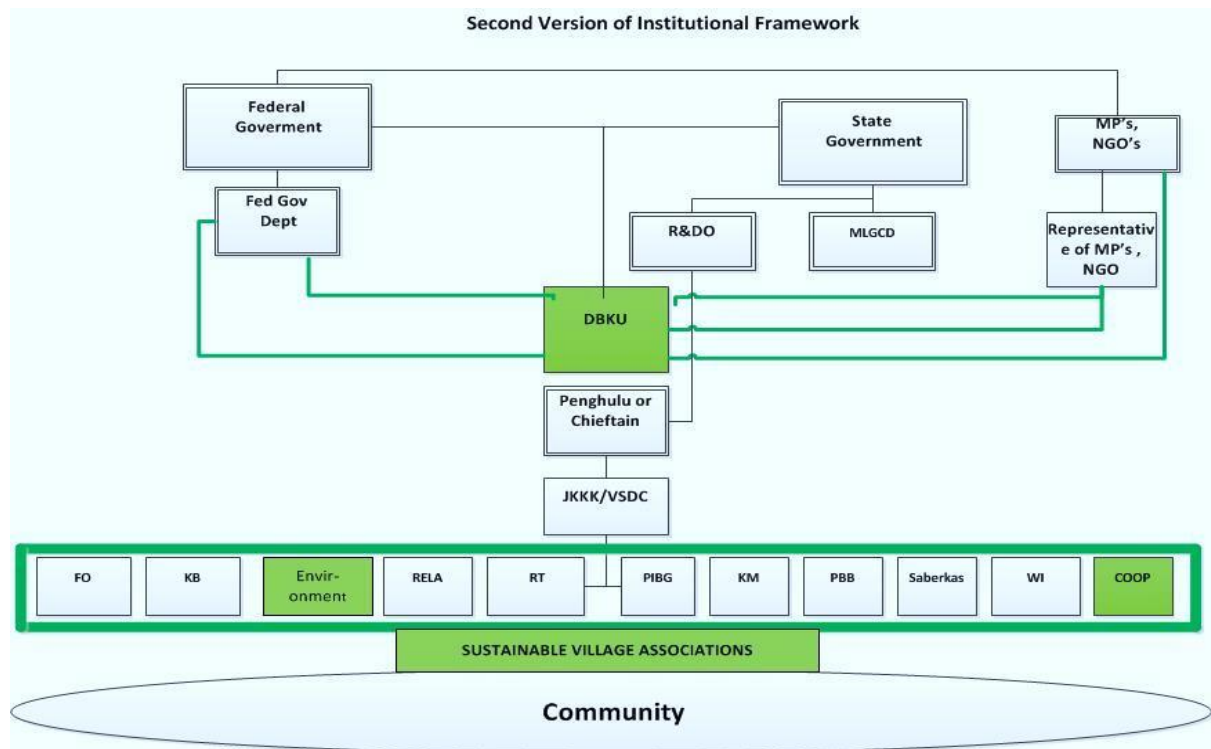


Figure 6.3: Second Version of the Framework

The framework focus on the lead agency being the coordinator of various government agencies, NGO's and politicians in assisting the communities. The relationship between the associations in the villages is shown in Figure 6.2 reported directly to the sponsoring agency whereas in the 2nd version all the agencies report. Meanwhile to the VSDC and the Chieftain is upgraded to a higher position and is accountable to the lead agency. The lead agency will coordinate between the village associations with the government agencies. This framework will undergo the same process again in round 2, seeking comments and input from the experts.

6.5 Round Two - Developing the Third Version of the Institutional Framework

The second round in developing the institutional framework involves the same people as in the first round. A new set of questions were derived based on round one feedback as follows:

Round 2	Guiding Questions for Developing the 2nd Version of the Institutional Framework.
2.1	The feedback from all the experts in answering the previous questionnaires has been gathered and an improved version of the institutional framework is given in the attachment. Can this framework be improved further? Please elaborate.
2.2	What should be the role of the lead association?
2.3	Can the present village associations deliver the required changes to achieve sustainable community?
2.4	What are the best ways of bridging the gap between the government and the community?
2.5	What can the village associations improve for the betterment of the community in order to help achieve a sustainable community?
2.6	What is the role of the community leaders and what can this contribute to enable the village achieve a sustainable community?
2.7	What are the strategies that you think needed to improve the implementation of the sustainable community development agendas?
2.8	In your opinion, how can the implementation of the strategy and SC initiatives be monitored?
2.9	What do you think needs to be done to improve the village economy?
2.10	How best do you think the village associations obtain funding to fund initiatives?
2.11	In your opinion, what can the government do to assist the villages in achieving a sustainable community?
2.12	In your opinion, what can be done by MPs, NGOs and the private sector in helping the villages attain sustainable communities?

A test - retest with the same people as in round one was also carried out. The questions were distributed to the experts and their views were sought. The feedback from all the experts in from the previous questions has been gathered and an improved version of the institutional framework was brought about. The feedback is the basis for improvement of the framework and formulation of strategies.

6.5.1 Improvement of the Framework

The experts were asked if this framework can be improved further.

The comments received from the expert are as follows:-

‘The 2nd framework I believe wouldn’t be able to deliver a sustainable community because there is no continuity in the development. There must be a law enacted and implemented to empower the local authority to assist the village to prosper’.

‘On whom do the village leaders depend on for their training? There is no agency that really focuses on helping the villages in total. There is a need for an agency to seriously look into the welfare of the villages if the government is serious in developing the people. DBKU can take the lead to help the association’.

‘DBKU as a local government agency should take initiatives to help the community and act as a catalyst to accelerate the transformation process. A dynamic community will definitely benefit DBKU. DBKU should take the responsibility to ensure that the villages within its jurisdiction become sustainable. DBKU can be the mediator between the community and the other agencies’.

‘The VSDC should be more active and all progress should be reported to the lead agency. The village associations must be given enough training for the leaders to be able to bring about the required change’.

‘The framework doesn’t show how the village association can communicate with the government. There must be a platform whereby all the agencies involved could meet and discuss. A committee can be formed’.

6.5.2 Improvement of the Framework and Emergence of Strategies

The information provided by experts form the basis of the improvement of the framework. The formulation of the strategies is as follows:

Lead agency and the sustainable community development committee (SCDC) transforming the village into a sustainable village (Strategy 1) . Strategy 1 is to establish a lead agency to spearhead the transformation of the village in accordance with the sustainable community development concept as expounded in chapter 3.

The lead agency will act as a catalyst to motivate, coach and mentor the villagers. The role of the lead agency is to be a guide and this role can be developed further depending on the need.

Role of the Lead Agency - The majority of the experts agreed that the DBKU should be the lead agency that can assist the villagers and transform them. The role of the lead agency is to assist the villages' associations in a catalytic manner. The catalytic function of the lead agency is to train the community leaders as key personnel in leadership training, in managerial skills and also ensuring that the community leaders are able to write a vision statement and come up with a plan of action for the villages. The lead agency should also be the mediator between the village associations and other agencies. The lead agency should function collaboratively with the village associations and a committee needs to be formed.

Formation of Sustainable Community Development Committee (SCDC) - The expert is in the opinion that there is a need for the formation of a SCDC comprising of the village community leaders representing every association in the villages. In the initial formative phase, the Community Division of DBKU should act as the secretariat to the committee. Once the village associations can organize themselves, the function of the secretariat can be taken over by the village leaders. The function and role of SCDC can be divided into two phases as follows:

- Phase 1: Training the Community Leaders

This phase concerns mobilising and organising the community leaders as follows:

1. Organizing meetings for the community leaders.
2. Conducting training for community leaders.
3. Assisting the community leaders in campaigning or informing their plan of action to the villagers.
4. Training the community leaders to write the project proposal they need.
5. Establishing associations in the villages that cater for the environmental and the economic needs.
6. Instilling the spirit of teamwork and cooperation among the associations.
7. Empowering the villages so they are able to strive for betterment on their own.

8. Ensuring that the associations are able to practise a bottom-up approach for the development of the villages, as shown in Figure 6.4.

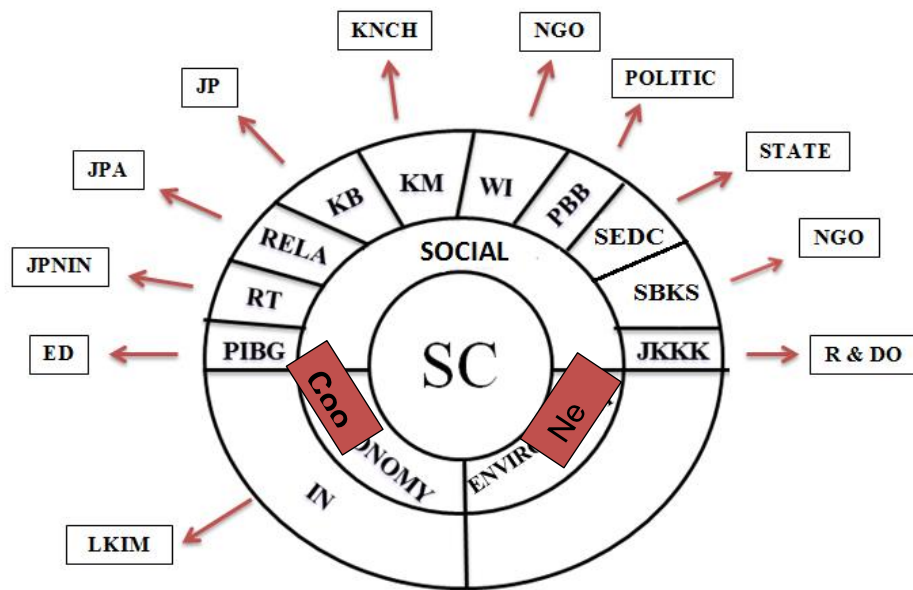


Figure 6.4: A Desired Bottom-Up Approach towards SCD

Phase 2: Empowering the Villages - The lead agency after establishing the SCDC needs to organise a formal meeting with all the stakeholders. The members will include the following:

- Members of SCDC - Local Authority
- All stake holders - Government Departments, NGOs, private sector, MPs' representatives
- Chairmen of Village Associations
- Community leaders representing their associations

The above feedback is depicted in Figure 6.5 showing the relationship between the Lead Agency, SCDC and VSCDC as lead associations.

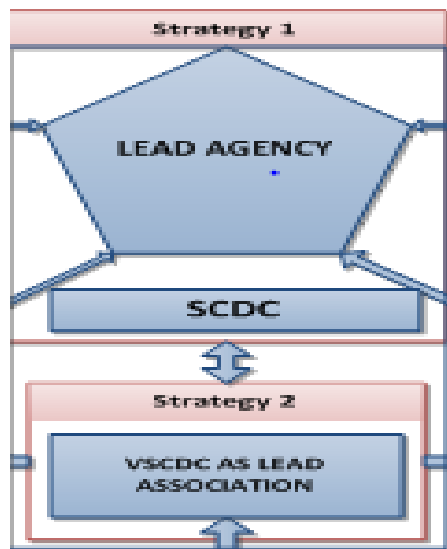


Figure 6.5 Relationship between lead agency and lead association with SCDC bridging the gap

The relationship between the lead agencies and the lead associations with the SCDCs formed to bridge the gap between DBKU and the VSCDC as the lead association. Well trained community leaders can make proposal to the committee

6.5.3 Role of Lead Agency (Question 2.2)

The experts were asked: What should be the role of the lead associations? The experts made a number of suggestions:

‘The lead association should play the role of garnering cooperation from the community. They should assist in improving community relations and establishing a vision for the village so that the village can be united with a common goal. The lead association must unite the other associations’ leaders to strive for the betterment of the village’.

‘A new main committee that is headed by the Chieftain that oversees the whole sustainable community development in the village. The VSDC should be led by his deputy. The Chieftain then can oversee all the associations in the village and he can be impartial person towards the other associations. He should be above the rest of the village association leaders. The lead agency must be proactive in getting the other leaders to be trained in management and basic leadership. The head of the lead association must establish networking with other agencies and a good rapport’.

‘The government should acknowledge the role of the village lead association by instituting regulations or law. The DBKU or lead agency must recognise the Chieftain as the leader of the village’.

‘The selection of the person leading the association should meet some forms of criteria such as having experience, academic qualifications and a respectable person’.

All the experts suggest that the village leadership needs to be empowered up with relevant skills. On the other hand, there must be recognition of their leadership from agencies operating in the villages.

The lead association is the leading agent of change for achieving a sustainable community in the villages (Strategy 2). The VSDC, as the lead organization, has failed to function for various reasons. This is as deduced from a discussion on the views of the respondents and the community leaders in Chapters 4 and 5.

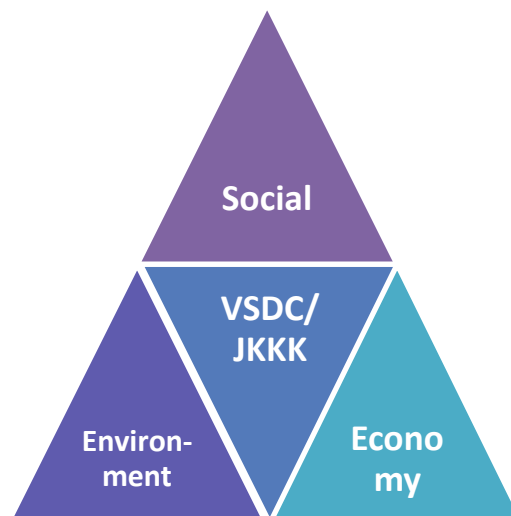


Figure 6.6 Relationships between the Associations in the Village

The VSDC is currently recognised by the government as the representative of the community but is being bypassed by other sponsoring agencies. The respect for the chairman has deteriorated among the village leaders. The Chieftain who heads the VSDC as the lead association should relinquish the post to his deputy instead. The Chieftain will then be in a stronger position, to oversee all the village associations. A new main committee comprising of members of the VSDC should function as one of

the associations in the villages that oversees the development and security. All associations' leaders should report to the chairman who, in turn, should report to the lead agency. All the members of VSDC should also be members of the VSCDC (Village Sustainable Community Development Committee).

The new Village Sustainable Community Development Committees (VSCDC) will serve the villages and its membership should include all the other associations in each village. In order to enable the new committee to have a *locus standi* to administer the village, there is a need to institute a law to give the chairman authority to manage the village associations. Figure 6.6 depicts the new village set up with the current VSDC members incorporated into the SCDC.

6.5.4 Present Structure (Question 2.3)

The experts were asked: 'Can the present village associations deliver the required change to achieve a sustainable community?' The experts suggestions are as follows:-

'Yes, provided the association leaders receive management skills training. Presently, most of the associations are uncoordinated and with no vision for the community. If it stays that way I don't see how any progress can be made. As a village leader myself, I would like to see more coordination among the village associations. A retreat organised for us all may help. With the present set up I don't see that the village can progress. A restructuring of the village institutional framework need to be done. A proper reporting system needs to be established. Before the village can be sustainable, the village associations need to be sustainable first. Cooperation between the village associations' leaders is important'.

'Leadership in the associations is pivotal to ensure success for the village. The village leaders must have the passion to develop the community. A visit to some existing sustainable villages would be an eye-opener. The associations' members need to believe in sustainable community development and find out how they can contribute to attain it'.

‘This can be a vital link between the community and the government. Therefore they must be able to convey the community needs to the government and the leaders’ and be well-trained’.

In brief, the experts recommended that the village leaders must be given management skills to restructure the association, to improve on the coordination among associations and improve the networking with government agencies. The experts also suggested that the associations to be sustainable.

A Sustainable Association ‘Maketh’ a Sustainable Community (Strategy 3) In this strategy the experts opined that the ‘village associations need to be sustainable first’. Sustainable associations must embrace the concept of sustainability as defined by the Sustainable Society Foundation:

‘A sustainable society is a society that meets the needs of the present generation and does not compromise the ability of future generations to meet their own needs, in which each human being has the opportunity to develop itself in freedom, within a well-balanced society and in harmony with its surroundings’. (Sustainable Society index,2014) <http://www.ssfindex.com/>

The associations’ leaders need training in sustainable community development and also in management and leadership so that they have the knowledge, passion, belief and skills to lead the village associations in striving to transform the community towards having sustainable status. It is the role of the village leaders to coordinate such activity and act as a vital link between the Government and the community.

6.5.5 Narrowing Present- Desired SC Gap (Question 2.4)

The experts were asked: What is the best way of bridging the gap between the government and the community? The experts comments are as follow:-

‘Community leaders must have leadership qualities. The community leaders must be trained in leadership skills. Community leaders must

be capable of writing up a proposal to present to the government. The leaders should inform the community of their plans at least once a year. The community leaders should form a team or subcommittee to assist the leader.

‘The gap can be narrowed if the leaders are recognised for their efforts. They will be committed to contribute. There must be a formal avenue whereby the leaders can make themselves heard. The government should allocate a budget for the village community development. There must be a by-law to compel the village to lead in community development’

The experts emphasise that the leaders must have leadership qualities and capable of writing proposal for the government. For the presentation of proposal and for the leaders to be heard, an avenue must be established. They also suggested that there must be a budget allocated and a by-law to be instituted to ensure a continuous effort to achieve a sustainable community.

Competent Leaders Prepare Acceptable Proposal (Strategy 4) - This strategy attempts to develop the community leaders to have the leadership qualities expected of them by the local community like abiding by religious and cultural norms. The leader must also be trained to prepare proposals for presenting to the SCDC at the village level. The skill in utilising SWOT and TOWS Matrix Analysis is an advantage for them in order to analyse the village strengths, weaknesses, opportunities and threats. Their capability to present proposals to stakeholders will help the community and the government. The SCDC at the local agency level can provide a forum for others to be trained, taught how to prepare proposals, informed of the plans of action, and can inform the community of their planning or of their subcommittees. They should be recognised for their efforts and ability to provide a formal avenue, and allocate budgets, and also draft a by-law to regulate and monitor the progress of the sustainable community development in the villages.

6.5.6 Achieving SC Status (Question 2.5)

The experts were asked: 'What can the village associations do for the betterment of the community in order to achieve a sustainable community?' The experts are of the opinion that:-

'The relationship between the leaders and the community must be improved and the villagers then could have an avenue to express their views and opinions like a consultative committee. The village associations need to encourage cooperation in the community. The leaders need to organise more activities to get the community closer to the leaders. The leaders must establish a vision for the community towards achieving a sustainable community. The leaders must create educational, economical and welfare programmes that benefit the community'.

'The community needs to be informed about the planning that the association has for the community. The village should be seen as an entity like a company and any organisation in the community as resources and the Chieftain as the CEO. Improvement needs to be done for the governance of the associations. Properly managed associations with good governance will be respected by the community'.

'The DBKU should be involved in training the community leaders to reach the community effectively. The school should be involved in the programme to improve the village'.

The experts recommended that the relationship between the leaders and community to be improved through a consultative committee which comprises of the villagers and the representatives from the lead agency.

The leaders must establish a common vision for the associations and organise educational, economical and welfare activities for the benefit of the communities. The experts also wanted the village associations to operate like a corporation and the DBKU as the lead agency to assist in the transformation.

Improvement On Community Relations, Cooperation and Vision (Strategy 5) - The experts suggested a need to improve the relations between the village leaders and the

society in order to have a highly committed community that will aim to achieve a sustainable community. The respondents said the concept of sustainable community development is new to them. They are willing to change. The community should give their cooperation to implement SCD initiatives. The experts agreed that the leaders must be trained in leadership skills and also in strategic planning for the village. Once the leaders have agreed on the common vision statement for their village they can conduct a campaign with the cooperation of their MP.

The experts agreed that there are three areas of development that can be implemented in order to motivate the community to participate. They are:

1. Improvement in community relations through a community consultative committee (CCC).
2. Organised activities of interest to the community at large such as religious classes, tuition centre and parenting courses.
3. The community can organise a campaign using posters, banners or even sponsored billboards to inform the community of the village's vision of achieving a sustainable community status.

These activities can only be implemented once the community leaders have undergone training on leadership and strategic planning. The experts opined that the governance of the associations must be improved and that village associations should operate as an entity like a company. This requires a committee that will lead the association's direction which will be discussed in strategy 8.

6.5.7 Role of Leaders to Achieve SC (Question 2. 6)

The experts were asked: 'What is the role of community leaders and their contributions to help the villagers to achieve a sustainable community in their village?' The experts feel that,

'Our leaders need more training in leadership for them to be able to bring about changes in the village community. The community leader must be able to communicate with the community on all matters involving the community at large. The leader should understand the strengths and weaknesses of the village organisations and be able to use them for the advantage of the community. The village is in dire

need of a direction or vision. The village associations should be able to motivate the community to embrace the changes needed. Leaders in the village must have the passion to help the people’.

‘The government should help the community leaders by providing free training so that they can help the community effectively. The Federal Government have funds to develop community. This is an opportunity for the lead agency to help the community leaders. The DBKU can assist community development by organising courses on leadership and the role of the leaders in the community. The Ministry has a special fund for developing community at the village level. The village associations can apply for this funding or join activities organised by the Ministry’.

Based on the comments from the experts there is a need to develop the community leaders as in Strategy 6.

Community Leaders’ Development (Strategy 6) - For the community development the leaders need to be trained in a holistic manner encompassing an understanding of the needs and practices of the community. They must be capable of identifying strengths and weaknesses, threats and opportunities confronting the community in relation to sustainable community development. By understanding the SCD fundamentals and embracing the concept, they could provide direction or vision and motivate the community to embrace changes with passion and commitment. Such trainings should be provided by the Government for free and the experts stated that that lead agency should be the provider of such trainings.

6.5.8 SCD Agendas (Question 2.7)

The experts were asked: What are the strategies that they think needed to improve the delivery of sustainable community development agendas? The experts suggested,

‘Village leaders should come up with a programme. The leaders need strategy on activities for the year and to organise campaigns, exhibitions with DBKU assistance and inter-associations cooperation. They need to launch a village vision and invite other agencies’.

Organised Interventions for the community (Strategy 7) – After undergoing training, the leaders need to organise activities to inform the community concerning the interventions programme they propose to implement.

The leaders need to review the village status in terms of the sustainability of the village as prescribed in chapter 6. Interventions which are classified as self- sustaining can be implemented by the village leaders and the implementations need to be prioritised by the leaders based on their capability. UNECA (2012) reported that the members involved had worked more closely after the transformation than before. Similarly, to ensure continuous success the institutional linkages in the villages and with government agencies should be maintained through the various phases of programmes, and integration should be strengthened at the highest level and go beyond merely convening meetings.

6.5.9 Monitoring SC initiatives: Question 2.8

The experts were asked: 'In your opinion, 'how can the implementation of the interventions and SC initiatives are monitored?' The experts responded as follows:-

'There is a need to form a committee through which the community can express views on the implementation of initiatives. The monitoring body should be formed from the lead agencies especially those that are involved directly with community development. They can assist in monitoring the initiatives. They can also act as the eyes and ears of the lead agency. The committee should be consultative in nature so people can complain and seek help. The committee chairperson should be on the main committee in order to report to the main committee of the progress on the ground. There must be a representative from the Government to audit the account of the associations. Members of the committee should be representative of the community but should not be members of the village associations'.

A DBKU officer should be the chairperson. There is a need to establish a monitoring committee and a member with auditing skills to sit on the committee. The committee must also include an MP's representative. He can report to the Minister. UNECA (2012)

report emphasizes that a new set up or committee should be strengthened not only to design programmes but also to monitor their integrated implementation, especially that its new mandate includes facilitating programme coordination and implementation. In this regard, the linkage between SCDC and CCC should be strengthened so that they can undertake joint activities.

Community Consultative Committee (CCC) (Strategy 8) - The experts are of the opinion that there is a need to form a committee which represents the community and is consultative in nature. This Community Consultative Committee will function as a monitoring and auditing body comprising of members in the present Caring Neighbourhood Committee (established by DBKU) together with other representatives including the MP's nominee. An officer from the Community Development of the DBKU could act as the chairperson.

6.6.10 Improvement of Village Economy (Question 2.9)

The experts were asked: 'What do you think needs to be done to improve the village economy?' They said,

'The village should form a cooperative society to spur the village economy. The village can expand existing businesses such as fish products. The village should take advantage of their position on the coast to indulge in deep sea fishing under a village cooperative. The cooperative should also get involved in businesses related to tourism. The government should provide support for the cooperative at the village level. Cooperatives are given some grants for any feasible business by the Federal Department'.

'DBKU should also be involved and coordinate with the Department in order to train the villagers on management. SEDC can train them how to be involved in business. The Ministry of Tourism is encouraging the locals to get involved in homestay.

Based on the experts opinion, there is a need to have a strategy to develop the economy through a joint venture effort with the private sectors.

Joint Venture With the Cooperative (Strategy 9) - The experts suggested that the village economy be improved by operating a cooperative as advised by the Government. The existing projects can be expanded and commercialised. It was suggested that the villagers should be involved in deep sea fishing to improve their economy and create employment in the community. A joint venture with SEDC or other investors will enhance participation in their business.

6.6.11 Associations Funding (Question 2.10)

The experts were asked: How best do you think the village associations can obtain funding? They said,

‘Through government grants. The government must provide funds for the operation of the village associations. The government can channel funds through the associations but all necessary controls must be in place. The village can accept funding but the control aspects, such as auditing, must also be in place. The village leaders must be instilled with accountability if funding is to be channelled to the village associations. The DBKU officers can guide the village for good financial management’.

‘The cooperative society is a well-regulated body and the department can assist in training the village leaders to manage the fund. There must be sufficient control to avoid abuse of the funds. The management of the funds can be jointly managed by the providing agency and the village association. Transparency of fund management must be practised to ensure the co-op successes.

The experts suggested that the funding must be managed and audited and DBKU can assist in the financial management as discussed in Strategy 10.

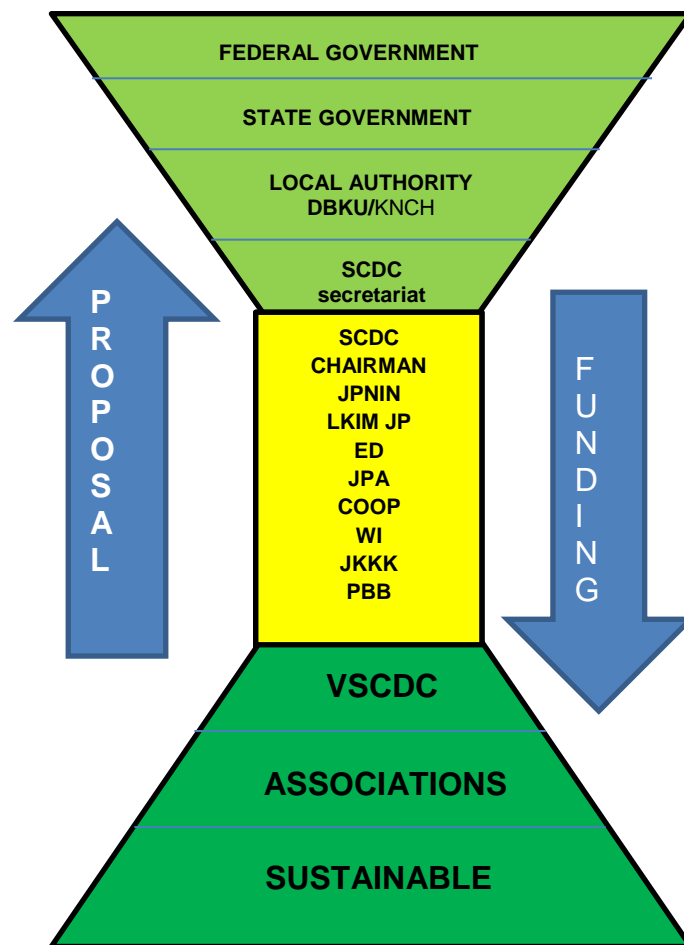


Figure 6.7: Funnel indicating the process of proposal and funding

The experts proposed that the government should allocate a budget or grant to the village associations to finance their operations and activities. There should be a financial control mechanism in place and auditing should be carried out to avoid abuse and mismanagement. The cooperatives are placed under the Malaysia Co-operative Societies Commission in charge to ensure there is good governance. This will create good community governance at the local level. Figure 6.7 indicates the flow of proposal and funding.

Funding Through the Village Associations (Strategy 10) - Figure 6.7 show the flow of proposal from leader and government funding.

6.5.12 Government Assistance to Achieve SC (Question 2.11)

The experts were asked: 'In your opinion, what can the Government do to assist the villages to achieve sustainable community?'

‘From the framework it can be seen that it is the government that pushes for programme to be implemented but at the village level they are passive receivers. Decentralisation of authority and function is necessary. There must be decentralisation. The government must delegate more power to the local authority to assist the community. The government must institute a law on community development so that all local authorities are responsible for developing the community’.

‘I would like to suggest that the government create a special programme for sustainable community development and include in the programme a certification for a sustainable community development village, something like a model village. The government can assist in training the village leaders in managing sustainable community development. The Ministry of Local Government must play an active role in overseeing that the community development is sustainable. The local government should be in charge of developing the community at the village level. The government should create opportunities for the village associations to present their views’.

The above experts comments are synthesized to develop Strategy 11.

Federal and State Government Delegating to the Local Authority (Strategy 11) - The experts perceived that, at the village level, the community are too dependent on the government.

The Federal and State government’s responsibilities cover the whole nation and state respectively. Decentralisation of authority is a practical and sensible way of reaching the community at large. The government should delegate more responsibility to the local authority in order to ensure that the development of the communities meets the government requirement.

The local government should oversee developing the community at the village level. All local authorities should be required by law to take responsibility for developing their communities through a special programme for sustainable community development. It is suggested that a certification for sustainable community development is introduced.

Recognising the best village as a model village will help to achieve a sustainable community.

In New Zealand, the decision making processes have been shifted from central government agencies to the local level (Furuseth and Cocklin,1995). In the paper, they explained the context for the restructuring process involving analyzing the administrative and legislative changes that support sustainable management.

6.5.13 Stakeholders Assistance (Question 2.12)

The experts were asked: - 'In your opinion, what can be done by MPs, NGOs and the private sectors in helping the villages attain a sustainable community status?'

'We want our community to have sufficient income and we would like to invite investors to participate in joint ventures with our cooperative societies and associations'.

'The private sector can identify potential projects and joint ventures with the village cooperatives. The private sector - such as those awarded a central contract in tailoring uniforms - can assist our women to be involved in the trade. The private sector is willing to fund joint ventures with village cooperatives as long as it is profitable for them. The villages should have the priority over others.

'The MPs can assist in securing projects for the development of the village. The MP's representative should play an active role in communicating the community's aspirations to the MP. The MP is a Minister and he should be able to assist the villagers in businesses.

'NGOs can work together with the community in common areas such as the development of women through the Women's Institute (WI). DBKU can organise a seminar and workshop involving NGOs and the private sector to make them acquainted with the community leaders and form a network with them.'

'The Fishermens' Association at the national level can assist in expanding the present operation into deep sea fishing'.

The experts' opinion above led to the formulation of Strategy 12.

MPs, NGOs and the Private Sector's Active Participation in Sustainable Community Development (Strategy 12) - The experts believe that the village communities need to improve their income. They need investors in joint ventures with the village cooperatives and associations. The private sector, having knowledge and expertise in business, can identify potential business opportunity in the villages. It is suggested that those who hold a central government contract could train women in appropriate trades. The coastal area under study is represented by an MP who is also a Federal Minister. The experts believed that the Minister should be able to assist them in bringing development to the community. The MPs should be more involved in making the villages prosperous and sustainable. The NGOs, especially the Women's Institute, can assist their members in business. DBKU can also play a role in organising a seminar involving the NGOs and the private sector to discuss opportunities available for the community for networking and business of opportunity.

All the feedback was incorporated into an institutional framework and presented to all the experts in a workshop for further improvement. A set of questions were distributed with the institutional framework attached and a workshop was conducted in Round Three.

6.6 Round Three – The 3rd Version of the Institutional Framework

In the third round all the experts were provided with the third version of the framework with the questions below. (Refer to Appendix 10 showing the discussion in progress)

3	Guiding Questions Confirming the Final Version Of The Institutional Framework
Q3	<p>Your previous feedback together with that from other experts have been compiled and analysed and the third version is attached for your reference. Please ensure that all your comments are taken into account in this new version.</p> <p>Is there any further improvement to be made to the institutional framework?</p>

6.6.1 Improving Framework (Question 3)

The experts were asked the question: 'Is there any further improvement to be made to the conceptual framework?' Comments from the experts are given below:

'My comments have been included. The framework looks impressive.'

'I think it is workable. We need to institute a law to compel all parties. I think it is workable if there is a law to regulate. If the Federal Government is willing to delegate to the local authority, I feel that it will be successful. I think the R&DO should be in the SCDC. The federal agency should be included in the SCDC. How about MARA? It should be included. The NGOs can be included in the committee depending on necessity (as and when required). The secretariat must be from DBKU. How often are the meetings held?'

Based on the experts comment, the third institutional framework was finalised.

6.7 The Third Version of the Governance Institutional Framework

The experts accepted that the governance institutional framework should include other agencies such as MARA and R&DO as members of the SCDC. They insisted that a law to regulate and compel all the parties involved should be introduced and Strategy 13 incorporated into the final framework.

Sustainable Community Law (Strategy 13) - The experts opined that the institutional framework can only be effectively implemented if there is a Sustainable Community law that regulates and compels all the parties to work towards a sustainable community development. The lead agency should work together with the Ministry of Local Government and Community Development to draft and institute the law. The Sustainable Communities Act 2007 (Refer to Appendix 11) within the UK can be used as a guide to develop a local Act for the study area and the State of Sarawak. The adoption of the UK Laws to other countries like the European Union or the United State is justified as mentioned by Nordin, SM and Supramaniam, S, (2013). They explained that the adoption of English law into Malaysian Legal System evolved slowly and developed during the period of British colonization and until the reception was

formalised with the promulgation of the Civil Law Enactment of 1937. They cautioned researcher to understand that much of Malaysian's history is related to Great Britain, which established some of the earliest colonies on the Malay Peninsula.

6.8 Implementing the Strategy: The Third Governance Institutional Framework

Figure 6.8 is the 3rd version of the governance institutional framework that has undergone a rigorous and detailed Delphi Method with the experts. This is the framework that emerges as a naissance or birth of sustainable community development in the suburban areas in Malaysia. It is DBKU or the local authority as the lead agency that spearheads the initiative to transform the village community. The involvement of the community leaders is important to help instil the sense of ownership.

The formation of the SCDC creates another important platform. It should be an impetus in the transformative process. Concurrently, the setting up of the VSCDC will create an avenue for the community leaders to champion the SCD initiatives. Through the VSCDC, the invigorating of the present associations into a sustainable association is possible. The community leaders need to undergo training on strategic planning and creating a vision for the villages and are trained to write project proposals. These proposals will be presented to the SCDC and once approved will be implemented in the community.

The 3rd Governance Institutional Framework (refer Figure 6.8) is more comprehensive compared to the present framework as shown in Figure 6.2. The framework attempts to tackle and overcome various issues that are identified by the community leaders as a major hindrance to a bottom-up or participatory governance in achieving sustainable community development. This framework concurs with Doppelt (2003, p 6) who states that in order for any kind of transformation to be "truly sustainable, power and authority must be skilfully distributed among stakeholders through effective information sharing, decision-making, and resource allocation mechanisms". With the distribution of authority, the community transformation can be enhanced.

The implementation of the strategies in stages from 1-13 will enable the village to transform from the current status to a sustainable community. For a start, the *Strategy 1: Lead agency and the sustainable community development committee (SCDC) transforming the village into a sustainable village*, will be spearheaded by the lead agency to form the SCDC. With the establishment of the SCDC, the community development programme can be initiated and ensure that the implementation of the other strategies take place. *Strategy 2: The lead association is the leading agent of change for achieving a sustainable community in the villages*, entails the restructuring of the village associations with the VSCDC as the lead associations; With the VSCDC established, the village associations are expected to embark on programmes to create a sustainable village association as in *Strategy 3: A Sustainable Association 'Maketh' a Sustainable Community*.

The Sustainable Association will train their leaders to prepare and present proposals during a strategic retreat organised by the SCDC as required in Strategy 4. This training is also in line with Strategy 6 that emphasises on community leaders' development. *Strategy 5 Improvement Community Relations, Cooperation and Vision* warrant the community leaders to improve the community relation and cooperation by instilling a shared vision. This can be done through Strategy 7. With the community trained, there is a need to form a Community Consultative Committee (Strategy 8).

Once the communities are united in a common vision to create a sustainable village, there is a need to improve on the economy through Strategy 9 by establishing a joint venture with the private sector and the cooperative. The financial funding in the village association need to be addressed by implementing *Strategy 10: Funding through the Village Associations*. This can only happen with the Government intervention in *Strategy 11 Federal and State Government Delegating to the Local Authority*, the power to assist and develop the community to be sustainable. This can only happen with Strategy 12 in place with MPs, NGOs and the Private Sector's Active Participation in sustainable community development and assisting the community in social, economy and environment aspects. Once Strategy 12 is implemented there is a need to enact a Sustainable Community Law (Strategy 13) to ensure a continuity in a sustainable manner for the future generation.(See Figure 6.8). The strategic and systematic implementation of these strategies is the naissance of a sustainable community development in the suburban areas of Malaysia.

3rd Version of the governance institutional framework needs to be refined and a guideline is required for the training of the officers and community leaders. Once the local authority officers and community leaders are trained, they are required to create an awareness programme for the community. An active participation of the community is encouraged to enable government programme to reach the community. The key to success is the role of the lead agency, namely the local authority's commitment to spearhead any transformation by instituting a Malaysian version of the Sustainable Community Act based on the one practised in the United Kingdom. Nevertheless practices of other communities from other nations such as European Union and USA that practises SCD should be incorporated during the drafting of the law. This is the central focus of the governance institutional framework and if implemented, will enable the village to establish community governance with an institutional structure that coalesce the local authority and the community. Trained leaders and committee members capable of channelling the funds, projects and programmes from the federal, state and local government will help benefit the community. The establishment of a participatory governance institutional framework and the Sustainable Community Act will assist in providing a naissance or birth of sustainable community development in the suburban Malaysia.

CHAPTER SEVEN : CONCLUSIONS

7.0 Introduction

This study set out to explore the major issues that hinder the community development in the sub urban village in Malaysia to achieve sustainable status. It is to develop a suitable model to unravel the hindering issues and identify strategies required by the community to achieve the sustainable community status in the suburban village. The sustainable community status was assessed and compared against the indicators (based on the Egan Wheel (2004) and indicators developed by the University of Wisconsin indicators (1998). These indicators form the basis for the formulation of questionnaires. The questionnaire was used during the interviews and the information elicited was analysed, and thus the village current status is assessed. Chapter 5 identified the gap between the present and the desired SC and the outcome indicated that the governance and institutional framework needed for improvement. The study has also brought to light the role of 'governance', including the institutional structure of village associations and the relationships among the village associations, both internally and externally. The study also examines the relationship with the stakeholders like the Government, non-government organisations, the private sector, politicians and others and how they relate to the attainment of sustainable community development in the villages. For the purpose of narrowing the gap and improving their links, an institutional framework was developed to help the villages achieve a sustainable status.

7.1 A Review of the Research Process

The answers to the questions asked during the Delphi Method interviews as discussed in Chapter 6 will help develop a participatory governance institutional framework for a sustainable community vision that can be implemented to attain sustainable communities in a suburban. To achieve this aim, two research questions need to be addressed:

1. How does governance and institutional structure related issues influence attainment of sustainability in the sub-urban villages?

- What are the key factors that hinder the village community to achieve sustainability?

2. What are the suitable model and strategy required by the community to achieve the sustainable community status in the sub urban village?

The research process and relationship of the research aim, questions and objectives are shown in Appendix 12.

7.2 Review Of Research Objectives

Question 1 necessitates an in-depth literature review as described in *Objective 1: To build up contextual knowledge on sustainable communities and sustainable development from a global context*. This is answered in Chapter 2 which expounds to build up contextual knowledge on sustainable communities and sustainable development from a global context with elaboration on governance institutional framework. This forms the basis for the formulation of indicators and questionnaires as required by *Objective 2: To identify and establish sustainable community development (SCD) indicators suitable for suburban villages' within Malaysia* (see section 7.2.2). The Egan Wheel (2004), Dimensions of Quality of Life (E-Compedium, 2013) and indicators developed by the University of Wisconsin (1998) are compared and the appropriate indicators are adopted and adapted for the study area. Chapter 3 discusses the research philosophy of pragmatism and explains the rationale for adopting a mixed methods' research. The chapter also covers what and how to measure and ensure that the instruments are reliable and valid within the research methodology. A survey was carried and the information elicited answered *Objective 3: To assess the present village sustainability and the community desired future sustainable vision for the village* (Chapters 4) and discusses the villages' sustainable status. *Objective 4: To identify the key factors that hinder the community to achieve sustainability* is answered in Chapter 5 by means of GAP analysis together with the experts. In this process the key factors that hinders the community to achieve the desired sustainable vision from the present condition is identified. Chapter 5 diagnoses the present framework practiced as required by *Objective 5: To improve the present framework and develop a more desired governance institutional framework* with input from local experts as in Chapter 6 which unveils the third version of the

institutional structure. The research objectives described in Chapter 1 are revisited and presented here.

7.2.1 OBJECTIVE 1: To build up contextual knowledge on sustainable communities and sustainable development from a global context.

The literature review in Chapter 2 provide the background and the context of the research. The first objective was to build up the contextual knowledge about sustainable development and sustainable communities from a global perspective. The global context reviewed covers the evolution of sustainable development from its inception to the current understanding of its meaning. This led to the understanding that sustainable development encompasses social, environment and the economic aspects, and finally to the current understanding and definition. For this study, 'sustainable development refers to a process of change that meets the needs of the present, without compromising the ability of future generations to meet their own needs (WECD, 1987), for a better quality of life (DETR,1998) and balances local social, economic and ecological systems and links local actions to global concerns' (Berke, 2000).

The concept of sustainable development covers all aspects of human needs and aspirations as well as the human–environment. This is described comprehensively in the 'Diamond of Quality of Life'. This 'Diamond of Quality of Life' concept, despite originating in urban regeneration in developed nations, can be applied to the developing nation. As a developing country, Malaysian has no regeneration issue but the LUDA experience in enthusing the community from bottom-up is crucial for the successful implementation of sustainable community development. The implementation must be guided by the policies and principles of sustainable development in order to achieve environmental, economic and social sustainability. A need to measure and assess sustainability leads to the formulation of indicators. These indicators formed the basis to develop a questionnaire to measure and assess sustainable community status.

Chapter 2 also presented a definition of sustainable community development for the study as a process (Yanarella and Levine, 1992a) and a product (EPA/USDA Partnership,1998) for activating consciousness (Wijayaratna, 2002) in the ability of a community to utilize its natural, human and technological resources (Kline,1994) and

strike a balance between environmental concerns and development objectives, while simultaneously enhancing local social relationships (Bridger and Luloff, 1999). This will ensure that all members of both present and future generations can attain good health and well-being, economic progression, security, and can shape their future while maintaining the integrity of the ecological systems on which all life and production depend (Kline, 1994).

The components of sustainable community development, as expounded by the Egan Wheel (2004), covers eight components but for the purpose of this study the focus is on the governance institutional structures for delivering sustainable communities including leadership, envisioning for a sustainable community, and the role of the lead agency. A comparison was made between the United Kingdom's experience and this study. Chapter 2 justifies the requisite for a participatory approach to achieve sustainable community development.

1. The governance institutional framework was also discussed in Chapter 2 especially on the experience and studies conducted in Malaysia reported by Mahadi, Z., & Sino, H. (2012). Also, the experience in Africa which had a similar developing country setting as Malaysia reported by UNEP (Section 2.20) and UNECA (Section 2.23) are the basis for this study to develop the participatory governance institutional framework. There is a gap in the present governance institutional framework. Based on the international, regional and country governance structure in Africa, the issues reported by UNEP (2012) and UNECA (2012) are relevant. The present structures have loophole and shortfall and need tightening up to realise a more effective and successful sustainable community development. This is clearly noted in the planned RIO +20 summit intending to discuss further the issue of governance institutional framework from global to local level. Nevertheless, the issues identified by UNEP (2012) and UNECA (2012) have been adopted and adapted during the development of this study framework to strengthen the participatory governance framework for sustainable community development in the suburban Malaysia. The benefit of implementing a participatory institutional governance framework at the local level as describe in section 2.24 will bring about positive changes, incentive for community, better working relationship, enhanced programme implementation and integration, better project monitoring and coordination, improve in capacity

building and sense of ownership. These benefits are expected to encourage the community to participate in the sustainable community development effort.

7.2.2 OBJECTIVE 2: To identify and establish sustainable community development (SCD) indicators suitable for suburban villages' in Malaysia;

The second objective set out by this research is to identify and establish sustainable community development (SCD) indicators through the literature review and interviews with local academicians and key personnel involved in SCD locally. The review in Chapter 2 compared the (Egan and ODPM,(2004) and the University of Wisconsin) studies to devise a set of indicators taking into consideration the local village level setting. The LUDA E-Compendium Handbook 2 presented a practical way of using the 'Diamond of Quality Of Life' in identifying the issues and problems that needed further exploration to identify the pertinent issues faced by the community.

Naoum (2007) outlined three fundamental stages to construct questionnaires (Refer Section 3.12) which were religiously followed and a comprehensive questionnaire was developed. (Refer Appendix 3). The validity and reliability of the questions were scrutinised to ensure that the answers to the questions would measure what is to be studied. Precautions were taken to ensure good validity and high reliability of the questionnaire.

7.2.3 OBJECTIVE 3: To assess the present village sustainability and the community desired future sustainable vision for the village.

In working towards Objective 3, the study explored the current understanding, needs and practices of the community and assessed the sustainable status of the villages based on the sustainable community indicators. The literature review in Chapter 2 and the findings from the quantitative and qualitative approaches in Chapter 4 explored the current status of the villages' needs and practices and the current sustainable community position. Among the key findings obtained from this objective, one hundred and thirteen indicators were analysed. Twenty eight of these were rated by the experts as sustainable, fifty four were rated as self-sustaining and thirty one were in a state of sustentation. To achieve sustainable status, the villages need to improve on 85 of the indicators. The findings based on the indicators were categorised into the following criteria.

The basic needs in the villages such as electricity, water supply and alternative energy can be rated as sustainable. The houses at the river bank are mostly on stilts and thus they can be classified as sustenance and need assistance from the Government.

The governance aspect is as follows:-

1. The villages need strategic planning with the help of various agencies.
2. Acceptance and implementation of sustainable community initiatives.
3. Streamlining the village associations.
4. Addressing internal problems of the associations.
5. Embarking on a strategic planning to generate a common vision.
6. Revamping the associations.
7. Establishing a proper institutional structure.
8. Mobilising the community to improve community relations.

The social sustainability aspect are as follows:-

- The schools, health facilities and the services that deal with communicable diseases in the villages are rated as sustainable.
- Social problems and issues such as house break-ins, vandalism, safety, drug and substance abuse, drinking alcohol, gangsters, loitering is not severe but needed to be addressed.
- The community social concerns, cultural education, lack of cultural activities and low rate of participation in the villages, low involvement in the associations, low agencies' visits to villages, and services provided by agencies are all self-sustaining. All the above can be overcome by the community themselves.
- The sustenance issues that need assistance from external stakeholders includes cultural training. The associations in the villages need assistance in strategic planning to develop village plan of action, identifying associations' activities, activating and training of cooperatives in the villages to enable the villagers to benefit from the cooperatives.

- The association leaders need to engage with agencies to assist the villages especially in resettling those at the river bank. The respondents' readiness to give their cooperation is a good sign towards this end.

The economic sustainability aspects covers the villages' economic assistance from the government like creating jobs attracting the tourist the villages, and in training the community in related skills. None of the economic indicators are in the sustainability zone. The community needs to be more proactive. The village associations should get government agencies to assist in creating jobs and business opportunities.

The nine environmental aspects rated as sustainable are:-

- Waste collection by DBKU.
- Village flora and fauna.
- The water supply quality.
The water supply source.
- The forest near the villages.
- Jungle produces from the forest.
- Forest dependency.
- Pesticide purchase.
- Use and alternatives to pesticide.

The fifteen environmental aspects rated self-sustaining are:-

- Environmental cleanliness.
- Community cooperation in ensuring village cleanliness.
- Frequency of community volunteerism.
- Community volunteerism.
- Village recycling practices.
- Individual recycling practices.
- Village pollution.
- Type of pollution in village.
- Odour in village.
- Pollution from factories.
- Land designated as farming.
- Village composting.

- Reasons for not composting.
- Pesticide usage training.
- Open burning and environmental conservation.
-

The Housing and Built Environment components rated housing in the village as sustenance needing assistance and support by the government. The built environment is sustainable as follows:-

- House - Housing assistance is required to resettle the existing stilt houses on the river edge to higher ground.
- Built Environment - The condition of the present community centres is satisfactory but requires active associations' involvement to ensure the existing condition is maintained.

In the Transport and Connectivity components, it is recommended that the community through the association, need to form a liaison committee that liaises with local authority and the political representatives to improve the road condition leading to the houses. The government needs to review the present policies and improve the public transport for a better and more efficient service. Public transport is categorised under sustenance as it requires government assistance and the transport service needs to be improved.

Services in the villages, such as the supply of water and electricity, are supplied consistently and community relations with the government are sustainable. The indicators that are self –sustaining and need attention are as follows:-

- The community needs to improve on village safety and the community centres need a facelift.
- The associations can initiate a service centre that enable the community to lodge complaints/comments to the service provider regarding the poor services rendered.
- There should be active associations and leaders in the villages to coordinate with government and improve the services provided.
- The health services provided by the government are a preferred choice of the community.

- Regular waste collection- The waste collection needs to be improved through the formation of an associations that champions the environmental issue especially inculcating the waste minimization through the 3R and composting.
- The primary school is located within the village and within the walking distance while the secondary schools are within communicable distance from the houses. Sport facilities are available and accessible to the community. Government clinics are also within walking distance and a preferred clinic for the community.

7.2.4 OBJECTIVE 4: To identify the key factors that hinders the community to achieve sustainability

The main key factor that constrains the attainment of sustainable community status in the villages is the problem with governance institutional framework. The chieftain who is supposed to act as the chairman and chief of the village leaders is by-passed. The reports are given to sponsoring agencies. This creates conflict among the leaders and the VSDC. The sponsoring agencies deal directly with the village associations and thus the local authority is also circumvented.

The DBKU should play a prominent role and need to perform their part in assisting the village associations. There is also a need to transform the governance at both the local level and community levels, and assist the village leaders in envisioning their village towards a sustainable community.

Both the TOWS Matrik and the Gap Analysis in Chapter 5 indicated that the expert opined that the gap between the present SCD status and the desired future SCD can be narrowed down, and objectives can be achieved with the intervention of implemented strategies with the provision that the governance institutional framework is in place. The development of the governance institutional framework will be discussed in the next objective.

7.2.5 OBJECTIVE 5: To improve the present framework and develop a participatory bottom-up governance institutional framework with local experts.

Chapter 6 discussed the governance institutional framework under ten themes. The main concern of the community leaders is that the present framework (involving the village associations, the VSDC, the lead agency, government departments and

government statutory bodies MARA, SEDC, LKIM, NGOs and the private sector) is unstructured. Pertinent issues raised by the experts can be summarise as follows:-

- The existing framework creates problems in the villages.
- The village leaders themselves are incapable and are unable to manage the associations.
- The reporting system worsens the situation with circumvention occurring, by-passing the chieftain which causes conflict.
- The Federal Government efforts through their respective departments directed to the village associations means that the Local Authority has no role in developing the village community especially in sustainable community development encompassing the three pillars of the social aspects, the economy and the environment.
- The State Government's effort to reach out to the community through the Ministry by emphasising community development is lauded but more need to be done.

All these are indicative that present governance institutional framework (based on the survey findings and the current practices of the community) is the main cause that constrains the villages from achieving sustainable community status.

As a result, the present framework needs to be improved to enable the village community to develop and achieve sustainable community status. The experts suggested reducing the gap and achieving sustainable status for the villages. The governance institutions framework needs to be revamped and transformed. Some of the suggestions are:

- The associations need to be consolidated and restructured with a lead association heading the other associations.
- The village associations need for stronger leadership and village security committees should get assistance.
- The leaders need to undergo a strategic management and leadership training.
- The village associations need to work with other agencies to develop the village into an appropriate and well planned village.
- To collaborate with the housing commission to assist the villagers in resettling the stilt houses to a higher ground.

- To boost the economy, the lead agency need to link the village associations with other agencies to train and assist them in business set up. It should also activate the cooperatives.
- The association can help to form a committee to oversee environmental concerns. The local authority should educate and assist the villages on this matter.
- DBKU, as the lead agency should have proper institutional structure at the village level. The reporting system of the association and the sponsoring agency can be improved.

The experts' opinions were incorporated into the existing framework and an improved second version of the institutional framework formulated, verified and validated. The experts suggested that the lead agency take a proactive role to spearhead the initiatives, developing the villages so they can achieve a sustainable status. This include training the community leaders and setting the Sustainable Community Development Committees (SCDC to provide a forum for the community leaders and ensure a bottom-up management style.

Also the experts' suggested that at the village level, the VSCDC should be chaired by the Chieftain with members from VSDC and others. The VSDC is headed by the deputy Chieftain. Association leaders need training on the Strategy 3: 'sustainable associations maketh sustainable communities' and include teaching them to write proposals. The leaders should also be trained on how to improve community relations, cooperation and visions. The community leaders need to be trained in a holistic manner on the fundamental concepts of sustainable community developments. Once the community leaders have undergone all the strategic training and are capable of writing up project proposals, only then should Strategy 7, organising activities to inform community on interventions be emplaced.

To create more job opportunities, a joint venture between the village cooperatives and other investors are needed to spur the economic activities in the village. Also, there should be a decentralisation of authority from the Federal level to the State level which can then be sequentially delegated to the Local Authority. This will empower the community especially the village leaders to decide the best approaches to attaining a sustainable community status. The NGOs, Members of Parliament and the private sector could be mobilised to assist the community in attaining sustainable community

status. The introduction of Sustainable Community Law could regulate and ensure the attainment of a sustainable community.

Their commitment will spur local interest to change the present approach to a more holistic strategy encompassing local or community governance, establishing an institutional structure, and implementing a community-based approach to development. There is a need for all stakeholders which comprises of the community, the village associations, the local authorities, the lead agencies, to spearhead the process of improving and transforming the community. Both sustainable community and sustainable development, place an emphasis on participation and focus on stability and sustainability for the community and their surrounding natural resources, on environment, society and the economy without impacting upon existing and future generational needs.

In depth investigation will be conducted in the city suburb of DBKU and due attention needs to be given to institutional structures from the federal government to the village level. The Federal Government has a comprehensive plan to assist the communities and the state government must be ready, willing and able to implement the planned programme with full commitment for the local authority to train and assist the local community to transform their institutional structure and thus rippling it to the community at large in attaining sustainability.

7.3 Research Limitations

The interview has been a tedious process. The researcher had to interview all the respondents personally. There was little opportunity to make detailed on-site observation to check on the validity of some of the information obtained.

The research requires substantial funding to print questionnaires, conduct interviews and carry out the survey. Also, it demands workshop to be carried out and this requires rooms and meals for the experts. Due to shortage of financial assistance, the development of the framework has to cease. With sufficient funds a more refined

version of the framework and the guideline for implementation can be designed. In designing the guidelines a full commitment by the State Government is a prerequisite. With the State Government support especially directing all relevant agencies to collaborate and financing the process can this guideline be realised. The involvement of the community leaders at an early onset is mandatory. The invaluable involvement of the community leaders will provide practical on the ground information.

This study was conducted in a Malay-Muslim community. The researcher has made a broad assumption that the community is homogenous. This is the basis for the sampling strategy and for choosing the respondents and informants. It was difficult to ascertain if it is in fact homogenous.

Even though the data collection time was long, the actual interview and contact with the respondents could only be done on weekends. There was very little opportunity for more in depth exploration with the respondents.

The implementation of the proposed institutional framework is limited to the study area and the success depends on the National and State Governments effort to empower local authorities. The implementation of the proposed governance institutional depends on the provision of adequate financial and human resources, and allowing their meaningful involvement in the decision-making processes ((IUCN 2012).

7.4 Research Contributions

This study hopes to fill in the gap in sustainable community development studies in suburban Malaysia. This study involved the community leaders to determine what they perceived to be best for their community. Nevertheless, it does not represent the whole of Malaysia or developing countries as the community may varies. The process of developing the framework is adaptable to other places. Secondly, the data collection technique that applies the triangulation of data from quantitative survey and qualitative interviews to gauge the sustainability of the suburban village gave a balance information. Each method supplement the other. Also, the data collected involving the village leaders used the Delphi method to develop the governance model to the

suburban village. In terms of the contribution to research knowledge, the study carried out various analyses, namely SWOT, TOWS Matrix, GAP, Thematic, and the Delphi Method. By applying SWOT and TOWS Matrix Analysis to the thematic data, the outcome of these analyses allowed the researcher to differentiate between the unsustainable issues that can be addressed within the community and the statuses that need assistance from external agencies. The researcher, in an attempt to profile the external assistance which requires funding in order to achieve the desired sustainability, introduced the usage of the term '*sustentation*'. (Refer Section 7.1). Sustentation is differentiated from self-sustaining whereby the community can utilise their own capability to improve their present state toward a desired state of sustainability.

Thirdly, not many studies have been carried out in a suburban setting in Malaysia and developing countries. LESTARI(Univerisit Kebangsaan Malaysia) conducted various sustainability studies. Among all the studies, a study on geopark in the coastal park is geographically near to the study areas which conclude that the establishment of geopark can contribute to the income of the local community. The UNECA (2012) and UNEP (2012) reported on the need to transform the governance institutional framework at the global, regional and country level. To the best of the researcher knowledge, the study at the local level is yet to be seen and conducted in a developing countries.

Fourthly, in the effort to measure the sustainability of the village, a set of indicators had been introduced to suit the suburban setting. This is the first step towards further refinement for future research to generate a more accurate indicators..

The application of a SWOT Analysis has been used in established organisations but its application as in this study could be adopted by organisation to assist the community towards achieving their desired goals.

This study could help to broaden knowledge and understanding of practitioners such as the officers of the local authorities in charge of community development and, community leaders of the delivery and evaluation of a sustainable community at the village level.

7.5 Recommendations

The study has been largely exploratory in nature. A more detailed qualitative study with field observation will give a better understanding of the local attitude and knowledge of sustainable development. DBKU has a jurisdiction over a wide area, a varied geographical area and different phase of urban and suburban development.

For policy makers, the outcome of the study suggests that:-

1. Legislation should be put in place to enable all involved to implement sustainable community development at the local level. This will assist development in a more systematic way allowing the officers at the local authority to encourage, motivate and educate the community on sustainable community development.
2. There is a need to ensure that the officers in the local authority and community leaders understand the concept of sustainable community development holistically; encompassing the three pillars of sustainable community development. They need to ensure that sustainable community development projects have long-term social and economic benefits.
3. Those involved in sustainable community development should be trained and the training should be conducted free of charge to encourage all those involved. The lead agency officers at the local authorities in charge of SCD should be knowledgeable to assist the community.
4. Adequate financial support should be made available to enable the officers at the local authorities to promote sustainable community development. Collaboration with NGOs will provide another alternative for securing funds especially from corporations that champion sustainable issues as part of their corporate social responsibilities.
5. There should be decentralisation of the functions of the Local Authority to ensure a smooth implementation of SCD. Local Authority should be given the authority to develop communities within their area to be sustainable. So 'Think globally and act locally' in line with the principle of Local Agenda 21.
6. This study revealed that eco-tourism is an area that can assist the economy of the village and thus a study related to sustainable eco tourism can be undertaken in the future.

7.6 Future Study

This study provides a foundation for future research in sustainable community development. Future research can focus on other aspects of sustainable development, such as evaluating the built environment, economic, social, transportation and other aspects of sustainable community development as in the Egan Wheel.

The indicators developed in this study can be further refined in future study focusing on specific area such as village safety, economic and environmental aspects.

A study to develop a more comprehensive guidelines for the implementation of the SCD initiatives need to be carried out with the community leaders and other stakeholders.

A study to establish a guideline for implementation of the framework can be carried out analysing the drivers that can catalyse the acceptance and also preempting the constraint that may hinder its implementation.

This study recommended the institution of a Sustainable Community Law to ensure a successful attainment of a sustainable community. A study to formulate a law that is suitable for the local situation is needed to ensure a continuity and success of SCD implementation.

7.7 Conclusions

The implementation of a participatory bottom- up governance institutional framework at the village level covering all aspects of sustainable development three pillars namely social, economic and environmental components is a prerequisite for the attainment of a sustainable community. In achieving this, the involvement of the community through a process of sustainable community development is inevitable.

This study defines SCD as a process (Yanarella and Levine 1992a) and product (EPA/USDA Partnership, 1998) of activating consciousness (Wijayaratna, 2002) of a community's ability to utilize its natural, human, and technological resources (Kline, 1994) by striking this process / product a balance between environmental concerns and development objectives while simultaneously enhancing local social relationship (Bridger and Luloff, 1999), and ensuring that all members of present and future generations can attain a high degree of health and well-being, economic

security, in addition to shaping their future while maintaining the integrity of the ecological systems on which all life and production depends (Kline,1994).

The process of this development basically is to fulfil human present need either perceived or cultural (Wheeler & Beatley, 2008) through their own potential (Bruntland, 1987) without compromising the human need and environment (Melamad and Ladd, 2013) of the future generation complying with the intergenerational principle or principle of futurity. This study focused on the community as in the Principles for Sustainability- Human as centre of concern. The involvement of the community leaders is in line with Principle 2- indigenous and local people's participation in sustainable development. Their participation had been inclusive and integrated in the decision-making, giving them an effective role in decisions on environmental, social and economic sustainability (IUCN, 2012).

The purpose of implementing sustainable development is to achieve social, economic and environmental sustainability. This study assessed on the village's sustainability. The study had undergone a GAP analysis to assess the level of sustainability. Notably, in visioning the economic sustainability the community leaders suggested various economic project that can generate income for the community for instance cake and craft making, deep water fishing and down-stream fishery industry, eco-tourism and etcetera. This concur with Pearce et al. (1994) statement that a program is said to be economically sustainable if it increases income, improve health and nutritional status. Notwithstanding the Principle for Sustainability- Principle 2, the right to explore resource but not to cause damage to the environment, any huge project to be carried out must undergo an Environmental Impact Assessment (Principle17). The suggestion by the community leaders to indulge in deep sea fishing which will involve building a cold room and clearing of land for development of facilities must abide to Principle 3 - right to development must be for the present and the future and Principle 4- incorporating an integral environment protection. The community leaders express the need to increase income and boost the village economic activities to eradicate poverty. This is accomplishing the Principle 4- Eradication of poverty.

Also this study assesses the social sustainability which covers religion, education, culture and others (Munro, 1995), (Refer Section 2.17). In assessing sustainability, the embedded concept is to achieve the quality of life as guided by the Dimensions of

Quality of Life (LUDA, 2006). In envisioning their desired social sustainability, the experts see the future generation achieve sustainability through religion, education and combating the entire social problem endangering the community. The study revealed that religion plays a pivotal role in the daily lives of the community. Capitalising on this can catalyse the smooth implementation of the sustainable initiatives. Also, the community leaders had recognised the importance of religion to overcome the social problems by educating religious values to the younger generation. Goodland (2002) warned that any breakdown of socially shared values, rules, laws and lack of investment in social capital may be costly and counter to sustainability. The intention of the leaders to overcome youth problems by encouraging sport, religious, education and mobilising youth for a better future is in line with Principle 21.

A participatory process in the SC development will ensure that the community needs and aspirations are addressed by themselves based on the 'Principle of Social Justice' or 'intra-generational equity' conforming to especially in the distribution of resource (Haughton and Hunter, 1994). The implementation of SC at the local level will instil and inculcate among the community the importance of conserving the environment and achieving environmental sustainability (Goodland, 2002; Sutton, 2004). Human need space and their own little territory within the ambit of their home surrounding. Infringing or polluting their neighbours' environment should be refrained (Sutton, 2004). For instance, this study had found out that the villagers practising open burning in their house compound and indiscriminately throwing rubbish and littering in the village. Creating awareness and educating the community on the need to preserve the environment and avoid imposing nuisance upon their neighbours is the beginning of a sustainable initiative. This little effort at the village level upholds the Principle of Trans Frontier and with the community implementing it collectively, it will create an impact to the conservation of the environment. This collective effort if transcended at the global arena will sustain the Principle of Trans Frontier across international boundary.

The involvement of the community leaders in this study by the mean of Delphi method itself is practising the 'Principle of Procedural Equity'. Satterthwaite (2004) reiterates that this principle demands that regulatory and participatory systems should be devised and emplaced to ensure that everybody is treated fairly.

The analyses carried out identified that the main key factor that hinders the achievement of sustainability is the governance institutional framework. The improvement intended to transform the governance as suggested by Goodland (2002) that only with systematic community participation and a strong civil society and government can the societal transformation be achieved. The study reveals that at present the federal agencies practice of circumventing the state, the local authority and the VSDC has hindered the delivering of sustainable community initiatives. This augur for a delegation of authority as Von Homeyer and Knoblauch (2008) suggested that effective SD governance requires multi-level governance, with delegation of authority (Tosun, 2000) throughout the institutional framework at all levels.

The present governance need to be improved. Improving the institutional structure at this level will enable the villages to benefit from the government programmes. The improvement involved the community leaders and other experts participating in the development of the institutional framework. The development of GIF using Delphi method complies with the 'Principle of Procedural Equity'. Satterthwaite (2004) reiterates this principle demands that regulatory and participatory systems emplaced to ensure that everybody is treated fairly. IUCN outlines that a participatory bottom-up approach must be emplaced most immediately at the local level in consistent with their resolution.

The involvement of the leaders in the development, local planning, decision-making and sustainable development (Al-Dahir, Kang and Bisley, (2009) of the GIF is to establish a basic democratic structure within communities that is aimed at meeting community needs identified by community members (IUCN,2012). Mahadi, Z., & Sino, H. (2012) commented that in Malaysia, the extensiveness of good governance is yet to be appraised and generally has not been fully observed. The appraisal of the GIF using the Delphi method in the study area is the first of its kind. The propose improvement of the GIF includes the issue of decentralisation. Wijayaratna (2002) mentioned that an effective decentralization could lead to an institutional transformation.

In implementing the new GIF, the concept and objectives of sustainable community development among officers of local authority need to be enhanced along the line of sustainable community development. IUCN (2012) recommends that the state

government empowers local governance structures including through the provision of adequate financial and human resources, and by allowing for their meaningful involvement in decision-making processes. Reis Amorim (2013) states that the new framework can be an incentive to encourage implementation towards sustainability. The local authority needs to relook at the present programme which lacks the vital components of SCD, namely the three pillars of the society, economic and the environment. Based on these dimensions, the local authority needs to embrace the holistic meaning of sustainable community development by engaging with the community through a community-based approach.

Making the community sustainable is the joint responsibility of all the stakeholders concerned including the community themselves and community leaders. According to studies reported by UNECA (2012), the benefits that can be garnered from the improvement of GIF will be a better working relationship within the various agencies and community. The local government needs to play the role of a lead agency in collaboration with NGOs, State Government Agencies, Ministries and statutory bodies, the Federal Government and Ministries. This will also improve the inter-agency collaboration which will also increase the capacity building programmes as witness in the collaboration with multi-agencies.(UNECA,2012).

The proposed third version of the framework outlays the strategies to enable the naissance of SCD at the village level. All the strategies required to implement the governance institutional framework must be put in place to narrow the gap of all the SCD indicators from the present to the desired sustainable status. UNECA (2012) report suggested implementing agencies to strengthen not only to design programmes, but also to monitor their integrated implementation which includes facilitating coordination and implementation programme.

A bottom-up approach with the involvement of the community represented by the leaders is the way to implement the strategies proposed in this thesis. This will enable the community as a whole to participate in the programme and thus have the sense of ownership (UNECA,2012). Well trained leaders in strategic planning and visionary leadership are prerequisite in implementing the overall strategy. Capable leaders enable village associations to be sustainable which can then spearhead the transformation of the community.

The establishment of the governance institutional framework with the formation of the VSCDC at the village level and SCDC at the lead agency level spearhead the naissance of SCD. This can be a platform for collaboraton and cooperation between agecies in assisting the villages to achieve the social, environment and economical aspects of SCD. UNEP (2012) recommended that the policies and planning for the social, environmental and economic dimensions of sustainable development be coherent across local, national, regional and global levels. Also, to maximise synergies among stakeholders in order to achieve objectives and ensuring the processes are in line with practices of good governance. The thirteen strategies cover all the aspects of SCD for the village. A comprehensive action plan puts in place a supportive implementation arrangement through which the goals and objectives are addressed. There is a need to develop a comprehensive guide for sustainability for the practitioners and all stakeholders to assess achievement of the goals and objectives through monitoring of implementation, assessment and reporting of progress, and accountability procedures for commitments. This will enable them to further understand the concept of sustainable development. All stakeholders in the the transformation need to ensure that all the institutional components work together for a common purpose: enhancing human well-being, achieving social equity including across generations, ensuring environmental sustainability, and practicing participatory development.

Appendix 1a : Study Area

Study Area

This study is conducted in the coastal villages of suburban area under Kuching North City Hall or DBKU which are located approximately 32 to 35 km from Kuching. The Merriam Webster dictionary defines suburban as an outlying part of a city or town and/or a smaller community adjacent to or within commuting distance of a city with residential area on the outskirts of a city or large town.



Legend

1. Kampung Santubong 2. Kampung Buntal 3. Kampung Bako
4. Kampung Muara Tebas 5. Kampung Goebilt 6. Kampung Senari
7. Kampung Sejingkat

Figure A1: Aerial View of the Study Area (Source: Google Map)

The study area is located in the Kuching District, Sarawak, Malaysia. It is situated along the Santubong River and Sarawak River. The main natural vegetation is the mangrove swamp. At the Santubong peninsula lays the Mount Santubong and on the right is the Bako National Park. The landscape is picturesque with the sea and mountain giving it a natural charm for tourism industry.

The information obtained from the Valuation Division of DBKU is shown in Figure A2.

No.	Villages	Estimated Population	No. of Households	No. of Samples
6				
7				

1	Santubong	950	190	47
2	Buntal	1000	162	41
3	Bako	1785	298	73
4	Muara Tebas	770	154	38
5	Goebilt	600	117	30
6	Senari	650	125	30
7	Sejingkat	930	186	41
Total		6685	1232	300

Table A1: Village Statistic (Source: Valuation Division, DBKU)

Among all the villages, Kampung Bako is the largest in terms of population followed by Kampung Buntal, Santubong, Sejingkat, Muara Tebas, Senari and Goebilt.

The government assists the villages in providing basic facilities and services. (See Figure A3). All the villages has their own community hall. The community hall serves as the main congregational area for societal activities. Also, each and every village has a primary school to serve the population. Santubong, Buntal, Muara Tebas and Bako have a football field and other sport facilities for the communities' sport and recreation. Not all villages has a clinic. Those that are nearby share a common clinic. All the villages have a jetty except for Santubong which was destructed by wave. All villages have a mosque to serve the villager's religious need. Santubong and Buntal have a police station. Those that do not have a Police station in the village are serviced by a near-by one. The Government built offices to serve the community better depending on the need and development within the area. Buntal has Drainage and Irrigation Department as land are abundant near the village for agriculture purposes. Santubong was reselected as an avenue for Petanque Sport facility as the village is located near the tourism area. Bako has a Forest Department at the village to manage the tourists going for the Bako National Park.

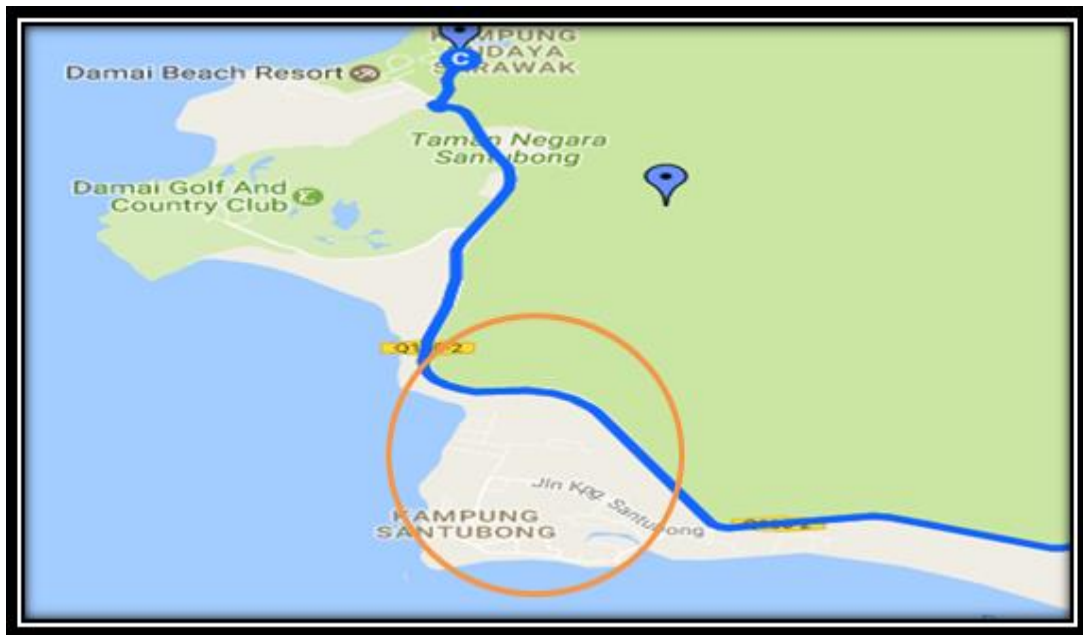
Santubong	Buntal	Sejingkat	Senari	Goebilt	Muara Tebas	Bako
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Community Hall	yes	yes	yes	yes	yes	yes	yes
School	yes	yes	yes	yes	yes	yes	yes
Football field	yes	yes	no	no	no	yes	yes
Clinic	yes	yes	no	no	no	no	yes
Jetty	Destroyed by wave	yes	yes	yes	yes	yes	yes
Mosque	yes	yes	yes	yes	yes	yes	yes
Police	yes	yes	no	no	no	no	no
Government Department	Petanque Centre	Drainage	no	no	no	No	Forest

Table A2: Facilities available in the villages (Source: Community Development Division, DBKU)

Kampung Santubong

Santubong village is around 35 kilometres from the city centre. The village is located near the estuary of Santubong River with Mount Santubong in the background (See Map A2). There are about 190 houses sprawl out with a population of 950 inhabitants (See Locality Plan A1). Since it is at the foot of mount Santubong and fronting the estuary, there is only a narrow strip of land for cultivation. Beside the river, aquaculture farm cultivating tiger prawn is found. About three kilometres away from the village, there are various tourist attraction namely the famous Sarawak Cultural Village and five-star hotels, Damai Beach Resort, Damai Puri Resort and Santubong Resort Hotel and also Permai Rainforest Camp.



Map A2: Aerial View of the Santubong Village (Source: Google Map)

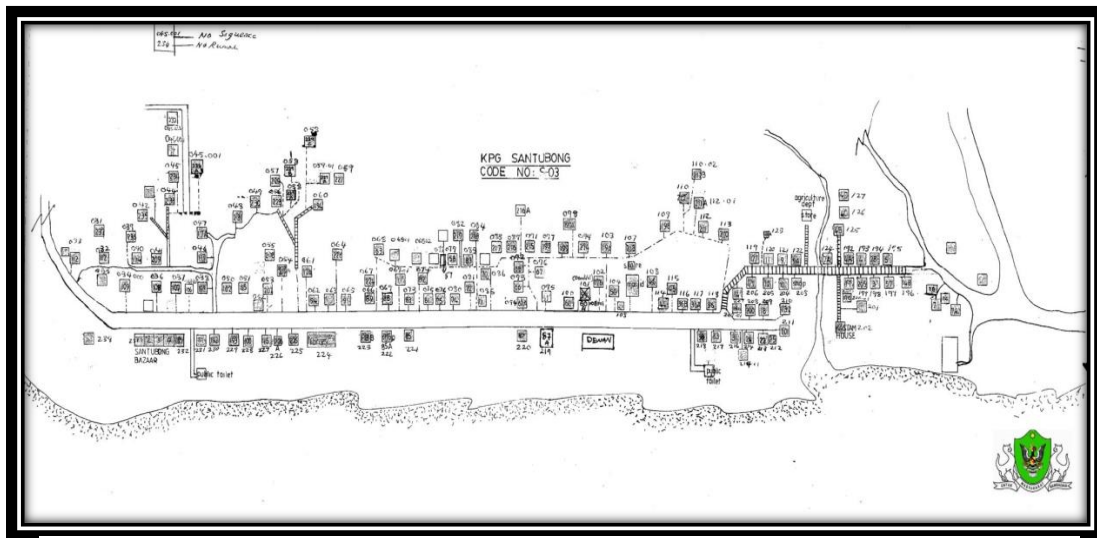
This village has an interesting history and archaeological excavation proving that it was one of the earliest settlements in Sarawak. Interestingly, Alfred Russel Wallace visited Santubong in 1854 as narrated by Dr George Beccaloni.. Wallace expedition around the Malay Archipelago where he discovered and worked on his theory of natural selection, the process thought to drive the evolution of life on Earth.

Santubong was once an important trading port and a settlement area. There are a number of historical and archaeological site around the area. Among them are Sultan Tengah Mausoleum, *Batu Bergambar* (In scripted Rock) at Sungai Jaong Rock garde and Bongkissam Shrine at Sarawak River Delta and Bukit Maras.

Various interesting activities are organised such as mountain climbing and jungle trekking is another activity that is popular among nature adventurers. The beaches around Santubong Sarawak are among the best in Sarawak, It is ideal for water sport.

Around Santubong Peninsula is popular for its wildlife watching tour. At the mouth of the Santubong River is the Irrawaddy dolphin. There is a number of tour operators in Kuching that offered wildlife watching tour for their guests. Just off the Santubong is the Turtle Island locally known as Satang Island. The island is part of the Talang-

Satang National Park Talang-Satang National Park...which is a play an important role in Marine Turtle conservation in Sarawak.



Locality Plan A1: Village Locality of Houses in Santubong Village (Source: DBKU)

Since 1998, the Sarawak Culture Village has been home to the annual Rainforest Music Festival, now usually held during the second weekend of July. The event attracts performers from across the globe.

The coastal area around Santubong Bay and the surrounding area is one of the many important Migratory Bird Area in Sarawak. It is an important wintering ground for migratory birds. In between October and March, many migratory birds can be sighted around this area. Among them are terns, egrets, sandpipers and occasionally Pacific red egrets could be sighted at the Tanjong Aru and outcrops off Santubong. This is also a site of an ancient artefact of early Hindu influence. Nearby, is the Sultan Tengah Mausoleum. The Mausoleum is located just before the junction to Santubong fishing village. Sultan Tengah was the son of the third Sultan of Brunei. He died in 1641 and was the first and only Sultan of Sarawak. When Sultan Tengah passed away, he was buried together with his family members, the location of which is the Tomb of Sultan Tengah.

Kampung Buntal

Kampung Buntal has a population of approximately 1000 people staying in 162 household and the houses are shown in the locality plan of the village. (See Locality Plan A2) The village is located about 27 kilometres from the city centre. The houses still maintain the traditional architecture. Overall, the village landscape is flat and has fertile land. The government delineates the land for agriculture purposes. The villagers enjoy both the fishery and agriculture activities. Bunds were built to restrict sea water from entering into the agriculture areas.



Map A3 : Aerial View of the Buntal Village (Source: Google Map)

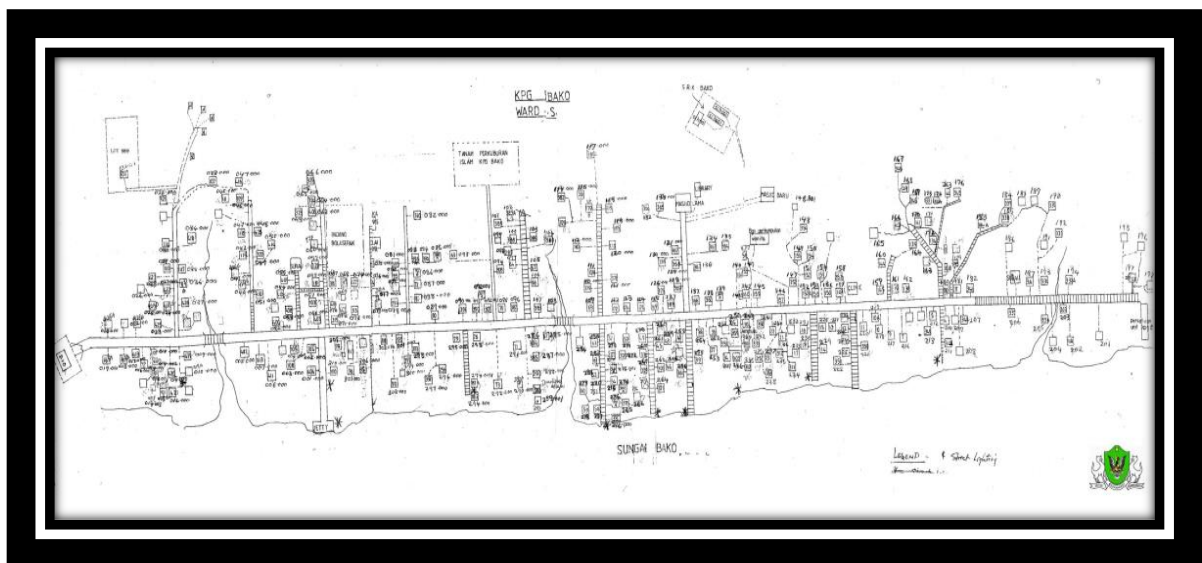
According to the village elders, the name of the village Kampung Buntal is derived from a type of puffer fish (Ikan Buntal) which is abundant in the Buntal River and the village was founded about 300 years old. The village is located at the estuary of River Bako and it is noted to be a natural shelter for fisherman during bad weather (See Map A3)

The village is famous for its eight seafood restaurants. During the sunny weather, the villagers will collect seafood like bamboo shellfish, placuna, clam, mangrove crab, fishes, prawn and other seafood to be supplied to the seafood restaurant. Also, the

villagers produced dried and salted fish and shrimp paste. The village enjoys facilities like Community Hall, mosque, school and football field,

Kampung Bako

The study was also carried out in the traditional village of Bako. Bako village has 298 household with an approximate population of 1785 peoples (See Locality Plan A3) The village is surrounded by mangrove swamp and agriculture activity is scare. The villagers depended on fisheries and tourism as their source of income. Nowadays, with the better road system to the village more are working in the Demak Industrial Area nearby and also in the city centre as civil servants.



Locality Plan A3: Village Locality of Houses in Bako Village (Source:

The researcher observed that the houses are built on stilt especially those at the river bank. The village is accessible by road from the city to the terminal. At the terminal, there are wooden dug-out-timber boats docking to ferry the villagers across the river. The houses in the village are link by means of plank walk. Sanitation at the village is poor especially along the river bank. Waste are scattered below the houses. Since the village is across the river the garbage collection team contracted out by DBKU cannot serve the household directly. Workers from village were appointed to collect, transport it to the other side of the river using boat and dispose it at a bin collection centre for collection. Traditionally, the villagers throw waste from their houses and the waste will be washed away by the tide. Previously, the wastes generated are organic in nature

and biodegradable but recently with the high usage of plastic bags and other non-biodegradable material, they pollute the environment.

The village enjoys facilities like Community Hall, mosque, school, football field, clinic, jetty, mosque and Forest Department Terminal to assist the tourist to visit the Bako National Park.

This traditional village located near Bako River estuary is the gateway to the renowned Bako National Park. Bako is one of the smallest national parks in Sarawak. However, it features multiple biomes (including rainforest), various tropical ecosystems, and abundant wildlife with the attractive proboscis monkey, jungle streams and waterfalls, secluded beaches, trekking trails and unique flora, fauna.



Picture A1: Houses on stilt at Bako

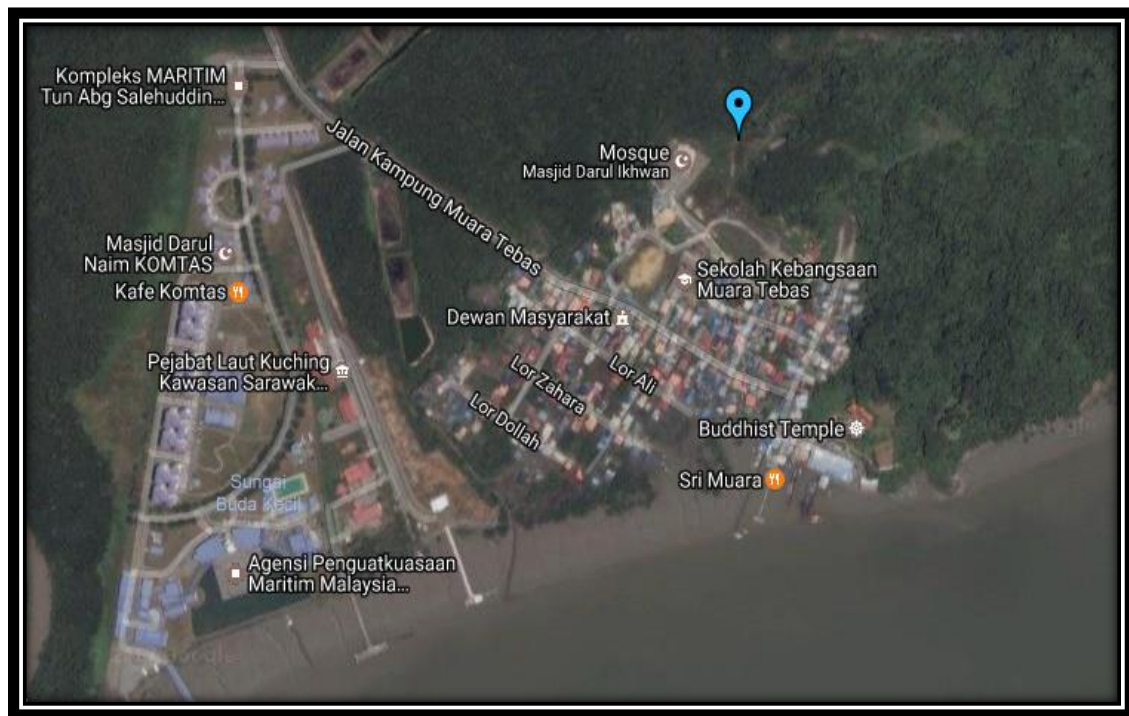
The range of attractions and activities in a compact area has made Bako one of the most popular parks in Sarawak. The villagers enjoy the opportunity to transport the tourist to the national park. Besides that, the Chairman of the VSDC announced the

potential of other tourism products such as 'Birds and Crocodiles' watching. The villagers are noted to be skilled fishermen and boatmen. Also, the village is famous for the shrimp paste making known locally as *belacan* and the supplier of fresh and dried fish to the nearby market. The best industries that suit the village landscape is aquaculture, rearing fish in cages and eco-tourism.

Kampung Muara Tebas

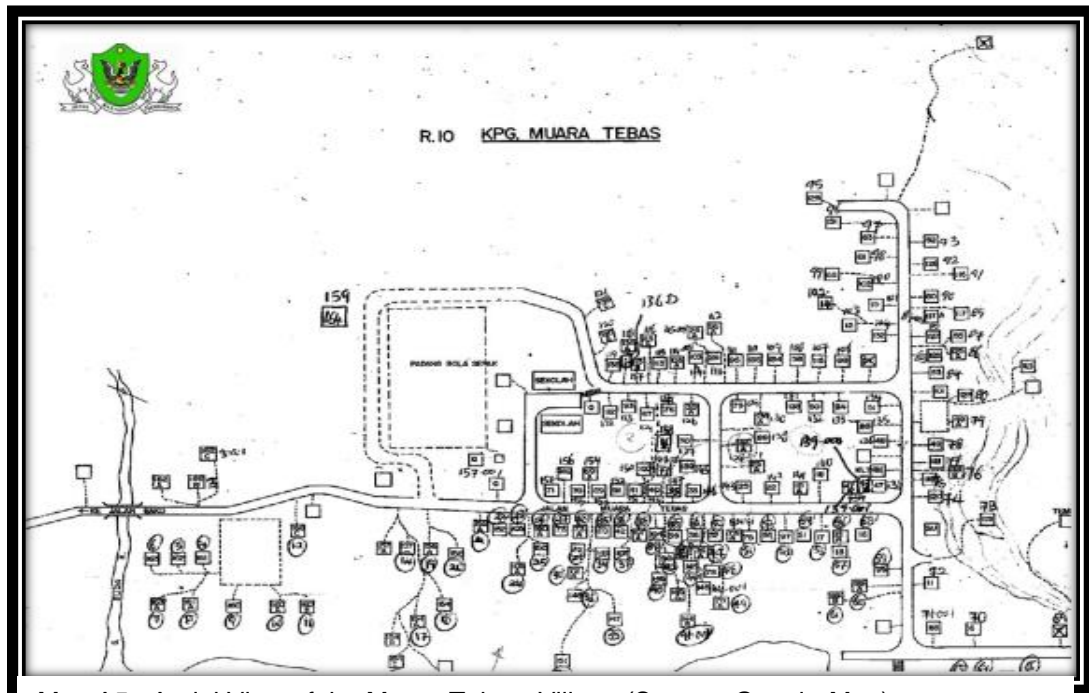
The population of the village is approximately 770 people staying in 154 houses. (See Locality Plan A4). The Village fronts the estuary of Sarawak River. There are the Maritime Department offices Federal Department) and Marine department offices (State Department) near the village. There is a jetty for fish trawlers to berth and unload their daily catch.

Kampung Muara Tebas community is noted for their tolerance and respectfulness as the Member of State Legislative Assembly, The Honourable Datuk Abang Draup noted: "This is not just a question of tolerance but also respect for each other's sensibilities, and it's important to know we all have our sensibilities. (Borneo Post: January 1, 2012). He praised the community for accommodating the other different faith visiting the temples sited at the village and thus enjoying the hospitality accorded by the community. The village sites a historical Buddhist temple on the east side of the village. Most of the villagers are Muslim but their tolerance to co-exist with is exemplary.



Map A4: Aerial View of the Muara Tebas Village (Source: Google Map)

Along the river bank are rows of seafood restaurant operated by non-villagers. It gave employment to the locals and the restaurant operators buy fresh seafood caught by the villagers. The availability of land and brackish water flowing into a stream nearby is suitable for tiger prawn cultivation had encouraged a joint venture between the private sector and the residents. The community enjoys the facilities provided by the government such as community hall, football fields, school, clinic, jetty, mosque, Police Kiosk, and two Government Department namely Maritime Federal Department) and Marine Department (State Department). This village also produces fresh, dried and salted fish for the local market.



Map A5: Aerial View of the Muara Tebas Village (Source: Google Map)

According to the community leader, the village has potential to embark on a deep water fishing and down-stream fisheries such as making of fish balls, fish crackers and all other fish related product.

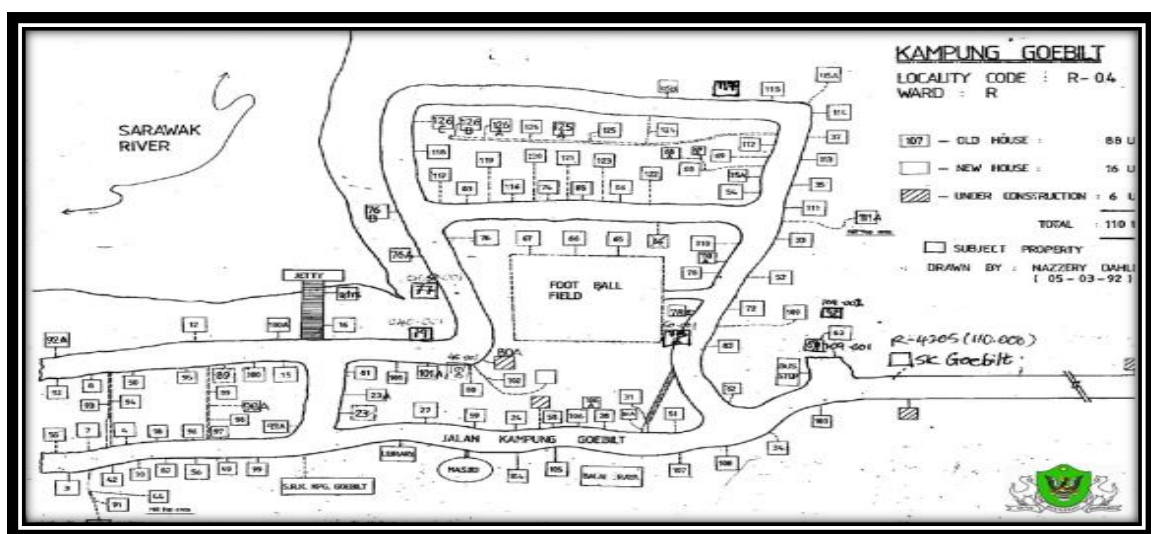
Kampung Goebilt

Kampung Goebilt is located 19 kilometres away from the city centre. The village is located beside the river and a hill which separates the village from the Sejingkat Power Cooperation. The land is still designated as traditional village and the village leader had requested the State Government to survey the area and award them with land titles.



Map A6: Aerial View of the Goebilt Village (Source: Google Map)

The population is about 600 people staying in 117 houses. (See Locality Plan A5). The Members of Parliament in the area announced during the official ceremony of the village mosque of his intention to resettle those at the river bank to a new housing scheme build by the Housing Development Commission. The area around the village has been developed into industrial area thus giving opportunity for the villagers to secure a steady income.



Locality Plan A4: Village Locality of Houses in Goebilt Village (Source: DBKU)

Kampung Sejingkat

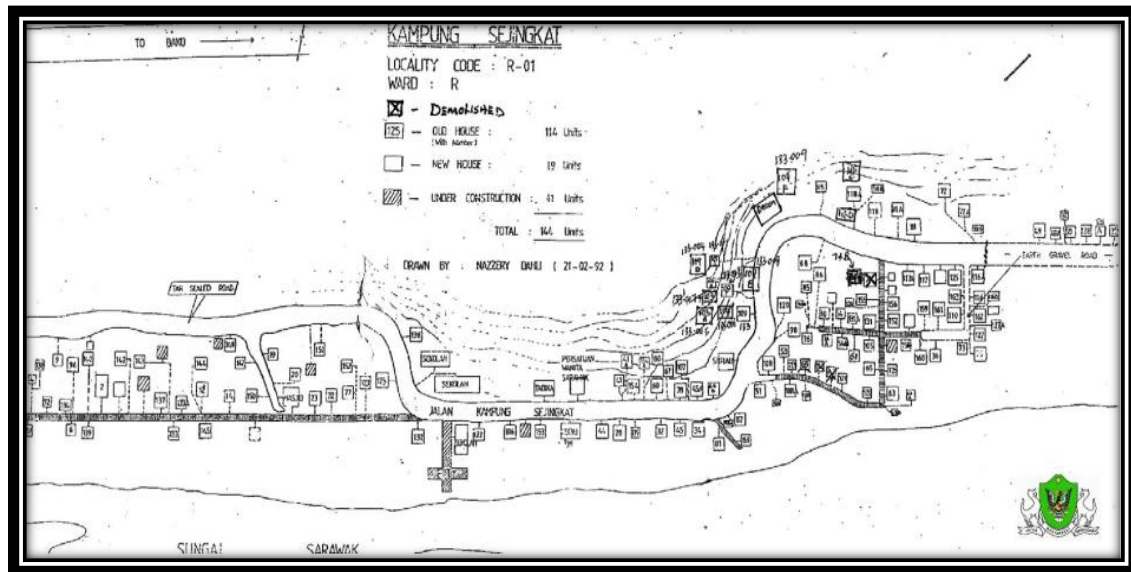
Kampung Sejingkat is located 13 kilometres away from Kuching City. Before arriving at Kampung Sejingkat, there is a Brooke Dockyard & Engineering Works industrial shipbuilding and maintenance plant. The village enjoys facilities supplied by the government such as community hall, school, jetty, and a mosque. There are 16 houses with a population of approximately 930 inhabitants. The houses layout is shown in Locality Plan A6. The village fronts the Sarawak River on a narrow strip of land with a hill in the background. The land surrounding the village is now developed into an industrial estate (See Map A7). This provides job opportunity for the villagers to be employed. Most of the villagers' source of income is through traditional fishing activities but with the development around the village area most youngster prefer to work in factories.



Map A7: Aerial View of the Sejingkat Village (Source: Google)

The village advantage is being at the river and close by the sea. The community leader proposed the village cooperative society to be involved in Fisheries related industry with vessels catching fish in deep water and create downstream fishery industry. The

village is provided with a community hall, school, jetty and mosque. The facilities provided are utilised for societal activities.



Locality Plan A5: Village Locality of Houses in Sejingkat Village (Source: DBKU)

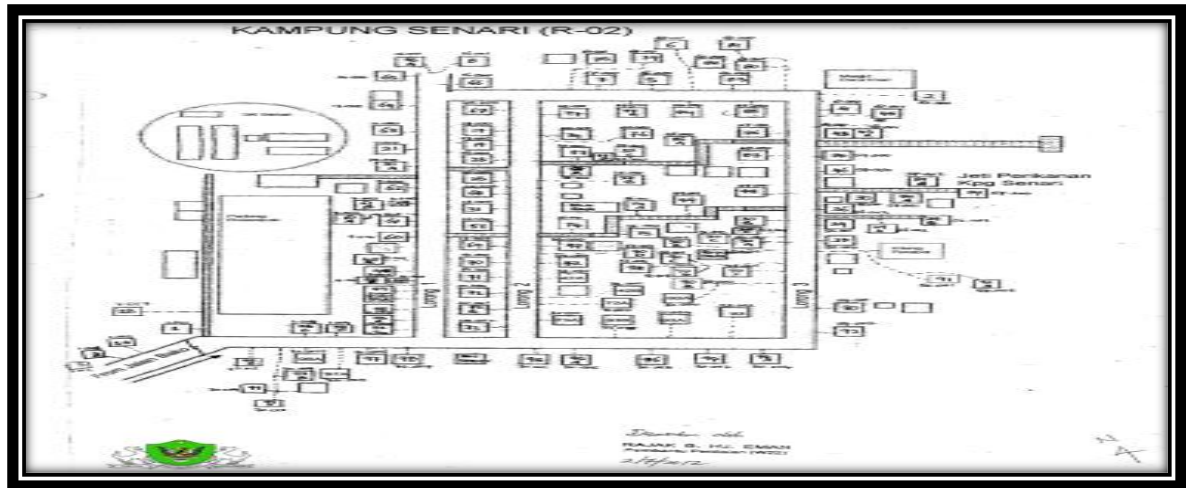
Kampung Senari

The aerial view of Kampung Senari depicts the development surrounding the village. Upon entering the village, on the left side is the Assar Senari Industrial Complex and on the right is Senari Port. Sandwiched between the two developments, there is not sufficient land available for expansion of the village. (See Map A8)



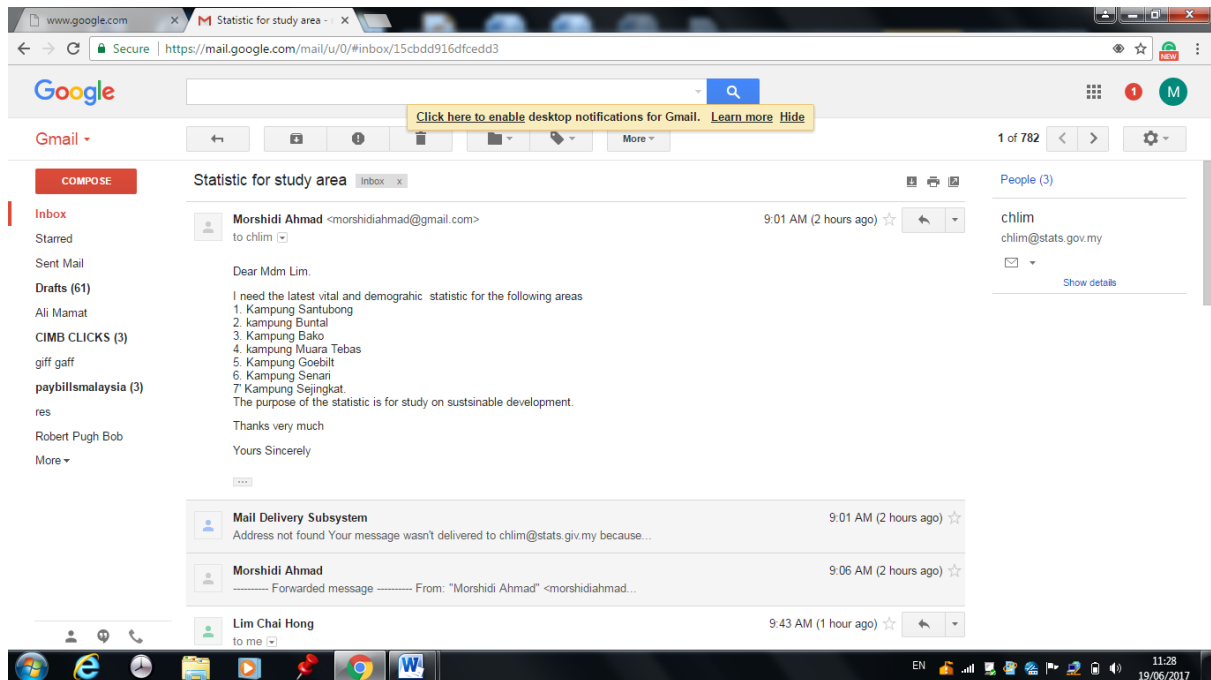
Map A8: Aerial View of the Senari Village (Source: Google Map)

The village is located 17 kilometres away from the city centre and inhabited by approximately 650 people in 125 houses. The village is provided with community hall, school and a mosque. Despite the development surrounding the village, it still maintains its traditional characteristic with houses at the river bank still on stilt and the sanitation due for improvement.

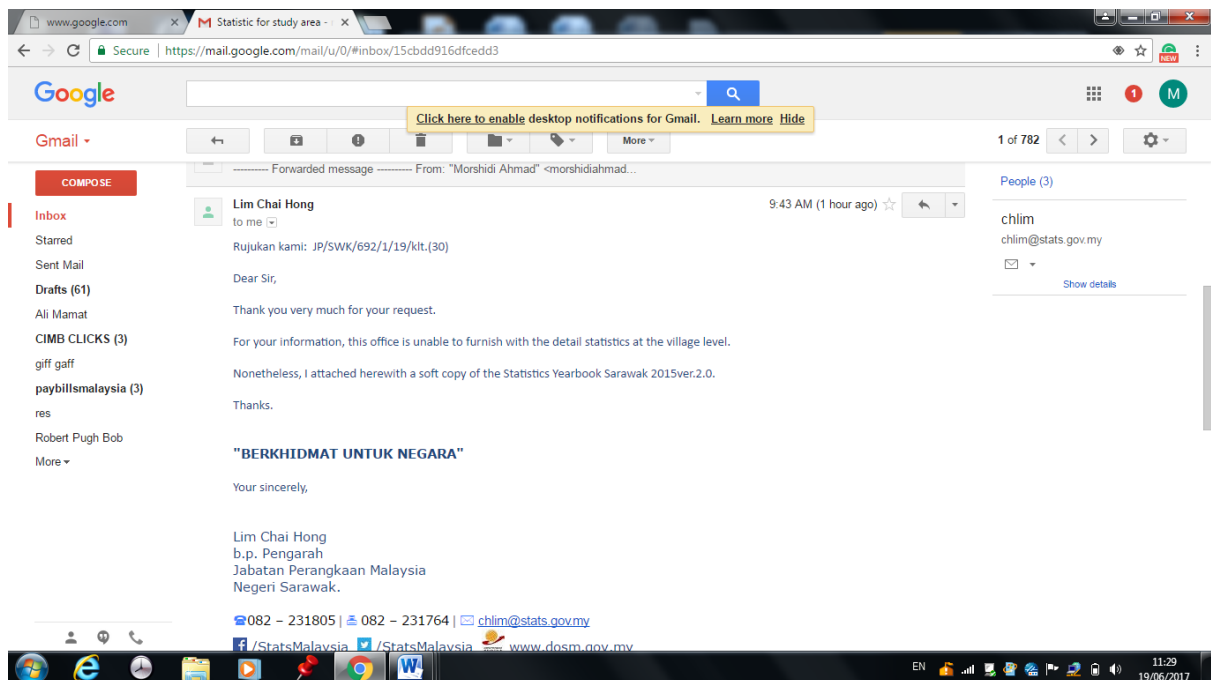


Locality Plan A6: Village Locality of Houses in Senari Village (Source: DBKU)

Appendix 1b : Email Correspondence With Statistic Department



Reply from Statistic department officer that the statistic at the village level is not available



Appendix 2 : Principles for Sustainable Community Development Policy

Principles	Key/Main Issues	Key Words
1	Human as centre of concern	P1 Human
2	State have sovereign right to explore resources but not to cause damage to the environment of other states	P2 Environmental Consideration
3	Right to development must be for the present and the future	P3 Sustainable development
4	Integral environment protection	P4 Environmental Protection
5	Eradication of poverty	P5 Poverty
6	Priority given to environmentally vulnerable developing countries	P6 Environmentally Vulnerable
7	Global partnership to conserve, protect and restore the health and integrity of the earth's ecosystem	P7 Earth's ecosystem
8	Reduce or eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies	P8 Unsustainable production
9	State should cooperate to strengthen endogenous capacity building in the transfer of new and innovative technology	P9 Endogenous capacity
10	Citizen's participation in environmental issues. State responsible for disseminating and ensuring effective access to judiciary and administrative proceedings.	P10 Citizen's participation
11	State shall enact environmental legislation, standards	P11 Environmental legislation
12	Open international economic system, trade policy measures, unilateral actions to address the environmental issues	P12 Addressing the environmental issues
13	Developing laws pertaining to pollution and environmental damage	P13 Law for environmental protection
14	Discourage or prevent the relocation or transfer of anything that causes environmental deterioration.	P14 Waste transfer
15	Precautionary approach for the prevention of environmental degradation	P15 Prevention of environmental degradation
16	Polluters to pay of the cost of pollution	P16 Polluters pay

Principles	Key/Main Issues	Key Words
17	Environmental Impact Assessment as a national instrument	P17 EIA
18	Notifying other states of harmful effects	P18 Harmful effects
19	Notification by state on transboundary environmental effects	P19 Transboundary environment
20	Women's participation in sustainable environment and development	P20 Women's participation
21	Youth mobilization for a better future	P21 Youth mobilization
22	Indigenous and local people's participation in sustainable development	P22 Local participation
23	Protection of the environment and the natural resources of oppressed ,dominated and occupied people	P23 Protection of environment and resources
24	Protection of the environment during war	P24 Protection of the environment during war
25	Peace, development and environmental protection are interdependent and indivisible	P25 Peace development and environmental protection
26	Resolve environmental disputes in accordance to Charter of United Nations	P28 Environmental dispute
27	Cooperation of all on the principles embodied in the Rio Declaration	P27 Cooperation

Appendix 3 : Questionnaires



University of
Salford
MANCHESTER

Questionnaires for Head of Household

SURVEY TITLE:

**SUSTAINABLE COMMUNITY DEVELOPMENT IN DBKU SUBURBAN
(Traditional Villages)**

SURVEY PURPOSE:

This survey is to collect data and obtain current information of the community pertaining to sustainable community development within DBKU area. The result of this study will be used for the planning of programs and projects within the study area. An interview will be conducted encompassing various aspects including biodata of head of household, major sustainable community development parameters such as economic, environment, social etc.

Attention:

All information/ data are strictly for research and for official use of DBKU

THIS QUESTIONNAIRE IS DIVIDED INTO 3 (THREE) PARTS

Biodata of Head of household and members

Detail of residence

Views and opinion regarding social, economic and environment etc.

Directive: Participation in answering this questionnaire is voluntary and answers given are construed to be consent by the respondent.

PART A: Biodata Household Head

1. AREA CODE:

Please tick the relevant box.

No	CODE	AREA	Tick here
1	S03	Kampung Santubong	
2	Q17	Kampung Buntal	
3	R10	Kampung Muara Tebas	
4	S10	Kampung Bako	
5	R02	Kampung senari	
6	Q28	Kampung Goebilt	
7	R01	Kampung Sejingkat	

2. Name of Household head:

[illegible]

3. New ID No:

						-			-				
--	--	--	--	--	--	---	--	--	---	--	--	--	--

4. Old ID No:

--	--	--	--	--	--	--	--

5. Full Address:

[illegible]

4- Widow/widower

16. Estimated Monthly income : RM_____

18. No of children :

--	--

19. No of dependent :

--	--

20. Detail of dependent relationship if any

Part B: Detail of Residence

Direction: Please circle the appropriate answer.

21. Residency Status:

1- Owned 4- Sharing
2- Inherited house 3- Rental
5- Others (State.....)

22. No of Rooms:

1- No rooms 2- 1 - 2 Room
3- 3 – 4 Rooms 4- 5 – 6 Room
5- 7 and above

- 23 Type of house
1. Wooden village house
 2. Single storey detached
 3. Double storey detached
 - 4, Terrace house
 5. Others (Please state.....)

24. Do you have the following utility supplied to your house

a) Electricity : 1- Yes 2- No

b) Treated water 1- Yes 2.- No

25. If there is no electricity supply, what is the alternative used.

- 1- Oil Lamp
- 2- Individual Generator
- 3- Batery
4. Shared generator
- 5- Others, (please state.....)

26. If there is no treated water supply Where do you obtain the water supply:

1. River
- 3- Underground water
2. Well
- 4- Others, (pleasestate.....)

27. Type of Vehicle ownership:

Type of vehicle	Numbers
1. Car	
2. Motorcycle	
3. Van	
4. Lorry	
5. Others (Please State)	

28. Do you owned/ used the following facilities.:

Yes No If yes, since when (Please specify)

a. Credit card.	1	2
b. Life/ Health Insurance	1	2
c. Hand Phone	1	2
d. Computer	1	2
e. Internet.	1	2
f. Parabola	1	2

Please rate the following indicator within your area of residence:

No.	Indicator	Strongl y agree	Agre e	Not sur e	Disagre e	Strongl y Disagre e
29	Treated water availability	1	2	3	4	5
30	Electric supply is consistency	1	2	3	4	5
31	Road to the Residence is good.	1	2	3	4	5
32	Is the village safe to live in another 10 years	1	2	3	4	5
33	Community Centre is in good condition	1	2	3	4	5
3	Public transport service is good	1	2	3	4	5

4						
3 5	Environmental condition is good	1	2	3	4	5
3 6	I am satisfied with the community relation	1	2	3	4	5
3 7	The local community is concerned with my well- being	1	2	3	4	5

Part C: View is regarding the social economic religion/ spiritual and environmental

(C1) Your view regarding Social issues in your area

No	Indicator	Strongl y agree	Agre e	Not sur e	Disagre e	Strongl y Disagre e
38	Housebreaking and theft is a problem in this area	1	2	3	4	5
39	Vandalism is a problem in this area.	1	2	3	4	5
40	The safety of this area is satisfactory	1	2	3	4	5

41	Drug abuse is a problem in the area.	1	2	3	4	5
42	Glue sniffing among youth is rampant in this area	1	2	3	4	5
4 3	There is Alcohol addiction in the area	1	2	3	4	5
4 4	Strolling at night in the area is safe.	1	2	3	4	5
4 5	Gangsterism exist in this area	1	2	3	4	5
4 6	The habit of hanging out among youth in this area is frequent	1	2	3	4	5
4 7	Collectively we are responsible for the social problem in the area	1	2	3	4	5

48. Education

Primary School Education

Is there a school near your village?

Yes No

How far is the school from your house?

.....

How do your children go to school?

.....

Are you involved in the parent teacher association? Yes No

Post Secondary Education

Is there any secondary school in your village. Yes No

How far is the school from your house? .

.....

Adult Education

Is there any colleges or institution of higher learning near your village? Yes

No

How far is it from your house?

.....

Cultural Education

Is there any cultural activity organized at your village? Yes No

Who usually organized the activity?

Which agency usually organized the activity?

.....

Do the villagers get training on cultural activity?

.....

Community Involvement

Is there any formal organizations in your village? Yes No

If yes, what is it called?

.....

Is there any cooperative in your village? Yes No

Are you involved in the organization? Yes No

What is your position or role in the cooperative?

.....

Does the organization have a plan of action? Yes No

What does the organization intend to do to uplift the standard of living in the village?

Effectiveness of Public Services

Which government agency comes frequently to your village?

.....

How do you rate the services provided?

.....

What do you think that the public services can do for the benefit of the village?

.....

Health

How far is the nearest government clinic from your house?

.....

Where do you get your treatment if you feel sick?

.....

How far is it from your house?

.....

Is there any communicable disease outbreak in your area such as dengue?

.....

Housing/Individual Wealth

Do you get assistance from the government to build your house? Yes

No

Which agency assisted you in building the house?

.....

(C2) View is regarding Economy issues.

No	Indicator	Strongly agree	Agree	Not sure	Disagree	Strongly Disagree
49	The household income is sufficient to cater for the family need.	1	2	3	4	5
50	I need to work extra jobs to cater for my family need	1	2	3	4	5
51	The other family members contribute to the household need.	1	2	3	4	5
52	This village has the potential to generate tourism activity.	1	2	3	4	5
53	This village has the potential to develop small scale industry.	1	2	3	4	5
54	It is difficult to generate income in this village.	1	2	3	4	5

55. Are you interested in entrepreneurship.

1. Yes 2. No

56. If yes, what is the type of business?

A. _____

B. _____

C. _____

D. _____

57. If no, Please specify why?

58. **Energy**

i. Is your house supplied with electricity? 1. Yes 2. No

ii. If yes, do you use it for cooking 1. Yes 2. No

ii. Do you use the following electrical appliances such as :-

1. Rice cooker

2. Dishwasher

3. Blender

4. Electric oven

5. Washing machine

6, Others

59. Business

What kind of business is carried out in your village?

.....

Are you involved in any business?

.....

What is the type of business that you would like to participate?

.....

Is there any government agencies that assist small businessman in your village?

.....

Do you get basic training skill that enables you to start a business?

.....

If yes, what kind of training did you attend?

.....

Is there any potential of tourism related business in your village?

.....

If Yes, what kind of tourism related business will succeed?

.....

(C3) View on Environmental Factors

No	Indicator	Strongly agree	Agree	Not sure	Disagree	Strongly Disagree
60	Drainage system in my areas is satisfactory	1	2	3	4	5
61	Domestic waste collection is frequently done	1	2	3	4	5
63	Waste collection by DBKU is satisfactory.	1	2	3	4	5
64	Open burning of waste in my area is rampant,	1	2	3	4	5
65	The community needs to cooperate to ensure the due environment is clean,	1	2	3	4	5
66	The practice of Gotong Royong (Voluntary Cooperation) is frequently carried out in our community.	1	2	3	4	5
67	The participation of village residents is satisfactory.	1	2	3	4	5
68	The recycle activity is carried out in this village.	1	2	3	4	5
69	I practiced recycling every day.	1	2	3	4	5

70. Is the environment in your village free from pollution

1. Yes 2. No

71. If yes, what kind of pollution is it?

.....

78. Air Quality

What do you think of the air quality in your village?

.....

Do you smell any smelly discharge from the neighboring factories.

.....

79. Land use and Biodiversity

Is the land in your village designated for farming?

.....

In your observation, is there any changes in your environment especially the presence of flora and fauna.

.....

80. Water Resources

What do you think of the water supply that you are getting now?

.....

Where is the source of the water supply?

.....

81. Management of Societal Waste

Do you practice recycling in your village

Do you practice composting for your kitchen waste?

a. If yes, what do you do with the compost

b. If no, why?

.....

82. Forests

Is there any forest surrounding your village. 1. Yes 2. No

What is the jungle product that can be collected from the forest?

.....

Are you dependent on the forest for livelihood? 1. Yes 2. No

83. Pest Management

Do you ever purchase pesticide ? 1. Yes 2. No

If yes, do you use inorganic pesticide on your farm? 1. Yes 2. No

Where did you purchase the pesticide?

.....

Are you taught or trained to use the pesticide? 1. Yes 2. No

Is there any other alternative way that you can use to replace the pesticide?

.....

(C4) Views regarding Spiritual/Religious factors

84. Do you always discuss and exchange knowledge regarding religious/ spiritual matters?

1. Yes 2. No

85. Is there any religious activity organized in your village?

1. Yes 2. No

85 (i) If yes, please specify the activity.

85 (ii) If no, please specify why?

86. Are you involved in the activity? 1. Yes 2. No

86 (i) If yes, what kind of activity do you participate ?

87. In your opinion, do you benefit from the religious activity?

88. Is the religious activity organized sufficient for the residents?

1. Yes 2. No

88 (i). If yes, please state the activity organized?

88 (ii). If no, what are the activities that you think suitable for the residents?

89. Do you think the religious values are practiced in your villages?

1. Yes 2. No

(C5) Views regarding needs and visioning?

90. Do you think that all your personal and family needs are fulfilled?

1. Yes 2. No

91. If not yet, what is the need that you require?

(i)	Education	
(ii)	Property	
(iii)	Finance.	
(iv)	Basic needs.	
(v)	Future need	

Others: _____

92. What do you aspire to achieve in 10 years time?

93. Do you think that the village organization is effective in delivering services to the people?

1. Yes 2. No

If no, why do you think that the organization is not effective

.....

How many organizations are there in your village?

.....

94. Which particular organization do you think is most effective?

.....

95. Does the organization have an action plan laid out for the villagers to view?

.....

96. Have you heard of the term sustainable community development?

.....

97. Do you think the villagers can cooperate to achieve a sustainable community?

.....

98. Which agency do you think should be the lead agency to assist the community?

.....

Source ; Based on Egan Wheel (2005), Dimensions of Diamond of Quality of Life and University Wisconsin Extension Cooperation Cooperative Extension- Sustainable community Development Indicators of Community Sustainability- January 1998

Appendix 4 : Quantitative Data Analysed Using SPSS Analysis

Spp s	Variables Values	Villages	Σ (%)	Interpretation
----------	------------------	----------	--------------	----------------

Abb r Q No										
A	BIODATA									
1 kpg	1.Santubong									
	2. Buntal									Strength
	3. Muara Tebas									Weaknesses
	4. Bako									Opportunity
	5. Senari									Threat
	6. Goebilt	1	2	3	4	5	6	7		
	7. Sejingkat									
1	Σ	47	41	38	73	30	30	41	300	
3 Age 6	1.1-12	0	0	0	0	0	0	0	0	AGE Most of the respondents are from the age group 40-60(55%) years old
	2.12-18	0	0	0	0	0	0	0	0	
	3.18-25	0	0	0	1	1	0	0	2	
	4.25-40	16	9	5	20	4	10	14	78 (26)	
	5.40-60	24	29	24	34	18	18	17	164 (55)	
	6.60-90	7	3	9	18	7	2	10	56 (18)	
	Σ	47	41	38	73	30	30	41	300	
4 Sex 7	1.Male	40	36	34	33	18	27	37	225 (75)	SEX 75% are male
	2.Female	7	5	4	40	12	3	4	75 (25)	
	Σ	47	41	38	73	30	30	41	300	
7 Edu 10	1.None	0	1	3	9	4	2	3	22 (7.3)	EDUCATION 46% respondent having a primary school education.
	2.Primary	21	19	23	31	14	14	17	139 (46.3)	
	3.Junior Sec Sch	15	9	9	18	10	10	8	78 (26)	
	4.High Sec Sch	8	10	3	11	3	3	13	50 (16.7)	
	5.Diploma	3	1	0	0	1	1	0	6 (2)	
	6.Degree	0	1	0	4	0	0	0	5 (1.7)	
	Σ	47	41	38	73	30	30	41	300	
8 Skill 11	1.None	3	10	15	35	15	15	20	113 (37.7)	SKILL 38% claim no skill. 16% had basic training in business. This is group that can be train to be businessman.31 had experience in Fishing. This group are potential modern fisherman with state of the art equipment and technic
	2.Farming	14	4	0	11	1	0	4	34 (11.3)	
	3.Rearing	2	0	0	0	0	0	1	3	
	4.Fishing	18	18	12	18	5	11	12	94 (31.3)	

	5.Handicraft	2	0	2	1	2	0	0	7	
	6.Basic business	8	9	9	8	7	4	4	49 (16.3)	
	Σ	47	41	38	73	30	30	41	300	
9 Hs 12	1.Healthy	28	31	35	60	27	25	33	239 (79.7)	HEALTH Almost 80% are healthy.
	2.Asthma	10	1	0	0	0	1	0	12 (4.0)	
	3.High Blood Pressure	6	5	1	9	3	4	3	31 (10.3)	
	4.Diabetes	3	2	1	2	0	0	0	8 (2.7)	
	5.Old Age	0	1	1	1	0	0	1	4 (1.3)	
	6.Others	0	1	0	1	0	0	4	6 (2.0)	
	Σ	47	41	38	73	30	30	41	300	
10 Disa bility 13	1.None	46	36	35	70	29	30	38	284 (94.7)	DISABILITY 94.7% of respondent are healthy and 47% indicate bodily handicap. 0.6% had partial eye impaired man.
	2.Body Handicap	1	4	3	3		0	3		
	3.Dumb								14 (4.7)	
	4.Blind		1			1				
	5.Deaf									
	6.Mental								2 (0.6)	
	7.Paralyse									
	8.Others									
	Σ	47	41	38	73	30	30	41	300	
11 Ms 14	1.Single	1	3	7	10	0	0	11	32 (10.7)	MARITAL STATUS 77.7% are married.
	2.Married	41	35	27	51	25	26	28	233 (77.7)	
	3.Divorcee	3	1	2	3	0	1	1	11 (3.7)	
	4.Widow	1	1	2	9	5	3	1	22 (7.3)	
	5.Separated	1	1	0	0	0	0	0	2 (0.6)	
	Σ	47	41	38	73	30	30	41	300	
12 Es 15	1.Self Employ	26	19	14	49	4	12	17	141 (47)	EMPLOYMENT 47 respondents are self-employed. Potentially to be train as businessman. 13.7% are pensioner. These group had vast experience in government service. Their role in developing SC is vital.
	2.Permanent Employed	8	10	14	11	7	12	12	74 (24.7)	
	3.Part Time Employed	5	1	2	3	2	2	2	20 (6.7)	
	4.Unemployed	2	6	3	10	12	3	3	41 (13.7)	
	5. Pensioner	5	3	1	0	1	0	0	10 (3.3)	
	6.Fulltime housewife	1	2	4	0	4	1	1	14 (4.7)	
	Σ	47	41	38	73	30	30	41	300	
13 Inc 16	1.RM0-RM500	11	18	6	46	6	4	10	101 (33.7)	INCOME 33.7% are earning below poverty mark of RM700.00. Another 43% earning less than RM1000.00
	2.RM501-RM1000	25	15	21	17	17	16	19	130 (43.3)	
	3.RM1001-RM1500	4	4	3	4	5	8	8	36 (12)	
	4.RM1501-RM2000	1	0	6	6	2	2	4	21 (7)	
	5.RM2001 and above	6	4	2	0	0	0	0	12 (4)	
	Σ	47	41	38	73	30	30	41	300	
14 lh 17	1.RM0-RM500	9	14	4	40	5	4	9	85 (28.3)	INCOME HOUSEHOLD
	2.RM501-RM1000	23	13	19	15	16	15	17	118 (39.3)	

	3.RM1001-RM1500	6	5	4	6	5	8	11	45 (15.0)	The number of those earning below the poverty income level is high 76%.
	4.RM1501-RM2000	3	3	7	7	4	3	3	30 (10.0)	
	5.RM2001 and above	6	6	4	5	0	0	1	20 (7.4)	
	Σ	47	41	38	73	30	30	41	300	
15 Nod 18	1.1	0	0	0	1	0	0	0	1 (0.3)	NUMBER OF DEPENDENT High number of dependent indicating that the cost of maintaining is high . Also the extra manpower for the economical activity
	2.2	3	9	6	6	5	5	4	38 (12.7)	
	3.3	3	10	13	18	5	5	11	64 (21.3)	
	4.4	16	7	8	22	7	7	10	75 (25.0)	
	5.5	10	7	4	13	6	6	5	48 (16.0)	
	6.6	13	6	5	5	4	4	3	42 (14.0)	
	7.7	1	0	1	6	2	2	3	14 (4.7)	
	8.8	1	2	1	1	1	1	4	15 (5.0)	
	Σ	47	41	38	73	30	30	41	300	
B	BASIC NEED									
16 RS 21	1.Owned	35	37	29	48	27	17	10	203 (67.7)	RESIDENT STATUS 67.7% owned their own house.
	2.Inherited House	10	1	6	7	3	3	7	37 (12.3)	
	3.Rent	0	2	2	2	0	8	23	37 (12.3)	
	4.Sharing	1	0	1	12	0	1	1	16 (5.3)	
	5.Others	1	1	0	4	0	1	0	7 (2.3)	
	Σ	47	38	38	73	30	30	41	300	
17 NOR 22	1.None	0	2	0	2	0	0	3	7 (2.3)	NO OF ROOM 55.7% of respondent have 3-4 room. 34.0% have 1-2 rooms. Those having high dependent having 8.0% and 2.3% have no room
	2.1-2 Rooms	8	15	15	24	16	16	13	102 (34.0)	
	3.3-4 Rooms	29	21	21	43	14	14	24	167 (55.7)	
	4.5-6 Rooms and above	10	3	2	4	0	0	1	24 (8.0)	
	Σ	47	41	38	73	30	30	41	300	
18 TOH 23	1.Wooden Stilt House	22	24	17	56	11	8	26	164 (54.7)	TYPE OF HOUSE
	2.Single Storey brick	18	5	7	5	2	13	7	57 (19.0)	
	3.Double Storey wood	7	5	11	8	12	6	5	54 (18.0)	
	4.Double Storey W&B	0	1	2	1	0	3	0	7 (2.3)	
	5.Double Storey B	0	6	1	3	5	0	3	18 (6.0)	
	Σ	47	41	38	73	30	30	41	300	
19 Elec 24(a)	1.Yes	47	40	38	71	30	30	1	297 (99.0)	ELECTRICITY 99% supplied with electricity.
	2.No	0	1	0	2	0	0	0	3 (1.0)	
	Σ	47	41	38	73	30	30	41	300	

20 Wate r 24(b)	1.Yes	47	41	37	72	30	30	41	297 (96.3)	99% having clean treated water
	2.No	0	0	1	1	0	0	0	3 (3.7)	
	Σ	47	41	38	73	30	30	41	300	
21 AE 25	1.Kerosene Lamp/stove	18	5	3	38	16	2	13	95 (50.7)	ALTERNATIVE ENERGY Old method of using kerosene stove still an alternative. Used of battery still practiced . Need to address the disposal method.
	2.Individual Generator	10	3	10	0	10	2	17	52 (4.0)	
	3.Battery	6	7	13	20	2	2	5	55 (6.3)	
	4.Shared Generator	4	7	9	4	0	0	5	29 (38.7)	

	5. Others	9	19	3	11	2	24	1	69 (23.0)	Avoid the used battery indiscriminately dispose in the river.
	Σ	47	41	38	73	30	30	41	300	
22 AW 26	1.Contain Rain Water	32	10	19	40	5	15	32	153 (51.0)	ALTERNATIVE WATER Majority contain rain water (51%) and during draught season KWB will send water to the village
	2.River	2	1	1	4	1	1	2	12 (4.0)	
	3.Underground Waters	4	1	8	1	0	5	0	19 (6.3)	
	4.KWB Water Tanker	9	29	10	28	24	9	7	116 (38.7)	
	Σ	47	41	38	73	30	30	41	300	
23 TOV O 27	1.Car	29	18	24	33		17	17	148 (49.3)	VEHICLE OWNERSHIP 95% are motorized.
	2.Motorcycle	12	13	13	36	20	13	18	125 (41.7)	
	3.Van	0	6	0	1	0	0	1	8 (2.7)	
	4.Lorry	0	3	0	0	0	0	0	3 (1.0)	
	5.None	6	1	1	3	0	0	5	16 (5.3)	
	Σ	47	41	38	73	30	30	41	300	
24 CC 28(a)	1.Yes	6	3	3	14	3	3	5	37 (12.3)	CREDIT CARD 12.5% having credit card.
	2.No	41	38	35	59	27	27	36	263 (87.7)	
	Σ	47	41	38	73	30	30	41	300	
25 Ins 28(b)	1.Yes	12	8	1	19	6	7	6	59 (19.7)	INSURANCE 19.6% having insurance. Not inclusive of motor vehicle insurance
	2.No	35	33	37	54	24	23	35	241 (80.3)	
	Σ	47	41	38	73	30	30	41	300	
26 Hp 28(c)	1.Yes	43	39	35	68	26	27	36	274 (92.0)	HANDPHONE 91.3% having handphone.
	2.No	4	2	3	5	4	3	5	26 (8.7)	
	Σ	47	41	38	73	30	30	41	300	
27 Com 28(d)	1.Yes	31	15	6	31	5	10	14	112 (37.3)	COMPUTER 37.3% having computer.
	2.No	16	26	32	42	25	20	27	188 (62.7)	
	Σ	47	41	38	73	30	30	41	300	
28 Int 28(e)	1.Yes	25	11	5	21	2	11	13	88 (29.3)	INTERNET 29.3% having home internet
	2.No	22	30	33	52	28	19	28	212 &0.7)	
	Σ	47	41	38	73	30	30	41	300	
29 Para 28(f)	1.Yes	27	22	27	36	11	6	12	141 (47.0)	PARABOLA 47% having parabola
	2.No	20	19	11	37	19	24	29	159 (53.0)	
	Σ	47	41	38	73	30	30	41	300	
c	GOVERNMENT AND VILLAGES									
30 TWC 29	1.Strongly Agree	21	10	1	26	16	9	19	102 (34.0)	WATER SUPPLY CONSISTENCY 92% agree that that the water supply is consistently supplied
	2.Agree	24	29	31	43	14	15	18	174 (58.0)	
	3.Not Sure	1	1	6	3	0	0	1	12 (4.0)	
	4.Disagree	0	1	0	1	0	6	3	11 (3.7)	
	5. Strongly Disagree	1	0	0	0	0	0	0	1 (0.3)	
	Σ	47	41	38	73	30	30	41	300	

31 Esc 30	1.Strongly Agree	20	8	1	22	15	9	17	92 (30.7)	ELECTRIC SUPPLY CONSISTENCY 90% agree that the electric supply is consistent. Good for food production ie machinery
	2.Agree	26	30	30	49	15	15	23	188 (62.7)	
	3.Not Sure	1	2	7	1	0	0	1	12 (4.0)	
	4.Disagree	0	1	0	1	0	6	0	8 (2.7)	
	5. Strongly Disagree	0	0	0	0	0	0	0	0	
	Σ	47	41	38	73	30	30	41	300	
88 E 58 i	1.Yes	11	10	7	6	3	4	2	43 (14.3)	ELECTRIC FOR COOKING 85.7% don't use electric for cooking
	2.No	36	31	31	67	27	26	39	257 (85.7)	
	Σ	47	41	38	73	30	30	41	300	
90 EA 58 iii	1.Rice Cooker	38	29	38	39	20	26	19	187 (62.3)	ELECTRIC APPLIANCES USED Rice cooker is highly used in the villagers9 62.3). The least is dishwasher(0.3%). Usage od dishwasher is associated with affluence status of the user.
	2.Dishwasher	0	0	16	0	1	0	0	1 (0.3)	
	3.Electric Blender	4	7	0	19	5	1	12	55 (18.3)	
	4.Electric Oven	0	1	7	10	3	2	4	29 (9.7)	
	5.Washing Machines	2	1	9	3	0	1	5	14 (4.7)	
	6.No electric appliance	3	1	2	2	1	0	1	14 (4.7)	
	Σ	47	41	4	73	30	30	41	300	
32 Rtr 31	1.Strongly Agree	10	2	0	3	1	0	1	17 (5.7)	ROAD TO RESIDENT 54.3% agree that the road to residential is good
	2.Agree	25	23	32	11	27	5	23	146 (48.7)	
	3.Not Sure	3	1	4	8	2	2	7	27 (9.0)	
	4.Disagree	5	15	2	42	0	12	9	85 (28.3)	
	5. Strongly Disagree	4	0	0	9	0	11	1	25 (8.3)	
	Σ	47	41	38	73	30	30	41	300	
33 Safe 32	1.Strongly Agree	5	0	0	2	4	1	4	16 (5.3)	VILLAGE SAFETY The safety in the village needs attention. Only 23% are sure it is safe.
	2.Agree	13	6	5	12	4	0	14	54 (18.0)	
	3.Not Sure	24	15	12	26	21	18	20	136 (45.3)	
	4.Disagree	3	18	17	30	1	10	2	81 (27.0)	
	5. Strongly Disagree	2	2	4	3	0	1	1	13 (4.3)	
	Σ	47	41	38	73	30	30	41	300	

34 CCC 33	1.Strongly Agree	11	0	0	1	0	0	1	13 (4.3)	COMMUNITY CENTER CONDITION 51.3% agree that the community center is in good condition.28% are not sure indicating that they seldom utilize the facility
	2.Agree	19	24	36	17	19	1	25	141 (47.0)	
	3.Not Sure	9	5	2	40	9	7	12	84 (28.0)	
	4.Disagree	8	12	0	11	2	7	2	42 (14.0)	
	5. Strongly Disagree	0	0	0	4	0	15	1	20 (6.7)	
	Σ	47	41	38	73	30	30	41	300	
35 PT 34	1.Strongly Agree	1	0	0	2	0	0	0	3 (1.0)	PUBLIC TRANSPORT 35% agree that that the public transport is good. The high motorize indicate that the public transport is lowly used. Only for those who don't have their own transport
	2.Agree	7	19	7	48	11	4	7	103 (34.5)	
	3.Not Sure	21	9	14	13	16	9	15	97 (32.3)	
	4.Disagree	13	13	1	6	1	16	13	63 (21.0)	
	5. Strongly Disagree	5	0	16	4	2	1	8	34 (11.3)	
	Σ	47	41	38	73	30	30	41	300	
37 CR 36	1.Strongly Agree	8	1	2	10	12	1	4	38 (12.7)	COMMUNITY RELATION 84.7% agree that the community relation is good
	2.Agree	31	32	28	59	15	17	34	216 (72.0)	
	3.Not Sure	5	6	7	4	2	9	3	36 (12.0)	
	4.Disagree	3	2	1	0	1	3	0	10 (3.3)	
	5. Strongly Disagree	0	0	0	0	0	0	0	0 (0.0)	
	Σ	47	41	38	73	30	30	41	300	
38 Com care 37	1.Strongly Agree	11	0	0	1	0	0	1	13 (4.3)	COMMUNITY CONCERN 51.3% agree that the community is concern about his/her affair.
	2.Agree	19	24	36	17	19	1	25	141 (47.3)	
	3.Not Sure	9	5	2	40	9	7	12	84 (28.0)	
	4.Disagree	8	12	0	11	2	7	2	42 (14.0)	
	5. Strongly Disagree	0	0	0	4	0	15	1	20 (6.7)	
	Σ	47	41	38	73	30	30	41	300	
1	1 SOCIAL									
39 HnT 38	1.Strongly Agree	3	5	0	8	0	9	3	28 (9.3)	HOUSEBREAKING 46.6% house breaking and theft as a problem
	2.Agree	9	19	4	41	3	20	16	112 (37.3)	
	3.Not Sure	14	5	14	18	10	0	9	70 (23.3)	
	4.Disagree	16	12	20	5	15	0	10	78 (26.0)	
	5. Strongly Disagree	5	0	0	1	2	1	3	12 (4.0)	
	Σ	47	41	38	73	30	30	41	300	
40 Van d 39	1.Strongly Agree	4	20	0	2	3	1	0	30 10)	VANDALISM 43.67% agree that vandalism is a problem in the village.
	2.Agree	30	7	26	27	19	4	17	130 (43.3)	
	3.Not Sure	8	11	12	37	4	5	10	89 (29.7)	
	4.Disagree	5	0	0	7	4	15	12	43 (14.3)	
	5. Strongly Disagree	0	1	0	0	0	5	2	8 (2.7)	
	Σ	47	41	38	73	30	30	41	300	
41 Safe ty 40	1.Strongly Agree	4	20	0	2	3	1	0	11 (3.7)	SAFE 51.3% agree that the village is safe
	2.Agree	30	7	26	27	19	4	17	143 (47.7)	
	3.Not Sure	8	13	12	38	4	5	10	82 (27.3)	
	4.Disagree	5	1	0	7	4	15	12	56 (18.7)	
	5. Strongly Disagree	0	0	0	1	0	5	2	8 (2.7)	
	Σ	47	41	38	73	30	30	41	300	
42 Drug	1.Strongly Agree	8	8	1	9	0	5	2	34 (13.3)	DRUG ABUSE
	2.Agree	11	24	11	49	4	20	5	124 (41.3)	

41	3.Not Sure	17	4	24	10	8	3	20	86 (28.7)	53% perceived that drug abuse is a problem in the village
	4.Disagree	10	4	2	2	16	0	11	45 (15.0)	
	5. Strongly Disagree	1	0	0	3	2	2	3	11 (3.7)	
	Σ	47	41	38	73	30	30	41	300	
43 Glue 42	1.Strongly Agree	2	15	0	14	0	0	2	34 (11.3)	GLUE SNIFFING 59.0% agree that glue sniffing happen among youth in the village.
	2.Agree	16	23	22	45	3	18	12	143 (47.7)	
	3.Not Sure	20	2	16	12	10	12	14	82 (27.3)	
	4.Disagree	6	1	0	1	16	0	10	32 (10.7)	
	5. Strongly Disagree	3	0	0	1	1	0	3	9 (8.3)	
	Σ	47	41	38	73	30	30	41	300	
44 Alc 43	1.Strongly Agree	3	15	0	14	0	0	2	34 (11.3)	ALCOHOL DRINKING 59.0% agree that alcohol drinking happen in the village
	2.Agree	20	23	22	45	3	18	12	143 (47.7)	
	3.Not Sure	16	2	16	12	10	12	14	82 (27.3)	
	4.Disagree	4	1	0	1	16	0	10	32 (10.7)	
	5. Strongly Disagree	4	0	0	1	1	0	3	9 (3.0)	
	Σ	47	41	38	73	30	30	41	300	
45 NS 44	1.Strongly Agree	8	1	0	5	9	0	2	25 (8.3)	NIGHT SAFETY 51% agree that the village is safe to walk or stroll during the night
	2.Agree	25	21	27	23	14	7	11	128 (42.7)	
	3.Not Sure	9	6	4	33	6	14	19	91 (30.3)	
	4.Disagree	4	11	7	11	1	9	8	51 (17.0)	
	5. Strongly Disagree	1	2	0	1	0	0	1	5 (1.7)	
	Σ	47	41	38	73	30	30	41	300	
46 Gan g 45	1.Strongly Agree	0	1	0	1	1	0	2	5 (1.7)	GANGSTERISM 21.4% agree that gangsterism exist in the village
	2.Agree	9	23	3	13	3	1	7	59 (19.7)	
	3.Not Sure	11	7	30	15	6	13	17	99 (33.0)	
	4.Disagree	21	10	5	38	12	9	11	108 (36.0)	
	5. Strongly Disagree	4	0	0	6	8	7	4	29 (9.6)	
	Σ	47	41	38	73	30	30	41	300	
47 HO 46	1.Strongly Agree	17	9	0	5	6	0	7	44 (14.7)	HANGOUT 71.4% agree that the youth often hangout at night at the villages
	2.Agree	21	24	24	48	17	14	22	170 (56.7)	
	3.Not Sure	5	3	12	15	4	13	5	57 (19.0)	
	4.Disagree	3	5	2	3	3	3	6	25 (8.3)	
	5. Strongly Disagree	1	0	0	2	0	0	1	4 (1.3)	
	Σ	47	41	38	73	30	30	41	300	
48 CSP 47	1.Strongly Agree	30	25	8	45	19	24	32	183 (61.0)	COMMUNITY CONCERN 99.7% agree that the villagers are caring about each other
	2.Agree	17	16	30	28	10	6	6	116 (38.7)	
	3.Not Sure	0	0	0	0	1	0	0	1 (0.3)	
	4.Disagree	0	0	0	0	0	0	0	0	
	5. Strongly Disagree	0	0	0	0	0	0	0	0	
	Σ	47	41	38	73	30	30	41	300	
49 SIV 48A i	1.Yes	47	41	38	73	30	30	41	300 (100)	SCHOOL All agree that there is a school in their village
	2.No	0	0	0	0	0	0	0	0	
	Σ	47	41	38	73	30	30	41	300	

50 DO S48 A ii	1.0-500m	38	15	25	17	17	23	28	158 (52.7)	SCHOOL DISTANCE Almost all agree that there is a school
	2.500m-1000m	4	7	13	39	39	4	2	86 (28.7)	
	3.1000m-1500m	1	1	0	14	14	0	0	18 (6.0)	
	4.1500m-2000m	0	1	0	3	3	0	0	4 (1.3)	
	5.2001m and above	4	17	0	0	0	3	0	34 (11.3)	
	Σ	47	41	38	38	73	30	30	300	
51 PTA 48 Aiii	1.Yes	23	25	12	26	8	13	20	127 (42.3)	PTA involvement Only 42.3% of respondent involved in Parent teachers association
	2.No	24	16	26	47	22	17	21	173 (57.7)	
	Σ	47	41	38	73	30	30	41	300	
52 PSE A 48 B i	1.Yes	35	19	0	37	0	10	19	120 (40.0)	SECONDARY SCHOOL 60.0% have no school within the village. It is located nearby
	2.No	12	22	38	36	30	20	22	180 (60.0)	
	Σ	47	41	38	73	30	30	41	300	
53 PSE D48 B ii	1.0-500m	27	8	6	0	0	0	0	41 (13.7)	SECONDARY SCHOOL DISTANCE 60.3% state that the sec school is more than 2 Km from their house.
	2.500m-1000m	11	32	5	0	0	0	0	48 (16.0)	
	3.1000m-1500m	1	0	0	0	0	0	0	1 (0.3)	
	4.1500m-2000m	4	0	0	6	0	29	0	11 (3.7)	
	5.2001m and above	4	1	27	67	30	30	41	199 (60.3)	
	Σ	47	41	38	73	30	30	41	300	
54 TEA 4 8 C I	1.Yes	1	0	0	2	0	0	9	11 (3.7)	TERTIARY INSTITUTION There is no TERTIARY Institution in the village but located away from village
	2.No	46	41	38	71	30	30	32	288 (96.3)	
	Σ	47	41	38	73	30	30	41	300	
55 TED 48 C ii	1.0-500m	0	0	0	0	0	0	0	0	TERTIARY INSTITUTION DISTANCE Tertiary colleges is located quite a distance from the villages
	2.500m-1000m	1	0	0	0	0	0	0	1 (0.3)	
	3.1000m-1500m	0	0	0	0	0	0	0	0 (0.0)	
	4.1500m-2000m	3	3	0	0	0	0	0	6 (2.0)	
	5.2100m and above	43	38	38	73	30	41	41	293 (97.7)	
	Σ	47	41	38	73	30	41	41	300	
56 CD 48 D i	1.Yes	13	8	4	44	5	1	11	86 (28.7)	CULTURAL EDUCATION 71.8 % of respondent claim that there is no cultural education in the village
	2.No	34	33	34	29	25	29	30	214 (71.3)	
	Σ	47	41	38	73	30	30	41	300	
57 CD O48 D ii	1.JKKK	20	24	27	37	19	18	20	165 (55.0)	EFFECTIVE VILLAGE CULTURE ORGANISATION 55% of the respondents see the JKKK as the organization that organized activity for the villagers followed by Saberkas 32.4% , PBB (7.3%), Jiran Mesra (2.0), and Fisf=herma Association
	2.SABERKAS	27	13	9	17	8	7	16	97 (32.4)	
	3.PBB	8	2	0	13	1	1	5	22 (7.3)	
	4.JIRAN MESRA	1	1	1	1	0	3	0	6 (2.0)	
	5.PERTUBUHAN NELAYAN	0	1	1	5	2	1	0	10 (0.3)	
	Σ	47	41	38	73	30	30	41	300	

58 CDA 48 D lii	1.DBKU	20	16	17	56	18	16	19	162 (54.0)	AGENCY ORGANISE CULTURE ACTIVITY IN VILLAGE The respondents agree that KNCH (54%) always organized activity for the community followed by R&DO (34%), AIM (5.7%) , SEDC (4%), and MARA (2.3)
	2.RnDO	26	17	16	10	7	14	12	102 (34.0)	
	3.SEDC	1	3	1	1	2	0	4	12 (4.0)	
	4.AIM	0	4	3	4	1	0	5	17 (5.7)	
	5.MARA	0	1	1	2	2	0	1	7 (2.3)	
	Σ	47	41	38	73	30	30	41	300	
59 CDT 48 1D Iv	1.Yes	32	17	8	19	7	3	22	108 (36.0)	CULTURE TRAINING 64.0% said that they are not trained in the activity
	2.No	15	24	30	54	23	27	19	192 (64.0)	
	Σ	47	41	38	73	30	30	41	300	
60 CID 48 E i	1.Yes	37	17	30	52	22	30	27	215 (71.7)	ASSOCIATION IN VILLAGE 71.7% agree that there is a formal organization in the village.
	2.No	10	24	8	21	8	0	14	85 (28.9)	
	Σ	47	41	38	73	30	30	41	300	
61 CIA 48 E ii	1.Fisherman Association	19	20	10	23	7	13	10	102 (34.0)	ASSOCIATION IN VILLAGE Fisherman Association is the organization that seem to be known by 34% of respondent for helping the villagers.. Followed by Saberkas (24.7%), PBB(13.35), PTA(12.3%), JKKK, Mosque committee(4.0) and woman institute(1.7)
	2.Saberkas	14	11	8	15	10	8	8	74 (24.7)	
	3.PBB	6	2	5	10	3	6	8	40 (13.3)	
	4.PTA	2	2	6	12	7	2	6	37 (12.3)	
	5.JKKK	4	3	5	9	3	1	5	30 (10.0)	
	6. Mosque Committee	1	2	3	3	0	0	3	12 (4.0)	
	7. Woman Institute	1	1	1	1	0	0	1	5 (1.7)	
	Σ	47	41	38	73	30	30	41	300	
62 CIIP 48 E iii	1.Yes	28	31	17	31	7	20	27	161 (53.7)	ASSOCIATION INVOLVEMENT 53.7% are involved in the organization activity
	2.No	19	10	21	42	23	10	14	139 (46.3)	
	Σ	47	41	38	73	30	30	41	300	
63 CIO 48 E iv	1.Chairman	0	1	0	0	0	0	0	1 (2.3)	PARTICIPATION IN ASSOCIATION Most of the respondents are members of at least one association.
	2.Deputy Chairman	2	0	0	0	0	0	1	3 (1.0)	
	3.Secretary	2	0	0	0	0	0	0	2 (0.7)	
	4.Ordinary Members	20	23	16	27	7	19	23	135 (45.0)	
	5.Non Members	23	17	22	46	23	11	17	159 (53.0)	
	Σ	47	41	38	73	30	30	41	300	
	1.Yes	12	7	21	22	7	8	11	88 (29.3)	VILLAGE ORGANISATION POA 70.7% of respondent indicated that the organization doesn't have a plan of Action for the development of the community
	2.No	35	34	17	51	23	22	30	212 (70.7)	
	Σ	47	41	38	73	30	30	41	300	

65	1.Tuition	10	11	7	11	1	3	2	45 (15.0)	
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CiP OA 48 E vi	2.Religious class	37	20	18	26	16	12	20	149 (49.7)	ASSOCIATION INTENDED ACTIVITY The organization in the village is trying to give tuition (15%) and religious classes (49.7%) to the community
	3.None	0	10	13	36	13	15	19	106 (35.3)	
	Σ	47	41	38	73	30	30	41	300	
66 CIV C48 E vii	1.Yes	11	7	14	40	2	3	11	88 (29.3)	COOPERATIVE IN VILLAGE 70.7% respondent said that the village don't have a cooperative.
	2.No	36	34	24	33	28	27	30	212 (70.7)	
	Σ	47	41	38	73	30	30	41	300	
67 CVC B 48 E Vii	1.Yes	11	10	7	21	2	1	6	58 (19.3)	COOPERATIVE BENEFIT 80.7 % respondents did not benefit from the cooperative
	2.No	36	31	31	52	28	29	35	242 (80.7)	
	Σ	47	41	38	73	30	30	41	300	
68 CVR 48 E ix	1.Yes	45	36	35	69	26	30	38	279 (93.0)	VILLAGE SPORT FACILITY 93% agree that their village have sport facility
	2.No	2	5	3	4	4	0	3	21 (7.0)	
	Σ	47	41	38	73	30	30	41	300	
69 CVS F48 E x	1.Badminton	27	22	3	30	6	1	15	104 (34.7)	TYPE OF SPORT FACILITY IN VILLAGE Takraw (63.3) seem to be the favourite sport when 63.3% mention the sport, then badminton (34.7), football (31.3), Table tennis (10.3) and Athletic (6.7)
	2.Football	9	3	23	14	17	19	9	94 (31.3)	
	3.Table Tennis	2	3	2	11	1	5	8	32 (10.7)	
	4.Takraw	3	4	3	10	2	4	5	31 (10.3)	
	5.Athletic	4	5	3	4	0	1	2	19 (6.3)	
	6. None(No answer)	2	4	4	4	4	0	2	20 (6.7)	
	Σ	47	41	38	73	30	30	41	300	
70 PSV 48 F i	1.KRT	11	27	13	20	13	8	9	101 (33.7)	AGENCY VISIT TO VILLAGE DBKU (44.0) seems to be an organization that frequent their village followed by KRT (33.7%), Fisheries Department (12.3), R&DO(7.0), Health Dept (3.7)
	2.DBKU	17	11	15	42	10	14	23	132 (44.0)	
	3.Fisheries Dept	9	3	6	6	2	3	8	37 (12.3)	
	4.R&DO	7	0	3	3	3	3	1	21 (7.0)	
	5.Health Dept	3	0	1	1	2	2	0	11 (3.7)	
	Σ	47	41	38	73	30	30	41	300	
71 PSE 48 F ii	1.Very Good	18	14	7	2	0	2	2	45 (14.3)	SERVICES PROVIDED BY AGENCY 63.6% consider the service provided are good.
	2.Good	26	24	28	42	15	4	7	148 (49.3)	
	3.Moderate	3	3	3	26	15	24	21	95 (3.7)	
	4.Not Good	0	0	0	3	0	0	11	14 (4.7)	
	5.Very Bad	0	0	0	0	0	0	0	0	
	Σ	47	41	38	73	30	30	41	300	

72 PSC 48 F iii	1.Repair/Build House	10	8	3	5	0	3	2	31 (10.3)	AGENCY ASSISTANCE FOR VILLAGE 49.3% said that the department can assist the village in improvement the drainage. 30% need skill courses , 27% business funding and 10.3% to help repair houses.
	2.Drainage	11	6	4	7	0	1	9	38 (49.3)	
	3.Tuition	1	11	9	17	3	5	6	60 (20.0)	
	4. Skill courses	8	8	10	25	14	12	13	90 (30.0)	
	5. Business funding/Loan	9	8	12	19	13	9	11	81 (27.0)	
	Σ	47	41	38	73	30	30	41	300	
73 HG CD 48G i	1.0-500m	16	6	24	1	8	0	0	55 (18.3)	GOVERNMENT CLINIC DISTANCE Government clinic is within the reach of the villagers.
	2.500m-1000m	10	4	2	8	1	0	5	30 (10.0)	
	3.1000m-1500m	2	4	2	3	4	0	1	16 (5.3)	
	4.1500m-2000m	5	14	5	45	1	0	16	86 (28.7)	
	5.2001m and above	14	13	5	16	16	30	19	113 (37.7)	
	Σ	47	41	38	73	30	30	41	300	
74 HT 48G li	1.Government Clinics	33	28	28	58	28	30	15	220 (73.3)	HEALTH The government clinic is preferred by the villagers when fall ill.
	2.Private Clinics	8	9	10	13	2	0	16	58 (19.3)	
	3.Village Shaman	3	2	0	0	0	0	6	11 (3.7)	
	4.Self Treatment	3	1	0	1	0	0	0	5 (1.7)	
	5.Pharmacy	0	1	0	1	0	0	4	6 (2.0)	
	Σ	47	41	38	73	30	30	41	300	
75 HTD 48G iii										
76 HCD 48G lv	1.Yes	8	8	10	29	3	8	1	67 (22.3)	COMMUNICABLE DISEASE OUTBREAK 77.7% of the respondents said that there is no disease outbreak.
	2.No	39	33	28	44	27	22	40	233 (77.7)	
	Σ	47	41	38	73	30	30	41	300	
77 HoA 48H i	1.Yes	12	11	6	12	6	10	11	68 (23.0)	HOUSE BUILDING ASSISSTANCE 77.0% didn't receive assistance for building houses.
	2.No	35	30	32	61	24	20	30	232 (77.0)	
	Σ	47	41	38	73	30	30	41	300	
78 HG D48 H ii	1.Housing Commission	2	5	1	6	2	2	6	24 (8.0)	ASSISSTING AGENCY Out of the (68) 23% getting assistance (24) 35.3% receive assistance from Housing commission, (26) 38.3% from R&DO, (16) 23.5% from KRT.
	2.R&Do	2	13	1	4	2	2	2	26 (8.7)	
	3.Habitat	1	0	1	0	0	0	0	2 (0.7)	
	4.KRT	3	2	4	5	0	1	1	16 (5.3)	
	5.No Assistance/ Personal	39	21	31	58	26	25	32	232 (76.7)	
	Σ	47	41	38	73	30	30	41	300	

C2	ECONOMY									
79 EHI 49	1.Strongly Agree	20	11	1	19	7	3	14	75 (25.0)	INCOME SUFFICIENCY 86.3% agree that the household income is not sufficient
	2.Agree	24	23	35	48	18	13	25	184 (61.3)	
	3.Not Sure	1	3	1	5	2	0	1	13 (4.3)	
	4.Disagree	2	4	1	3	3	13	1	27 (2.3)	
	5.Strongly Disagree	0	0	0	0	0	1	0	1 (0.1)	
	Σ	47	41	38	73	30	30	41	300	
80 EEI 50	1.Strongly Agree	18	1	6	10	4	4	17	60 (20.0)	EXTRA JOB 87% need to do extra job to supplement income.
	2.Agree	28	34	30	56	17	13	23	201 (67.0)	
	3.Not Sure	0	1	1	4	5	3	1	15 (5.0)	
	4.Disagree	1	5	1	3	4	10	0	24 (8.0)	
	5. Strongly Disagree	0	0	0	0	0	1	0	1 (0.1)	
	Σ	47	41	38	73	30	30	41	300	
81 EPC 51	1.Strongly Agree	14	2	0	16	3	0	11	46 (15.4)	HOUSEHOLD INCOME CONTRIBUTION 64.7% agree that the other family members contribute to the household income
	2.Agree	23	29	16	48	7	5	18	148 (49.3)	
	3.Not Sure	7	7	22	9	16	21	9	91 (30.3)	
	4.Disagree	3	3	0	0	4	4	3	15 (5.0)	
	5. Strongly Disagree	0	0	0	0	0	0	0	0 (0.0)	
	Σ	47	41	38	73	30	30	41	300	
82 ETI 52	1.Strongly Agree	14	2	0	16	3	0	11	48 (16.0)	POTENTIAL FOR TOURISM 65.7% agree that the village has the potential to generate income through tourism industry
	2.Agree	25	29	16	48	7	5	18	149 (49.7)	
	3.Not Sure	7	7	22	9	16	21	9	91 (30.3)	
	4.Disagree	1	3	0	0	4	4	3	15 (5.0)	
	5. Strongly Disagree	0	0	0	0	0	0	0	0 (0.0)	
	Σ	47	41	38	73	30	30	41	300	
83 ESC I 53	1.Strongly Agree	13	7	3	14	5	3	8	53 (17.7)	VILLAGE BUSINESS POTENTIAL 72.7% respondents agree that the village is potential in developing small scale industry
	2.Agree	27	30	21	49	11	9	18	165 (55.0)	
	3.Not Sure	6	3	13	9	14	17	15	77 (25.7)	
	4.Disagree	1	1	1	1	0	1	0	5 (1.6)	
	5. Strongly Disagree	0	0	0	0	0	0	0	0 (0.0)	
	Σ	47	41	38	73	30	30	41	300	
84 EDI G 54	1.Strongly Agree	4	1	0	0	0	0	0	5 (1.7)	VILLAGE DIFFICULT TO GENERATE INCOME6 5.3 disagree that the village is difficult to generate income.
	2.Agree	7	3	0	1	4	0	2	17 (5.7)	
	3.Not Sure	10	8	15	12	14	13	10	82 (27.3)	
	4.Disagree	19	16	22	41	7	16	14	135 (45.0)	
	5. Strongly Disagree	7	13	1	19	5	1	15	61 (20.3)	
	Σ	47	41	38	73	30	30	41	300	

85 EE 55	1.Yes	35	19	28	62	21	20	32	217 (72.3)	INTEREST IN BUSINESS 72.3% show interest to get involved in business.
	2.No	12	22	10	11	9	10	9	83 (27.7)	
	Σ	47	41	38	73	30	30	41	300	
87 ENB 57	1.No Capital	15	16	14	25	7	6	6	89 (29.7)	BUSINESS NON INVOLVEMENT Reason for not involved in business is 45% because no training, No capital (29.7), and no support 25.3%
	2.No Training	20	16	19	33	13	15	19	135 (45.)	
	3.No Support	12	9	5	15	10	9	16	76 (25.3)	
	Σ	47	41	38	73	30	30	41	300	
	Moved to No 31 slot									
89 EC 58 li										
91 BV 59 I	1.Village shop	18	16	23	10	15	12	17	111 (37.0)	CURRENT BUSINESS IN THE VILLAGE Most business carried out in the village is a village shop(37%), burger stall(32%), fresh seafood (18.3%), Banana fritters stall (18.3), cook food stall(10.3), Boat rental (6.7), shrimp paste (1.7%), Fibre boat fabrication (0.3%)
	2.Burger stall	17	15	10	30	3	13	8	96 (32.0)	
	3.Cook Food stall	7	2	4	17	1	0	0	31 (10.3)	
	4.Fresh seafood stall	0	0	1	12	3	0	2	18 (18.3)	
	5.Banana Fritters stall	0	4	0	3	3	0	8	18 (18.3)	
	6.Boat rental	5	0	0	0	4	5	6	20 (6.7)	
	7.Fibre boat fabrication	0	0	0	1	0	0	0	1 (0.3)	
	8.Shrimp paste	0	4	0	0	1	0	0	5 (1.7)	
	Σ	47	41	38	73	30	30	41	300	
92 BP 59 li A	1.Yes	17	15	2	15	6	4	3	62 (20.7)	BUSINESS PARTICIPATION 79.3% is not involved in business
	2.No	30	26	36	58	24	26	38	238 (79.3)	
	Σ	47	41	38	73	30	30	41	300	
93 BPI 59 li B	1.Cake	6	8	10	6	8	9	8	55 (18.3)	BUSINESS INTEREST The respondents are interested to do business in the following areas:- Food processing 26.7% Layered cake 18.3% Village shop 17.0% Fishing 17.0% Ecotourism 7.3% Handicraft 7.0% Homestay 3.3% Aquaculture 1.7% Chicken rearing 1.7%
	2.Food processing	7	17	16	11	7	8	14	80 (26.7)	
	3.Village shop	5	2	7	14	9	7	7	51 (17.0)	
	4.Handicraft	10	2	0	9	0	0	0	21 (7.0)	
	5.Fishing	8	4	5	11	6	6	11	51 (17.0)	
	6.Ecotourism	7	4	0	11	0	0	0	22 (7.3)	
	7.Homestay	2	2	0	6	0	0	0	10 (3.3)	
	8.Aquaculture	2	0	0	3	0	0	0	5 (1.7)	
	9.Chicken Rearing	0	2	0	2	0	0	1	5 (1.7)	
	Σ	47	41	38	73	30	30	41	300	
94 BGS 59 lii	1.Yes	23	21	12	33	12	16	8	125 (41.0)	ASSISTANCE FOR SMALL SCALE INDUSTRY 59% of the respondents never receive any assistance from any government agency
	2.No	24	20	26	40	18	14	33	175 (59.0)	
	Σ	47	41	38	73	30	30	41	300	
95 BBT	1.Yes	3	3	3	3	1	2	2	17 (5.7)	BUSINESS TRAINING

59iv	2.No	44	38	35	70	29	28	39	283 (94.3)	94.3% of the respondents never received any training before starting a business
	Σ	47	41	38	73	30	30	41	300	
96 BT 59 v	1.skill	3	2	7	13	2	1	4	32 (10.7)	SKILL TRAINING REQUIRED 71.3% seek to attend account training and 10.7% need skill training followed by loan application and 9.7%, business training 8.3%
	2.account	33	30	25	47	23	25	31	214 (71.3)	
	3.business	6	6	3	3	3	3	1	25 (8.3)	
	4.Loan application3	5	3	3	10	2	1	5	29 (9.7)	
	Σ	47	41	38	73	30	30	41	300	
97 BTR 59vi	1.Yes	27	16	18	22	6	16	18	123 (41.0)	BUSINESS-TOURISM IN VILLAGE 59% said that they isn't any business tourism related to in their village and only 41 % notice the business
	2.No	20	25	20	51	24	14	23	177 (59.0)	
	Σ	47	41	38	73	30	30	41	300	
98 BTT 59 Vii	1.Village Shop	1	2	9	12	1	7	8	40 (13.3)	BUSINESS TORISM AT VILLAGE 15.7% noted that seafood restaurant as the business that will attract tourist to their village followed as follow: Fish crackers 14.3% Shrimp paste 14.0% Village Shop 13.3% Homestay 10.3% Layered cake 10.0% Handicraft 9.7% Ecotourism 9.3% Boat rental 3.0% Souvenir Shop 0.3%
	2. Souvenir shop	0	0	0	0	0	1	0	1 (0.3)	
	3.Fish Crackers	0	13	0	9	1	9	11	43 (14.3)	
	4.Shrimp Paste	0	6	14	12	2	0	8	42 (14.0)	
	5.Layered Cake	0	14	0	11	5	0	0	30 (10.0)	
	6. Handicraft	13	2	0	9	5	0	0	29 (9.7)	
	7. Homestay	14	4	0	8	5	0	0	31 (10.3)	
	8. Seafood restaurant	10	0	8	6	6	9	8	47 (15.7)	
	9. Ecotourism	6	0	7	2	3	4	6	28 (9.3)	
	10. Boat rental for fishing	3	0	0	4	2	0	0	9 (3.0)	
Σ	47	41	38	73	30	30	41	300		
C3	ENVIRONMENT									
36 EnV c 35	1.Strongly Agree	9	0	0	2	1	0	0	12 (4.0)	PERCEPTION OF VILLAGERS ON ENVIRONMENT 62.3% agree that the environment is good
	2.Agree	21	27	30	44	25	7	21	175 (58.3)	
	3.Not Sure	11	8	7	10	3	9	14	62 (20.7)	
	4.Disagree	6	5	1	15	1	12	6	46 (15.3)	
	5. Strongly Disagree	0	1	0	2	0	2	0	5 (1.7)	
	Σ	47	41	38	73	30	30	41	300	
99 ED 60	1.Strongly Agree	1	1	0	2	4	0	0	8 (2.7)	ENVIRONMENT CLEANLINESS 58.7% agree the environment surrounding the village is satisfactory
	2.Agree	26	17	30	43	23	5	24	168 (56.0)	
	3.Not Sure	10	4	7	11	2	2	14	50 (16.7)	
	4.Disagree	7	19	1	12	1	15	3	58 (19.3)	
	5. Strongly Disagree	3	0	0	5	0	8	0	16 (5.3)	
	Σ	47	41	38	73	30	30	41	300	

100 EW C 61	1.Strongly Agree	0	4	0	0	3	6	2	15 (5.0)	REGULAR WASTE COLLECTION 55.3% agree that the domestic waste is collected regularly
	2.Agree	30	21	16	14	26	22	22	151 (50.3)	
	3.Not Sure	10	2	11	6	1	1	1	44 (14.7)	
	4.Disagree	7	14	11	46	0	0	1	83 (27.7)	
	5. Strongly Disagree	0	0	0	7	0	0	0	7 (2.3)	
	Σ	47	41	38	73	30	30	30	300	
101 EW DBK U63	1.Strongly Agree	2	4	0	0	3	12	2	23 (7.7)	WASTE COLLECTION BY KNCH 50% agree had done a satisfactory job collecting waste
	2.Agree	28	18	15	8	21	18	19	127 (42.3)	
	3.Not Sure	6	1	17	18	5	0	12	59 (19.7)	
	4.Disagree	10	17	6	38	1	0	8	80 (26.7)	
	5. Strongly Disagree	1	1	0	9	0	0	0	11 (3.6)	
	Σ	47	41	38	73	30	30	41	300	
102 EOB 64	1.Strongly Agree	0	1	0	0	0	0	4	5 (1.7)	OPEN BURNING 32.7% agree that open burning are practiced in the village
	2.Agree	9	22	7	38	2	4	11	93 (31.0)	
	3.Not Sure	9	3	9	24	20	11	9	85 (28.3)	
	4.Disagree	29	15	22	7	7	15	15	110 (36.7)	
	5. Strongly Disagree	0	0	0	4	1	0	2	7 (2.3)	
	Σ	47	41	38	73	30	30	41	300	
103 ECC 65	1.Strongly Agree	9	1	11	10	16	9	8	64 (21.3)	COMMUNITY COOPERATION FOR VILLAGE CLEANLINESS 79% Respondent agree that the community need to cooperate to clean their villages
	2.Agree	35	7	23	56	13	13	26	173 (57.7)	
	3.Not Sure	1	4	4	6	1	8	2	26 (8.6)	
	4.Disagree	2	29	0	1	0	0	5	37 (12.3)	
	5. Strongly Disagree									
	Σ	47	41	38	73	30	30	41	300	
104 EVC 66	1.Strongly Agree	0	1	0	2	1	1	8	13 (4.3)	COMMUNITY VOLUNTEERISM FREQUENCY 41.3% Agree/s that there is community voluntarism is often organized in the village.58.7 is not sure and disagree that voluntarism is frequently organized in the village.
	2.Agree	17	12	17	16	17	14	18	111 (37.0)	
	3.Not Sure	19	3	6	22	11	8	8	77 (25.7)	
	4.Disagree	9	25	15	31	1	7	7	95 (31.7)	
	5. Strongly Disagree	2	0	0	2	0	0	0	4 (1.3)	
	Σ	47	41	38	73	30	30	41	300	

105 ECP 67	1.Strongly Agree	0	8	1	1	4	1	1	16 (5.3)	COMMUNITY VOLUNTEERISM SATISFACTORY 57% agree/s. agree that the participation is satisfactory
	2.Agree	28	8	20	39	19	15	26	155 (51.7)	
	3.Not Sure	12	3	16	18	6	10	10	75 (8.3)	
	4.Disagree	6	22	1	13	1	4	4	51 (17.0)	
	5. Strongly Disagree	1	0	0	2	0	0	0	3 (1.0)	
	Σ	47	41	38	73	30	30	41	300	
106 ERV 68	1.Strongly Agree	0	1	0	0	0	0	0	1 (0.3)	VILLAGE RECYCLE PRACTICES Only 34% feel that recycle is practice in the village. 66% are not sure or disagree.
	2.Agree	5	6	1	9	3	7	2	33 (11.0)	
	3.Not Sure	14	8	23	24	9	9	17	107 (35.7)	
	4.Disagree	18	24	13	33	11	11	20	132 (44.0)	
	5. Strongly Disagree	10	2	1	7	3	3	2	27 (9.0)	
	Σ	47	41	38	73	30	30	41	300	
107 ERI 69	1.Strongly Agree	0	4	0	0	0	1	0	5 (1.7)	INDIVIDUAL RECYCLE PRACTICE Only 30% claim to practice recycling
	2.Agree	6	6	2	13	15	13	10	85 (28.3)	
	3.Not Sure	12	8	25	17	8	4	14	88 (29.3)	
	4.Disagree	25	23	11	39	5	11	17	131 (43.7)	
	5. Strongly Disagree	4	0	0	4	2	1	0	11 (3.7)	
	Σ	47	41	38	73	30	30	41	300	
108 EVP 70	1.Yes	35	29	27	16	21	4	11	143 (47.7)	VILLAGE POLLUTION 47.7 agree that the village is polluted . Most are from indiscriminate throwing of rubbish
	2.No	12	12	11	57	9	26	30	157 (52.3)	
	Σ	47	41	38	73	30	30	41	300	
109 EKP 71	1.AIR	4	6	2	9	16	27	6	70 (23.3)	TYPE OF POLLUTION IN VILLAGE Rubbish throwing seems to be the highest (45%0 frm of pollution. Air pollution (23.3), water (20%). And oil (3.7%)
	2.WATER	3	23	14	10	3	0	7	60 (20.0)	
	3.RUBBISH	37	12	9	46	0	3	28	135 (45.0)	
	4.OIL	0	0	13	0	11	0	0	24 (8.0)	
	5.No Answer	3	0	0	8	0	0	0	11 (3.7)	
	Σ	47	41	38	73	30	30	41	300	
110 EAQ 78 i	1.VERY GOOD	17	9	10	3	1	0	0	40 (13.3)	SMELL IN VILLAGE 70.0% said that the air quality of air is moderate to very good.. 30% said it poor/ very bad.
	2.GOOD	20	25	13	20	0	0	0	78 (26.0)	
	3.MODERATE	10	7	15	45	8	7	12	104 (34.7)	
	4.POOR/BAD	0	0	0	4	12	17	11	44 (14.7)	
	5.VERY POOR/BAD	0	0	0	1	9	6	18	34 (11.3)	
	Σ	47	41	38	73	30	30	41	300	

111 EAS 78 ii	1.Yes	2	7	8	2	22	26	33	100 (33.3)	SMELL FROM FACTORY 66.7 % don't detect any smell from factory
	2.No	45	34	30	71	8	4	8	200 (66.7)	
	Σ	47	41	38	73	30	30	0	300	
112 ELF 79 i	1.Yes	24	16	1	11	2	19	34	107 (35.7)	LAND DESIGNATED- FARMING The land surrounding the village is not designated for farming but a distance away say 2km from the village is village land is
	2.No	23	25	37	62	28	11	7	193 (64.3)	
	Σ	47	41	38	73	30	30	41	300	
113 EFF 79 ii	1.Yes	23	6	11	13	8	27	32	120 (40.0)	VILLAGE FLORA FAUNA 60 says no change in the Flora and fauna of the village
	2.No	24	35	27	60	22	3	9	180 (60.0)	
	Σ	47	41	38	73	30	30	41	300	
114 EW Su 80 i	1.VERY GOOD	28	10	26	9	16	9	14	112 (37.4)	WATER SUPPLY QUALITY 99.7% admit that the water supply is good
	2.GOOD	19	31	12	64	14	20	27	187 (62.3)	
	3.MODERATE	0	0	0	0	0	1	0	1 (0.3)	
	4.POOR/BAD	0	0	0	0	0	0	0	0	
	5.VERY POOR/BAD	0	0	0	0	0	0	0	0	
	Σ	47	41	38	73	30	30	41	300	
115 EW So 80 ii	1. KUCHING	22	19	30	49	20	24	25	189 (63.0)	WATER SUPPLY SOURCE 95% knows the source of their water supply
	2. MATANG	15	21	8	20	10	6	16	96 (32.0)	
	3.BATU KITANG	5	1	0	4	0	0	0	10 (3.3)	
	4.VILLAGE	5	0	0	0	0	0	0	5 (1.7)	
	5.OTHERS	0	0	0	0	0	0	0	0	
	Σ	47	41	38	73	30	30	41	300	
116 EPR 81 i	1.Yes	10	4	4	37	5	8	4	72 (24.0)	VILLAGE COMPOSTING 76% said that the village is not doing composting
	2.No	37	37	34	36	25	22	37	228 (76.0)	
	Σ	47	41	38	73	30	30	41	300	
117 EPC 81 li	1.Yes	9	9	8	38	4	9	4	81 (27.0)	INDIVIDUAL COMPOSTING 73% don't practice composting
	2.No	38	32	30	35	26	21	37	219(73.0)	
	Σ	47	41	38	73	30	30	41	300	
118 ECU Y 81 iii a	1.planting	8	7	6	27	3	8	3	62 (76.4)	COMPOST USAGE Those that practice composting used the compost for planting (76.4%), 22% sell the compost and 1.6% give away for charity
	2.Sell	1	2	1	11	1	1	1	18 (22.0)	
	3. Charity	0	0	1	1	0	0	0	2 (1.6)	
	4.Never do composting	38	32	30	34	26	21	37	218 (0)	
	Σ	47	41	38	73	30	30	41	300	

119 ECU N 81 iii b	1.No Knowledge1	14	10	11	8	7	8	9	67 (22.3)	REASON FOR NOT COMPOSTING 45.7% are not aware about composting whilst 25% said that they don't have the equipment to do it. 22.3% have no knowledge of composting.
	2. Not aware	20	22	18	24	16	11	26	137 (45.7)	
	3. No equipment	5	1	1	4	3	3	4	21 (7.0)	
	4.No Answer	8	8	8	37	4	8	2	75 (25.0)	
	Σ	47	41	38	73	30	30	41	300	
120 EFV 82	1.Yes	28	11	31	27	26	0	20	143 (47.7)	FOREST NEAR VILLAGE There is not much forest near the village (52.35) but a distance away there still is (47.7%)
	2.No	19	30	7	46	4	30	21	157 (52.3)	
	Σ	47	41	38	73	30	30	41	300	
121 EIP 82 ii	1.VEGETABLES	10	11	22	44	13	13	17	130 (43.3)	JUNGLE PRODUCE FROM FORET 43.3% state that vegetables from the forest, fish(15%), fruits(11%) and timber (7%)
	2.FRUIT	21	2	0	2	7	0	1	33 (11.0)	
	3.ANIMALS	0	6	0	0	2	0	0	8 (2.7)	
	4.TIMBER	10	9	0	1	0	0	1	21 (7.0)	
	5. FISH	0	5	3	9	2	11	15	45 (15.0)	
	6. No need	6	8	13	17	6	6	7	63 (21.0)	
Σ	47	41	38	73	30	30	41	300		
122 EDF 82 iii	1.Yes	15	18	6	20	4	4	16	83 (27.7)	FOREST DEPENDENCY 72.3% don't depend on the forest for livelihood.
	2.No	32	23	32	53	26	26	25	217 (72.3)	
	Σ	47	41	38	73	30	30	41	300	
123 EPP 83 i	1.Yes	17	20	11	17	3	3	15	86 (28.7)	PESTICIDE-PURCHASE AND USE 71.3 don't purchase and use pesticide
	2.No	30	21	27	56	27	27	26	214 (71.3)	
	Σ	47	41	38	73	30	30	41	300	
125 EPT 83 iv	1.Yes	13	16	10	8	3	1	10	61 (20.3)	PESTICIDE USAGE TRAINING No training was given regarding the use of pesticide
	2.No	34	25	28	65	27	29	31	239 (79.7)	
	Σ	47	41	38	73	30	30	41	300	
126 EAP 83 v	1.Yes	42	29	16	31	15	16	20	61 (20.3)	ALTERNATIVE TO PESTICIDE 79.7% had no alternative to pesticide
	2.No	5	12	28	42	15	14	21	239 (79.7)	
	Σ	47	41	38	73	30	30	41	1300	
RELIGION										
127 Rd 84	1.Yes	40	31	28	54	24	28	30	235 (78.3)	RELIGIOUS DISCUSSION 78.3% said that they use to discuss about religion
	2.No	7	10	10	19	6	2	11	65 (21.7)	
	Σ	47	41	38	73	30	30	41	257 (85.7)	
128 RA 85	1.Yes	42	35	34	52	29	30	35	43 (14.3)	RELIGIOUS ACTIVITY 85.7% agree that the religious activity is organized in the village.
	2.No	6	6	4	21	1	0	6		
	Σ	47	41	38	73	30	30	41	300	

129 RAD 85 i	1.Lectures/Ceramah	23	15	19	15	14	11	17	114 (38.0)	VILLAGE RELIGIOUS ACTIVITY Religious activities organized at village are as follows:- 1.Quran recitation 62.0% 2. Lectures 38.0% 3.compulsory class 18.3% 4.Zikir marhaban 9.3%
	2.Quran Recitation/Ngaji	9	14	7	12	7	2	10	61 (62.0)	
	3.Zikir marhaban	7	4	5	8	0	0	4	28 (9.3)	
	4.Fardu Ain	2	3	3	17	8	17	5	55 (18.3)	
	5.No answer	6	5	4	21	1	0	5	42 (14.0)	
	Σ	47	41	38	73	30	30	41	300	
130 RNA 85 li	1.Am busy working	1	1	1	3	0	0	1	7 (16.2)	RELIGIOUS NONE PARTICIPATION Reasons for non-participation 1.No invitation 23.3% 2.Not interested 23.3% 3.Programe not Interesting 18.6% 4. Speaker unknown 18.6% 5.Busy working 16.2%
	2.No invitation	2	1	1	6	0	0	0	10 (23.3)	
	3.Not interested	1	1	0	6	0	0	2	10 (23.3)	
	4. Program not interesting	1	2	2	2	0	0	1	8 (18.6)	
		0	2	0	4	1	0	1	8 (18.6)	
	5.Speaker unknown	42	34	34	52	29	30	36	257 (0.0)	
	6.Not Relevant	0	0	0	0	0	0	0	(0.0)	
	Σ	47	41	38	73	30	0	41	300	
131 RRP 86	1.Yes	36	31	24	51	21	17	29	209 (69.7)	INDIVIDUAL RELIGIOUS PARTICIPATION 69.7% respondents are involved in the activity
	2.No	11	10	14	22	9	13	12	91 (30.3)	
	Σ	47	41	38	73	30	30	41	300	
132 RKA 86 i	1.Lectures/Ceramah	10	7	15	11	6	5	6	60 (27.3)	INDIVIDUAL ACTIVITY PARTICIPATION Activity that respondent who participated;. Quran recitation (33.2%), Lectures (27 .3%), Zikir Marhaban (21.8), Obligatory classes (17.7%)
	2.Quran Recitation/Ngaji	10	15	8	18	9	2	11	73 (33.2)	
	3.Zikir marhaban	8	7	4	12	4	6	7	48 (21.8)	
	4.Obligotory classes/Fardu Ain	8	3	0	12	4	5	7	39 (17.7)	
	5.Answered No	11	9	11	20	7	12	10	80 (0.0%)	
	Σ	47	41	38	73	30	30	41	300	
133 RB 87	1.Yes	31	22	26	49	24	22	27	201 (67.0)	BENEFIT FROM ACTIVITY 67% of respondent agree that they benefit from the religious activity
	2.No	16	19	12	24	6	8	14	99 (33.0)	
	Σ	47	41	38	73	30	30	41	300	
134 RAS 88	1.Yes	31	27	18	38	24	26	24	188 (62.7)	RELIGIOUS ACTIVITY SUFFICIENT 62.7% agree that the religious activity is sufficient
	2.No	16	14	20	35	6	6	17	112 (37.3)	
	Σ	47	41	38	73	30	30	41	300	
135 RAO 88 i										
136 RAN O 88 ii	Add on									

137 RVP 89	1.Yes	36	25	21	35	18	27	27	189 (63.0)	RELIGIOUS VALUE INFUSION 53% feel that religious value is infused in the culture
	2.No	11	16	17	38	12	3	14	111 (37.0)	
	Σ	47	41	38	73	30	30	41	300	
VISION										
138 NPF 90	1.Yes	25	23	28	33	15	9	26	159 (53.0)	NEED IS MET 53% agree that their need is met
	2.No	22	18	10	40	15	21	15	141 (47.0)	
	Σ	47	41	38	73	30	30	41	300	
139 NR 91	1.Education	29	13	14	44	12	19	17	148 (49.3)	DESIRED NEED Education 49.3% seems to be the respondents most desired need, followed by property (21.7), Finance 15% ,Basic need like utilities bill etc is at 9.7% and business need 4.35)
	2.Property	8	13	11	11	6	3	13	65 (21.7)	
	3.Finance	6	8	7	6	9	4	4	44 (15.0)	
	4.Basic need	3	3	5	9	2	2	5	29 (9.7)	
	5. Business need	1	4	1	3	1	2	2	14 (4.3)	
	Σ	47	41	38	73	30	30	41	300	
140 NA 92	1.Children employed	9	9	3	10	3	4	2	40 (13.3)	10 YEARS VISION 33.7% expect to succeed in their business in 10 years time. 23.3% want to see their children graduate and (17.7%) and 13.3% want to see their children employed
	2. Children graduate	9	9	9	17	6	7	13	70 (23.3)	
	3.Income increased	9	6	4	16	9	4	5	53 (17.7)	
	4.Buisness successful	7	2	5	6	4	4	8	36 (12.0)	
	5.No vision	13	15	17	24	8	11	13	101 (33.7)	
	Σ	47	41	38	73	30	30	41	300	
141 NVO 93	1.Yes	19	11	10	20	13	17	13	94 (31.3)	ASSOCIATION VISION 68.7% claim that the organization in the village nave no vision
	2.No	37	30	28	53	17	13	28	206 (68.7)	
	Σ	47	41	38	73	30	30	41	300	
142 NNE 93 i 143 NN O 94	1. leadership problem	5	6	3	8	2	4	1	29 (9.7)	PROBLEMS IN THE ASSOCIATION Based on the response the problem in the organization as seen by the villagers are as follows:- 1.No Plan of action (16.0%) 2. Not transparent (16.0%) 3.No funding (14.3%) 4.Dormant/Inactive (14.0%) 5.Unorganised (13.6%) 6.Leadership (9.7%) 7.Infighting (9.2%) 8.Not trustworthy (8.2%)
	2. Unorganized	8	11	3	7	2	4	6	41 (13.6)	
	3. No Plan of Action/No Goal	8	6	5	11	5	7	6	48 (16.0)	
	4. Dormant/Inactive	6	3	5	11	8	2	7	42 (14.0)	
	5. No funding	8	7	9	10	2	3	4	43 (14.3)	
	6. Not transparent	5	4	5	12	6	5	11	48 (16.0)	
	7. Not trustworthy	3	2	3	6	2	2	3	21 (8.2)	
	8.InFighting/No Teamwork	4	2	5	8	3	3	3	28 (9.2)	
	Σ	47	41	38	73	30	30	41	300	
144 NEO 95										
145 NAP 96	1.Yes	5	5	9	18	4	7	11	59 (19.7)	VILLAGE PLAN OF ACTION 80.3% indicated that the organizations in the village have no Plan of Action
	2.No	41	36	29	55	26	23	30	241 (80.3)	
	Σ	47	41	38	73	30	30	41	300	

146 SCD 97	1.Yes	7	6	6	14	4	5	4	46 (15.3)	SUSTAINABLE COMMUNITY 84.7% of respondent doesn't know about SC
	2.No	40	35	32	59	26	25	37	254 (84.7)	
	Σ	47	41	38	73	30	30	41	300	
147 SCD C98	1.Yes	34	31	30	52	27	28	35	237 (79.0)	SC VILLAGE COOPERATION 79% of respondent believe that the community will give their cooperation to implement SCD initiatives,
	2.No	13	10	8	21	3	2	6	63 (21.0)	
	Σ	47	41	38	73	30	30	41	300	
148 NLA 98	1.KNCH	34	24	24	37	23	22	29	193 (64.3)	SC LEAD AGENCY 64.3% of respondent have hope that KNVH be the lead agency.
	2.R&DO	10	12	10	18	6	6	10	72 (24.0)	
	3.Fisheries Dept	2	2	1	11	0	2	1	19 (6.3)	
	4.Woman Institute	1	3	3	6	1	0	1	15 (5.0)	
	5.SEDC	0	0	0	1	0	0	0	1 (0.3)	
	Σ	47	41	38	73	30	30	41	300	
149 Nm 100 1	1.Yes	31	23	23	23	18	15	16	149 (49.7)	MIGRATION 49.7% of respondent claim that the migration happen and if this trend continue the village will have less manpower. There is a need to have economic activity to retain them.
	2.No	16	18	15	50	12	15	25	151 (50.3)	
	Σ	47	41	38	73	30	30	41	300	
150 NM Y 100 i	1. WITHIN KUCHING	20	18	21	15	12	5	8	99 (33.0)	WHERE MIGRATED? Those that migrate out moved to Kuching (33.0%) followed by those working within Sarawak (12%). These people had attained a good grade in school or University and work in city's and if they can be brought back to help their village will enable effort to achieve sustainable community realized.
	2.OUTSIDE KCH WITHIN SWAK	8	5	2	7	5	4	5	36 (12.0)	
	3.OUTSIDE SWAK WITHIN MSIA	4	0	0	0	2	5	3	14 (4.7)	
	4.OVERSEAS	0	0	1	1	0	1	0	2 (0.7)	
	5.NO	15	18	15	50	11	15	25	149 (49.7)	
	Σ	47	41	38	73	30	30	41	300	
151 NM R10 0 ii	1.STUDY	18	19	7	13	0	2	10	69 (23.0)	REASONS FOR MIGRATION Most of the villagers who migrate out after buying a house in Kuching followed by studying and also due to working elsewhere
	2.WORK	9	3	3	6	10	7	9	47 (15.7)	
	3.MARRIAGE	5	0	12	1	8	5	0	31 (10.3)	
	4.NEW HOUSE	0	1	1	2	0	1	1	6 (2.0)	
	5.NO	15	18	15	51	12	15	21	147 (49.0)	
	Σ	47	41	38	73	30	30	41	300	

Appendix 5 : SWOT Analysis- Questionnaires for Respondents

SWOT Analysis			
	Strengths		Weaknesses
	Basic Needs		Basic Needs
BS1	Number Of Dependent	BW1	Education Respondents
BS2	Skill	BW2	Employment
BS3	Health	BW3	Income
BS4	No Of Room	BW4	Income Household
BS5	Electricity	BW5	House- Type Of House
BS6	Alternative Energy	BW6	Computer
BS7	Alternative Water	BW7	Internet
BS8	Vehicle Ownership Internet	BW8	Parabola
BS9	Hand phone		
	Government & Villages		Government & Villages
GVS1	Water Supply Consistency	GVW1	Village Safety
GVS2	Electric Supply Consistency		
GVS3	Road To Residency		
GVS4	Community Center Condition		
GVS5	Community Relation		
GVS6	Community Concern		
	SOCIAL		SOCIAL
SS1	Community Concern For Social Problems	SW1	House Break In
		SW2	Vandalism
SS2	School, School Distance	SW3	Safety
SS3	Secondary School- Secondary School Distance	SW4	Drug Abuse
		SW5	Glue Sniffing
	Tertiary Institution	SW6	Alcohol Drinking

SS4	Tertiary Institution Distance	SW7	Night Safety
SS5	Association Intended Activity	SW8	Gangsterism
SS6	Village Sport Facility	SW9	Hangout
SS7	Type Of Sport Facility In Village	SW10	PTA Involvement
SS8	Services Provided By Agency	SW11	Cultural Education
SS9	Government Clinic Distance	SW12	Effective Village Culture Organizing
SS10	Preferred Clinic	SW13	Association In Village
SS11	COMMUNICABLE DISEASE OUTBREAK	SW14	Types Of Association In Village
		SW15	Association Involvement
		SW16	Village Organization POA
		SW17	Cooperative In Village
		SW18	Cooperative Benefit

	ECONOMY		ECONOMY
	Household Income Contribution	ECW1	Income Sufficiency
ECS2	Interest In Business	ECW2	Business Non Involvement
	ENVIRONMENT		ENVIRONMENT
ENS1	Regular Waste Collection	ENW1	Perception Of Villagers On
ENS2	Community Cooperation For	ENW2	Environment
	Village Cleanliness	ENW3	Environment Cleanliness
ENS3	Smell In Village	ENW4	Open Burning
ENS4	Smell From Factory	ENW5	Community Volunteerism Frequency
ENS5	Village Flora Fauna	ENW6	Community Volunteerism
ENS6	Water Supply Quality	ENW7	Satisfactory
ENS7	Water Supply Source	ENW8	Village Recycle Practices
ENS8	Forest Near Village	ENW9	Individual Recycle Practice
ENS9	Jungle Produce From Forest	ENW10	Village Pollution
ENS10	Pesticide-Purchase And Use	ENW11	Type Of Pollution In Village
1NS11	Alternative To Pesticide	ENW12	Village Composting
		ENW13	Individual Composting

		ENW14	Reason For Not Composting
		ENW15	Pesticide Usage Training
	RELIGIOUS ACTIVITY IN VILLAGES		RELIGIOUS ACTIVITY IN VILLAGES
RS1	Religious Discussion	RW1	Individual Activity Participation
RS2	Religious Activity		
RS3	Village Religious Activity		
RS4	Individual Religious Participation		
RS5	Benefit From Activity		
	VILLAGE VISION		VILLAGE VISION
VS1	Desired Need	VW1	10 Years Vision
VS2	Sustainable Community	VW2	Association Vision
VS3	Sc Village Cooperation	VW3	Problems In The Association
		VW4	Village Plan Of Action

	OPPORTUNITY		THREAT
	BASIC NEED		BASIC NEED
BO1	Insurance	BT1	Public Transport
BO2	Electric For Cooking		
BO3	Electric Appliances Used		
BO4	Agency Organize Culture Activity In Village		
BO5	Culture Training		
BO6	Participation In Association		
BO7	Agency Visit To Village		
BO8	Agency Assistance For Village		
BO9	House Building Assistance		
BO10	Assisting Agency		

	ECONOMY		ECONOMY
ECO1	Potential For Tourism	ECT1	Village Difficult To Generate Income
ECO2	Village Business Potential		
ECO3	Current Business In The Village		
ECO4	Business Participation		
ECO5	Business Interest Type		
ECO6	Business Training		
ECO7	Skill Training Required		
ECO8	Business-Tourism In Village		
ECO9	Business Tourism At Village		
	ENVIRONMENT		ENVIRONMENT
ENO1	Land Designated- Farming		
ENO2	Compost Usage		
	Religious Activity In Villages		Religious Activity In Villages
RO1	Religious None Participation		

RO2	Religious Activity Sufficient		
RO3	Religious Value Infusion		
	Village Vision		Village Vision
VO1	Need Is Met		
VO2	SC Lead Agency		

Appendix 6 : Qualitative Thematic Analysis by Community Leaders

Q	Theme	Community Leaders						
		1	2	3	4	5	6	7
1	1 Name of organization in Village	Persatuan Nelayan -Komuniti Bestari Kejiranan Mesra Rukun Tetangga Saberkas	JKKK, Saberkas Rukun Tetangga Rela PBB WI,	JKKK, Rela Rukun Tetangga Saberkas Martial Art(Silat Gayong) PBB	Rukun Tetangga Kejiranan mesra Saberkas PBB	Kejiranan Mesra (friendly neighbour) JKKK, PTA, Fisherman Association	JKKK, Fisherman Association, PTA, Rela. PBB, Saberkas,	PTA. JKKK, Fisherman Association, PBB, Rela Rukun Tetangga
1i	2 How do the chairman and committee members get appointed or elected?	Members elect the committee	An annual general meeting will be called three years once and election held	The present committee will call convene a meeting and elect new committee members.	By election	We are appointed by the KNCH as Village representative.	Election during the Annual General meeting	Each association have its members. All ex-co are elected by members
1ii	3 Where do the organisation get funding?	From the department.	Some project the department allocate fund and executed by the department	Often the wakil Rakyat, (Members of Parliament) allocate fund and construction carried out by R&DO	From the R&DO office	DBKU construct facility such as library.	The association depend on government funding. A department had too big an area to control throughout the state and the fund is too little to be distributed throughout the state. We have to be proactive in securing fund	We present a proposal to the department and once approve the project will be implemented.

Q	Theme	Community Leaders						
		1	2	3	4	5	6	7
1 iii	4 To whom do your organisation report ?	The chairman will report to the parent body. Like the fisherman Association will report to LKIM.	We report to each respective department. More can be done to improve the association. We need to have a regular meeting	To the JKKK who in turn will report to R&DO	An annual report will be submitted to the department.	A meeting called by KNCH on activity intended. We will organise whatever is required and once the activity carried out we will then execute together.	We report to the funding department. But our association need to submit report to the Registrar of society	Our organisation report to the department that initiate our association.
1 iv	5 How is the process of getting an approval until implementation of an activity?	Normally the proposal carry weight once endorsed by the members of parliament and the department will allocate fund for the project	The officer from the department will have a meeting with the officers. Once agreed on the project to be carried out, the association will write to the department to request for project. A contractor will be appointed by the department to carry out the project. It will be cheaper if the project is to be carried out by the villagers.	We will present to the members of Parliament and he will bid for the fund. Once approved he will get the relevant department to construct.	The JKKK will propose to R&DO office for the request. Once approve by the department the project will go into another phase of detailing. Once all agreed then it will be awarded by the department	The KNCH will approach the Penghulu or Village head and a discussion carried out with various related association. Once decision made and agreed the project will be constructed by KNCH	Depending on the project.. Some are initiated by us and most are initiated by the department especially under Kilat program. Fund are allocated by the federal government and we just provide space for construction.	Usually when we propose a project to the department it is quite difficult to obtain fund but if the project is from the government and the fund is Retrieved then it will be implemented but sometime it become a white elephant as it is not utilise or needed by the people

Q	Theme	Community Leaders						
		1	2	3	4	5	6	7
2	6 Organiza- tional cooperation	Only Persatuan Nelayan assist	Yes	The association above need to cooperate	Yes	The cooperation can be improved.	Some organisation conflict with the other and this causes strain relationship.	The is not much venue for forum among the association
3	7 Organiza-tion Leadership problem and suggestion	No coordination among the organisation	Introductory Youth training	No	The problem with our organisation is the leadership. They themselves doesn't have experience and not sufficiently educated to manage an association	The leaders in the association don't cooperate	The conflict can be sorted out if the objective is clear.	If the association have a same vision towards the development of the community, I don't see trivial conflict can affect the relation binded by a nobel vision
4	8 Most active organisation	Persatuan Nelayan	PBB and RELA	Rukun tetangga	PBB	Kejirananiran Mesra	Persatuan Nelayan	JKKK
5	9 Village plan of action	Community activity throughout the year	Community based activity once in 3 month	Yes, Plan to organise yearly activity	Improve and alleviate the economics of the community	No. There is no concrete plan of action. Activity organised are piece meal.	No. there is no long term planning	The village need a long term vision so that all will be tune towards achieving the common vision

Q	Theme	Community Leaders						
		1	2	3	4	5	6	7
i	10 Do your organisation have a written vision statement and inform the community?	We just discuss regarding the activity and inform them of the activity. No written action plan	It is difficult to organise a session as the members are volunteers and have their own work to do	No. Community doesn't know what the association want to do.	No. we need to have one	We just have an annual activity	No just meeting agenda in a piece meal basis	So far there is no written vision statement. Having that will; be amilestone towards a common goal
6	11 Agency visit to village	UNIMAS	RELA	Visit from Peninsula Malaysia association	DBKU	DBKU	LKIM do visit the kampong as and when needed	KNCH do visit to organise activity.
7	13 Agency assisting village	Fisherman Association and Jabatan Perpaduan	RELA	KRT and Rela	DBKU, R&DO and Jabatan Perpaduan Negara	DBKU. R&DO	LKIM and R&DO	KNCH, LKIM
8	Lead Agency	Fisherman Association	RELA	KRT and Jabatan Perpaduan Negara	PBB	DBKU	DBKU	KNCH
i	What do you think is the function of DBKU?	DBKU collect council rate for rubbish collection.	DBKU use our money to maintain roads and drainage	DBKU organise karaoke session and Kejiranan mesra (friendly neighbour)	To issue license food premise and collect rubbish	It is an agency that comes once a year. We pay money to them and deserve more.	It is just an agency that enforces the law but don't develop people.	To look after cleanliness and compound those that breed mosquito. They also do landscape work planting and cutting grass.

Q	Theme	Community Leaders						
		1	2	3	4	5	6	7
ii	Do you think DBKU can help to develop the community	We pay rate to KNCH. We don't pay money to LKIM but they help our people in providing support like net and other equipment. KNCH should help to develop the community	KNCH should play a lead role to develop the community. If our village is prosperous we can pay a higher council rate and more revenue for KNCH	KNCH can do better than just organise karaoke session. Helping to develop the community like improving the economy is much better	Few years ago KNCH organise courses like parenting for parents and motivation for exam year school children. We are happy but after that no more. KNCH should continue	I agree KNCH organise bubur lambuk (rice porridge added with meat, and other ingredient) during fasting month. This one off activity doesn't help much in developing the community.	I think they can do a lot more to help the people. The community need to be informed about the law. If the people want to earn a living, selling fish at the road site, KNCH should help to regulate and help them shouldn't just	I think KNCH can help our economy. The work like grass cutting in our village can be done by our cooperative and this will give revenue to the people..
9	House breaking	Strongly .Disagree	Strongly .Disagree	Agree	Strongly .Disagree	Disagree	Agree	Agree
10	Vandalism	Disagree	Disagree	Agree	Disagree	Agree	Not sure	Agree
11	Safety	Strongly .Disagree	Strongly .Disagree	Strongly .Disagree	Agree	Agree	Not sure	Agree
12	Drug Abuse	Strongly .Disagree	Disagree	Disagree	Strongly .Disagree	Not sure	Agree Few cases	Disagree
13	Glue Sniffing	Disagree	Agree	Agree	Agree	Agree	Agree Not alarming	Agree isolated
14	Alcoholism	Agree	Not Sure	Agree	Disagree	Agree	Agree	Agree

Q	Theme	Community Leaders						
		1	2	3	4	5	6	7
14 i	Based on the cases that happen in the village, in your opinion what are the root causes of the problems	Most of them are from broken home. Being look after by single mum and their mum are not educated worsened the situation	Poverty is also contributing especially among those that did the housebreaking. But some of them is due to addiction	Among those that indulge into that activity are not given sufficient religious up bringing. The parent themselves are taking alcohol and this kind of parent just don't teach their children good values	School plays an important role in moulding the children. Those parent that are involved in PTA show their concern of the children education	Some parent just need parenting skill to bring up their kids. If the parent knows their role they will be able to raise their children well	All these are imported problem. Previously when we have to travel by boat to Kuching we hardly have this problem.	Before they rich adolescent religious value should inculcated. Without that and only relying on law enforcement isn't sufficient. Must be from within
15	Night safety	Strongly .Disagree	Strongly .Disagree	Agree	Strongly .Disagree	Agree	Agree	Agree
16	Gangsterism	S.Diagree	S.Disagree	Disagree	S Disagree	Disagree	Agree but not organised	Agree but not rampant
17	Hanging out	Agree	Agee	Agree	Agree	Agree	Agree	Agree
18	Community caring towards social problem	Strongly .Disagree	Strongly .Disagree	Strongly .Disagree	Agree	Agree	Agree	S agree

Q	Theme	Community Leaders						
		1	2	3	4	5	6	7
19	Improvement-study	Tuition Class	Additional class	To organise tuition classes and scholarship	Organise tuition classes	It start with the parent need to know their role and how best to motivate their children to excel in study	Proper parenting skill for children	DBKU use to organise motivational classes for children but now no more. Request to activate back the good program
20	Cooperative	Fisherman Coop	Fisherman coop	Yes Koperdesa	No	Need to eatablish cooperative in the village	There is but not active	Cooperartive are dormant. Need new approach to manage it
21	Cooperative performance	Good	Not encouraging	Average	No	No	Need properly train to manage	Need to be activated
22	Potential Cooperative Business	Selling fish, salted and shrimp paste. With the cooperative involvement we can help the poor in the village by providing work for them.	Salted/Dried fish and traditional cake	Fish and Shrimp paste	Traditional cake	Cooperative can do a lot even we can explore deep sea fishing	The cooperative can do an ecotourism project like making our village an eco tourism hub.	Via cooperative we can produce a product like handicraft or even metalwork like traditional matchet(parang) for tourism tapping on the nearest steel factory nearby

Q	Theme	Community Leaders						
		1	2	3	4	5	6	7
22i	Do you think cooperative can help improve the community economy?	Definitely. It is the community cooperation and it belong to the people. Profit goes back to the people.	The problem with cooperative in the village is the people managing it are not trained. Need more training.	Of course it can help the community especially the poor. If the cooperative operate in the village it can employ the poor to work and earn a living	The government is encouraging the opening of cooperative and for viable proposal the government are willing to offer grant.	I would like to see a successful cooperative in this village but having the right model. Transparency in the activity is important to avoid conflict.	I believe a village cooperative will get government support to help the economy of the community.	Last time we use to attend awareness courses conducted by KNCH but after that it is silent. I think KNCH can help us to make our cooperative successful
ECONOMIC INDICATORS								
23	Community Biz Interest	Fresh salted, dried fish	Dried fish and cake	Shrimp paste	Traditional cake	Layered cake, Fishing and selling fish product	Fresh fish and village shop.	Business related to tourism like bringing tourist for fishing and enjoying the tropical flora and fauna
24	Biz Type	Handicraft for tourist, Ecotourism, cook food like seafood restaurant	Dried fish and cake	Fibre boat fabrication, boat rental to Bako national Park, homestay . Fresh fish stall. Cook food	Traditional cake with proper packaging	Can develop fish production n downstream industry like fish ball and fish crackers	Ecotourism related such as home stay, handicraft, local traditional cake and gift	Village shop ,traditional cake, seafood restaurant
Q	Theme	Community Leaders						
		1	2	3	4	5	6	7

25	Percentage Interest in Biz	70%	70%	60%	30%	70%	60%	80%
26	Agency Assistance	Aim, SEDC	No	Aim, Tekun	Wi	Aim, Mara	SEDC	LKIM,
27	Biz Training	Yes,	No	Yes,	Business related courses and knowledge on community development	Need more training to help the community	Training for the cooperative members to manage cooperative	Yes, basic accounting
28	Tourist related business training	Business management	No	Operate boat to Bako National Park.	Demonstration of cake making	Eco tourism is a new business for the villagers but given training they should be able to succeed	Skill development is what we need to develop the villagers to be in business	
29	Type Tourist Biz	No	No	Souvenir shop,	No	Yes, homestay	Yes, traditional cake	Yes, bring tourist to fish

ENV	ENVIRONMENT							
Q	Theme	Community Leaders						
		1	2	3	4	5	6	7
30	Environment Condition	Agree	Agree	Agree	Agree	Not sure	Agree	agree
31	Domestic waste collection	Agree	S Agree	Agree	S agree	Agree	Agree	Agree
32	Waste Collection DBKU	Agree	S Agree	Agree	Agree	Agree	Agree	Agree
33	Open Burning	Disagree	S.Disagree	S. Disagree	S Disagree	Not sure	Agree	Agree
34	Environment Community cooperation	Agee	Agree	Agree	Agree	Disagree	Not all participate in volunteering work(Gotong royong)	Agree
35	Frequency Cooperation	Agree	Agree	Agree	Agree	Not so often.	Can be improved	Agree
36	Village Recycling	Disagree	Disagree	Agree	Agree	Disagree	Disagree	

Q	Theme	Community Leaders						
		1	2	3	4	5	6	7
37	Individual Recycling	Disagree	Disagree	Disagree	Agree	Not many practice	A lot need to be done	Disagree
38	Pollution free	Yes	No	yes	no	Rubbish pollution	Need to have a better village disposal system so that it can be collected easily	Need to be educated continuously
39	Type Of Pollution	No	Air	No	Rubbish during high tide	Those staying on stilt still rampantly throw waste outside their house	Rubbish	Rubbish
40	Air pollution	Good	No but the collected rain water polluted	No	Good	Good	Good	Good
41	Smell	No	No	No	No	No	No	No
42	Factory Smell	No	No	No	No	No	No	No
43	Flora Fauna	Because of the development surrounding it is difficult to catch crab and mollusc	No	As usual	No	No	No	No

RE L	RELIGION							
44	Community Development	Organised activity and memorization of Quran and religious talk	To organised religious motivational activity monthly	Religious lecturer and Obligatory course	Need to open up Al Quran Memorising class	A need to have a full time religious teacher. Preferable those who can teach our student to memorise Al Quran	The mosque should be used to the fullest and organised activity that will encourage the young to come	Adult classes to better understand Al Quran should be held
45	Value infusion	yes	Yes	Yes	Yes	Not sufficient	More can be done	Yes
46	Value Practiced	Yes	Yes	Yes	Yes	Can be improved	Not so impressive	Yes
N&V								
47	CD EFFORT	Assist Penghulu to organised activity	To design and implement community activity	Assist to plan and coordinate activity with other associations	Plan and implement community activity	Help to monitor and implement the activity being agreed	Report to R&DO on the community related problems	Work to gether with KNCh to implement their program
48	10 YEARS VISION	to develop community esp children to be intellectual	Prosperous community without poverty	Successful village and to develop visionary and successful youth	All village children succeed in their education.	I want this village to be a prosperous village with no poverty	This village can be successful with teamwork from the community	An exemplary village with modern facility but maintain the traditional character
49	SCD	Yes	No	Yes	Yes			

50	SCD Future Coopera-tion	Yes, we have to establish a strong leadership to carry out the program	Yes, all sector of the community need to be brought together	Yes, need to have good teamwork among all the leaders in the village	Yes with join effort between NGO, Government and private sector	Yes, The villagers are willing to participate if they understand the purpose	Yes, Need to explain to them and what they can benefit out of it	Yes, the village is receptive to new paradigm but campaign need to be done to give them awareness and getting them involved
51	MIGRATION	No	No	No	Yes	Yes	Yes	Yes
52	WHERE	No	No	No	Kuching	Within Sarawak	Peninsula Malaysia	Within Sarawak
53	REASON	No	No	No	WORK	Work and marriage	working	Marriage And work
54	Suggest Government effort to achieve SCD	To cooperate and build teamwork	Assist the poor. Create a lot of work opportunity in the village so that parent especially woman doesn't have to leave home long hours.	To assist in improving the community economy	Provide training to improve their economy	Assist In building a strong team of leaders who have vision for the community	We need to strengthen ourselves from within. With that we can tackle whatever problem that come along	The government have the expertise. Help us to identify how we can improve our village and community.
55	Vision for village	To be a village that is excellence, prosperous and the best	To be a model village and to develop youth with vision	To develop the children to be successful in education	To be a model village	To be a modern village	To be an exemplary village	To be a bustling village wit tourist coming in bring business to the community

Appendix 7 :SWOT Analysis on Qualitative Interviews of Community Leaders

	STRENGTH		WEAKNESSES
ST2	Theme 2: Selection of organizational committee members	WT7	Theme 7: Organization Leadership Problem and Suggestion
		WT8	Theme 8: Village Plan Of Action
ST13	Theme 13: Education: Improvement of Academic Performance	WT9	Theme 9: Village Organizational Written Vision Statement
		WT11	Theme 11: Lead Agency- KNCH
		WT12	Theme 12: Social problem and Root Cause
ST20	Theme 20: Religion in SCD		
ST22	Theme 22: Potential of SCD in Villages	WT18	Theme 18: Village Recycling
		WT21	Theme 21: Community Leaders Effort and Vision
	OPPORTUNITY		THREAT
OT1	Theme 1: Organizations/ Associations in Villages	TT3	Theme 3: Organizational Funding
		TT4	Theme 4: Organization Reporting Process
OT6	Theme 6 : Organizational Cooperation	TT5	Theme 5: Process of Acquiring Fund Approval and Project Implementation
OT10			
OT14			
OT15			
OT16			
OT19			

Appendix 8 : TOWS MATRIX - Analysis for Intervention Programmes

	STRENGTHS (S) AND Weaknesses (W)													
OPPORTUNITY	BASIC NEED		GOV-VILLAGE		SOCIAL		ECONOMY		ENVIRON MENT		RELIGION		VISION	
	S	W	S	W	S	W	S	W	S	W	S	W	S	W
FEDERAL GOVERNMENT														
A.Ministry of Agriculture and Agro-based Industry		A-BW2					A-EC2 A- ECO1,,3,5,6,7	A- ECT1				A-RW		
B.Ministry of Education			B- GSST13		B- SS1,2,3	BSW10			B-ENS					
C.Ministry Of Entrepreneur and Co-Operative Development		C-BW1	C-OT16			C- SW17,18	C-ECS							
Ministry									D-SS9- 11					
Ministry			E- GVS4,5								E-ENS3			
Ministry		F- BW6,7,8	F-OT6			FSW11								
Nation Unity and National Integration Department	GSS1	GSW1-6	G-ST2	GGVW1 GSW7										
Malaysian Fisheries Development Board		A-BW2					A-EC2 A- ECO1,,3,5,6,7	A- ECT1				A-RW		

STATE GOVERNMENT I.R&DO	I-BO10		I- GVOT10											
J. Ministry Of Local Government and Local Community Development	J-BO7-8	JBTI												
SARAWAK STATE GOVERNMENT														
K1.MINISTRY OF TOURISM							K1- ECO1,2 K1-ECO1 K1-OT15							
K2. ISLAMIC AFFAIR DEPT					K2- SW9,10		K6-OT15				K2RS1-5 K2ST20	K2-SW1- 6		
K3.NREB										K3-OT19				
K4. HOUSING COMISSION	K4BO9													
K5.DEPARTMENT OF AGRICULTURE									K5ENO1					
K6. BUMIPUTERA ENTREPRENEUR DEVELOPMENT UNIT							K1- ECO1,2 K1-ECO1 K1-OT15					A-RW		
LOCAL AUTHORITY L.KNCH			L-OT1	L- WT7W8,9, W11 WT21		L-SW16 SW12			L- ENS1,2 L-ENO2	L- ENW1,2,3 -5,6 8-14, WT18			L-VS 1-3 LVO1-2. L-ST22	L-VW1- 4, LI-TT3-5

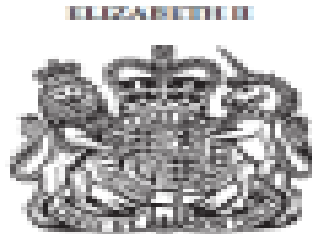
NON GOVERNMENT ORGANIZATION														
M1.WI										M1- ECW1,2				
PRIVATE SECTOR														
N1 INSURANCE	N1-BO1													
N2. CULTURE VILLAGE	N2- BO4-5													
POLITIC O. PBB	All the proposed intervention needs the Member Of Parliament support especially Federal Government related initiatives. As an MP and A Deputy Minister he is in the position to lobby for the sustainable community develop in his constituency													
THREAT														
P.TECHNOLOGY														
Q.LEGISLATION							Q- OT15,16							
R.ENFORCEMENT														
S.FUNDING			S-TT3											

Appendix 9 : Prioritising Intervention Programmes

Intervention	CCC		U&I		Naissance Toward Sustainable Villages
	A	B	C	B+C	
Transform-ing Villages' Economy Through Fisheries	5	4	4	8 18	Need to establish a strong association with members capable of writing a proposal. Need political backup; members of parliament and ministers can assist.
Eco- School	4	2	1	3 3	Introduce in schools the concept of an eco-school. A committee at the village level can initiate the meeting but an awareness programme is needed by the community. The lead agency needs to play its role.
Strengthen-ing Village Cooper-ative	4	3	3	6 15	Forming a cooperative is rather cumbersome for the community. The lead agency can initiate by providing relevant training for the community and assisting them to register the cooperative. The lead agency can award contracts to the cooperative to generate revenue.
Sustainable Healthy Community	5	3	2	6 14	The village associations can liaise with the Health Department to embark on this programme. The availability of a clinic in the village will facilitate this programme.
LA21 Model Villages	5	4	3	7 16	The LA21 programme has been implemented in other places as a pilot project but was discontinued. One of the reasons for the failures in the implementation is the top-down nature of the initiatives. A strong village association desirous enough to take up the challenge will be a good starting point and the federal level has to provide the funds to assist in the programme.
Smart Village Community.	4	3	4	7 17	Computerisation at the village level can be properly organised as the federal Government can provide the village with free wifi and can distribute laptops to the needy. The village association needs to organise activities at a local level and this can enhance the initiative.
A Caring and Safe Village	4	2	1	3 4	This can be undertaken immediately as it does not involve much cost. What is needed is a strong association that can plan and organise activities to foster a caring and safe village.



Appendix 11 : Sample of Sustainable Communities Act 2007, UK



CONTENTS

- 1 Sustainability of local communities
- 2 Proposals by local authorities
- 3 Decision on short-list
- 4 Action plans
- 5 Proposals: regulations
- 6 Local spending reports
- 7 Sustainable community strategy
- 8 Interpretation
- 9 Expenses
- 10 Short title, commencement and extent
- Schedule — Matters to which local authorities must have regard

ELIZABETH II c. 23

Sustainable Communities Act 2007

2007 CHAPTER 23

An Act to make provision about promoting the sustainability of local communities; and for connected purposes. [23rd October 2007]

E IT ENACTED by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1 Sustainability of local communities

- (1) The principal aim of this Act is to promote the sustainability of local communities.
- (2) In this Act references to promoting the sustainability of local communities, in relation to a local authority, are references to encouraging the improvement of the economic, social or environmental well-being of the authority's area, or part of its area.
- (3) In this section "social well-being" includes participation in civic and political activity.
- (4) It shall be the duty of the Secretary of State to assist local authorities in promoting the sustainability of local communities in the ways specified in this Act.

2 Proposals by local authorities

- (1) The Secretary of State must invite local authorities to make proposals which they consider would contribute to promoting the sustainability of local communities.
- (2) Without prejudice to the generality of subsection (1), a proposal may include a request for a transfer of functions from one person to another.
- (3) A local authority may not include a request under subsection (2) unless it has

consulted—

B

Sustainable 2 Communities Act 2007 (c. 23)

- (a) the person whose functions it relates to, and
 - (b) the person to whom the local authority considers the functions should be transferred.
- (4) A local authority must have regard to the matters specified in the Schedule before making a proposal.
- (5) The Secretary of State must issue the first invitation under this section within the period of one year beginning with the day on which this Act is passed.

3 Decision on short-list

- (1) Before inviting proposals under section 2, the Secretary of State must appoint a person (the “selector”) to consider the proposals and, in co-operation with the Secretary of State, draw up a short-list of proposals in accordance with regulations under section 5.
- (2) The selector must be a person who represents the interests of local authorities.
- (3) On receiving the short-list from the selector, the Secretary of State must decide which of the proposals on the short-list should be implemented.
- (4) Before making a decision under subsection (3) the Secretary of State must consult the selector and try to reach agreement.

4 Action plans

- (1) The Secretary of State must publish—
- (a) the decision under section 3(3) and the reasons for it, and
 - (b) with the decision, a statement of the action the Secretary of State proposes to take with a view to the implementation of any proposal.

- (2) A statement published under subsection (1)(b) is referred to in this section as an action plan.
- (3) The Secretary of State must publish and lay before Parliament a report, describing the progress which has been made in relation to any action plan, within the period of one year following the publication of the action plan and at intervals of not more than one year thereafter.
- (4) Subsection (3) does not apply in relation to an action plan if the action plan has been implemented.

5 Proposals: regulations

- (1) The Secretary of State must make regulations about the procedure to be followed in relation to proposals under section 2.
- (2) Before making regulations the Secretary of State must consult—
 - (a) the selector, and
 - (b) such other persons who represent the interests of local authorities as the Secretary of State thinks fit.
- (3) Regulations may, in particular—
 - (a) specify, or authorise the selector to specify, steps to be taken by a local authority before making proposals;

Sustainable Communities Act 2007 (c. 23) 3

- (b) specify steps to be taken by the selector in considering the proposals and drawing up a short-list;
- (c) require the selector to prepare, and give to the Secretary of State, a report on the proposals.
- (3) Regulations must—
 - (a) require a local authority, before making any proposal under section 2, to establish or recognise a panel of representatives of local persons and consult it about the proposal;
 - (b) require a local authority to try to reach agreement about proposals with the panel or other persons consulted under paragraph (a); and
 - (c) require a local authority to have regard to any guidance issued under

subsection (5).

(5) The Secretary of State must issue guidance to local authorities about making proposals, which—

(a) must include guidance about the inclusion among representatives of local persons (for the purposes of subsection (4)(a)) of persons from under-represented groups, and

(b) may include other guidance about establishing and consulting a panel of representatives of local persons.

(6) Before issuing or revising guidance under subsection (5) the Secretary of State must consult—

(a) local authorities, or

(b) persons who represent the interests of local authorities.

(7) For the purposes of subsection (2) or (6) any consultation undertaken before the day on which this Act is passed is as effective as it would have been if undertaken after that day.

(8) In this section—

“local person” means, in relation to a proposal by a local authority under section 2, a person who is likely to be affected by, or interested in, the proposal;

“panel” means a panel constituted in accordance with regulations;

“representative” means, in relation to local persons, a person who appears to the local authority to be representative of the local persons;

“under-represented groups” has the meaning given by regulations.

(9) Regulations under this section—

(a) must be made by statutory instrument, and

(b) are subject to annulment in pursuance of a resolution of either House of Parliament.

6 Local spending reports

(1) For the purpose of assisting in promoting the sustainability of local communities, the Secretary of State must make arrangements for the

production, by the Secretary of State or another person, of local spending reports.

- (2) A local spending report is a report on expenditure by such authorities, in such area, and over such period, as are determined in accordance with the arrangements.

Sustainable 4 Communities Act 2007 (c. 23)

- (3) The authorities may be—
 - (a) a local authority;
 - (b) a government department;
 - (c) any other person exercising public functions.
- (3) The area must be—
 - (a) one or more local authority areas;
 - (b) one or more parts of a local authority area; or
 - (c) any combination of those.
- (4) The period may be or include a future period.
- (6) The expenditure to be included in relation to any authority, area or period is to be determined in accordance with the arrangements.
- (5) A report may relate to different areas or periods for different authorities.
- (8) The Secretary of State may make different arrangements for different reports.
- (9) The Secretary of State must make the first arrangements under this section within the period of 18 months beginning with the day on which this Act is passed.
- (10) Before making arrangements under this section, the Secretary of State must consult such persons likely to be affected by the arrangements as the Secretary of State thinks appropriate.

- (11) For the purposes of subsection (10) any consultation undertaken before the day on which this Act is passed is as effective as it would have been if undertaken after that day.

7 Sustainable community strategy

- (1) In each of the enactments mentioned in subsection (2) for “community strategy” substitute “sustainable community strategy”.
- (2) Those enactments are—
- (a) section 4(1), (2) and (3) of the Local Government Act 2000 (c. 22), and
- (b) section 19(2)(f), (2)(g) and (7) of the Planning and Compulsory Purchase Act 2004 (c. 5) (local development documents).
- (3) In section 4(5) of the Local Government Act 2000 (Wales) at end insert “, and as if for “sustainable community strategy” there were substituted “community strategy”.”
- (4) The Secretary of State may by regulations amend any other enactment, whenever passed or made, to convert a reference to a “*community strategy*” to a reference to a “*sustainable community strategy*”.
- (5) Regulations under subsection (4)—
- (a) may amend an enactment only in so far as the enactment applies in relation to England,
- (b) must be made by statutory instrument, and
- (c) are subject to annulment in pursuance of a resolution of either House of Parliament.

Sustainable Communities Act 2007 (c. 23) 5

8 Interpretation

In this Act—

“local authority” means a county council in England, a district council, a London borough council, the Common Council of the City of London or the Council of the Isles of Scilly;

“region” means a region specified in Schedule 1 of the Regional Development Agencies Act 1998 (c. 45).

9 Expenses

There shall be paid out of money provided by Parliament—

- (a) any sums to be paid by the Secretary of State for or in connection with the carrying out of his functions under this Act; and
- (b) any increase attributable to this Act in the sums which are payable out of money so provided under any other Act.

10 Short title, commencement and extent

- (1) This Act may be cited as the Sustainable Communities Act 2007.
- (2) This Act extends to England and Wales only.

Sustainable Communities Act 2007 (c. 23)
Schedule — Matters to which local authorities must have regard

SCHEDULE Section 2

MATTERS TO WHICH LOCAL AUTHORITIES MUST HAVE REGARD

- 1 The matters referred to in section 2 are—
 - (a) the provision of local services,
 - (b) the extent to which the volume and value of goods and services that are—
 - (i) offered for sale; or
 - (ii) procured by public bodies and are produced within 30 miles (or any lesser distance as may be specified by a local authority in respect of its area) of their place of sale or of the boundary of the public body,
 - (c) the rate of increase in the growth and marketing of organic forms of food production and the local food economy,

- (d) measures to promote reasonable access by all local people to a supply of food that is adequate in terms of both amount and nutritional value,
- (e) the number of local jobs,
- (f) measures to conserve energy and increase the quantity of energy supplies which are produced from sustainable sources within a 30 mile radius of the region in which they are consumed,
- (g) measures taken to reduce the level of road traffic including, but not restricted to, local public transport provision, measures to promote walking and cycling and measures to decrease the amount of product miles,
- (h) the increase in social inclusion, including an increase in involvement in local democracy,
- (i) measures to increase mutual aid and other community projects,
- (j) measures designed to decrease emissions of greenhouse gases,
- (k) measures designed to increase community health and well being,
- (l) planning policies which would assist with the purposes of this Act, including new arrangements for the provision of affordable housing, and
- (m) measures to increase the use of local waste materials for the benefit of the community.

2 In this Schedule the following terms shall have the following meanings—
 “local services” includes, but is not restricted to, retail outlets, public houses, banks, health facilities, including hospitals and pharmacies, legal services, social housing, post offices, schools, public eating places, leisure facilities and open spaces;
 “local food economy” means a system of producing, processing and trading primarily organic forms of food production, where the activity is largely contained in the area or region where the food was produced;

7 “local jobs” mean—

- (a) jobs in companies or organisations that in the opinion of the appropriate authority will spend a significant proportion of their turnover in the locality of the place of operation; and
- (b) jobs which are held by people living within 30 miles of that job;

“mutual aid” means actions or initiatives by people in the community to improve services or provisions for themselves and other persons in the community;

“product miles” means the total distance produce is transported from the place of growth or production to the place of consumption;

“social inclusion” means the opportunity for all people resident in any area to play an equal role in the economic, social and civic life of the area;

“local democracy” means the ability to participate, by means of voting at elections or otherwise, in decision-making that is as local as practicable to people’s place of residence; and

“community health and well-being” means the degree to which persons resident in an area identify with that area and receive an increased quality of life as a result of the nature and the environment of the area.

Appendix 12 : Research Flow Process



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