

Factors influencing acceptance or rejection regarding being the host community for post-disaster resettlements in developing countries

Devindi Geekiyanage^{a,*}, Kaushal Keraminiyage^a, Terrence Fernando^a, Thilini Jayawickrama^b

^a School of Science, Engineering and Environment, University of Salford, Maxwell Building, 43 Crescent, Salford M5 4WT, United Kingdom

^b Department of Building Economics, Faculty of Architecture, University of Moratuwa, Bandaranayake Mawatha, Moratuwa 10400, Sri Lanka

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ABSTRACT

Post-disaster relocations have both positive and negative impacts on host communities. Receiving the host community's willingness to host the new community is essential to ensure integration and the sustainability of the new resettlement. This "willingness" is influenced by a variety of factors which have not been adequately studied by researchers and policymakers. This study, therefore, investigates the latent variables influencing a host community's decision to accept or reject disaster-induced resettlements. The study employed a survey approach utilising a questionnaire that contained 70 factors influencing host communities' perspectives on resettlements. A randomly selected 250 respondents from host communities were asked to indicate the factors that influence their level of agreement to be the host for displaced parties based on a 1–5 Likert-scale. The responses were analysed using the factor analysis: principal component analysis (PCA) and exploratory factor analysis (EFA) respectively. The PCA extracted 16 components which influence a host community's decision to accept/reject displaced communities (which account for nearly 70% of the total variance). The three most significant components were the impact on livelihoods and access to resources (total variance of 13%), political power and human wellbeing (9%), access to public services and social security (7%). The EFA revealed 58 sub-latent variables consisting of a majority of rejection factors (90%) with very few influences to accept displaced communities. The study's findings can be used by authorities and policymakers who design and implement post-disaster relocation programmes in understanding a host community's viewpoints and their involvement in making the resettlements successful and sustainable.

1. Introduction

The recovery and re-development phases (or in other words rehabilitation and reconstruction phases) play significant roles in modern disaster management strategies [1]. Post-disaster resettlements can be classified broadly into two types: rebuilding original dwellings (often with the active participation of householders in the building process) and permanent relocation to new settlements [2]. When compared to permanent relocation, reconstructing dwellings on their original sites provides greater control of the design and construction process for the householder and reduce disruptions to community networks and livelihoods [2,3]. It further eliminates the costs and complexities associated with acquiring suitable resettlement sites [4]. Unlike the rebuilding of original dwellings, post-disaster relocation projects are diverse in nature, have unique socio-cultural and economical requirements and

require a meaningful and dynamic response [5]. However [6], and [7] elaborate that governments have found resettlement projects as opportunities to "build back better", to implement productive land-use strategies and to eradicate unplanned settlements such as slums, which have been built due to social and economic reasons. For instance, the majority of the 2004 tsunami-affected families, particularly in Sri Lanka and India, occupied unplanned dwellings along coast lines before this disaster and thousands of such dwellers were relocated to newly constructed planned settlements after the disaster [8].

It is evident that the impact of disasters on the built environment is much higher in the developing countries than in the developed countries, and is estimated at 20 times more in magnitude [9]. There is a significant impact of disasters on housing which is considered as the most valuable asset of people in developing countries. Hence housing reconstruction is a key element of post-disaster recovery initiatives in

* Corresponding author.

E-mail addresses: M.D.Hembageekiyanage@edu.salford.ac.uk (D. Geekiyanage), K.P.Keraminiyage@salford.ac.uk (K. Keraminiyage), T.Fernando@salford.ac.uk (T. Fernando), Tjayawickrama@gmail.com (T. Jayawickrama).

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developing countries [10]. In this context, there is a great need to understand what makes post-disaster housing reconstruction projects effective and what does not.

A growing trend in the reluctance to accept refugees and displaced communities (both internal and external) is shown by many local communities worldwide [11]. Over recent decades, many researchers [12–14] have argued that disaster-induced resettlement (DIR) projects cause many negative impacts for host communities in terms of their economic and socio-cultural wellbeing. The failure to involve the host community in the planning and development phases of resettlement housing schemes has been recognised as one of the main reasons for causing conflicts between host communities and displaced communities [15,16]. Many of the tensions between resettled populations and their host communities arise when policymakers mainly focus on, and prioritise, the needs of the displaced communities without adequately addressing the concerns of those who are already living in the surrounding areas [17]. Despite a few isolated efforts to recognise the above issue, current research lacks a detailed empirical study dedicated to identifying the salient factors which influence a host community's willingness to support new resettlements.

The situation can be exacerbated in a context where the host community themselves are exposed to extended vulnerabilities when the new communities are resettled due to conflict, development, or natural disaster. This study was, therefore, conducted to understand the success and failure factors influencing the decision regarding being a host for relocation projects and Sri Lanka was selected as the context to identify these salient factors. Displacement and resettlement issues have been at the forefront of recent government agendas in Sri Lanka due to the impact of three recent phenomena: the war between the Government of Sri Lanka and the Liberation Tigers of Tamil Eelam (LTTE), the increased frequency and impact of climate-induced natural disasters, and the recent rapid increase in urban development projects. Sri Lanka has had a long history of people being displaced, both voluntarily and involuntarily, with generations of families having to deal with the repercussions of being relocated and resettled. Since mid-2006, a dramatic escalation in the civil war in Sri Lanka has resulted in over 100,000 people being displaced in addition to the large number of civilians who got displaced by the December 2004 tsunami [18]. Therefore, there is a critical need in Sri Lanka to understand what makes these resettlements successful and what does not. Furthermore, Sri Lanka provides a useful context to observe and study the dynamics related to the subject. A sound understanding of the factors influencing the host community's involvement in post-disaster resettlement projects will help to reduce or eliminate unnecessary social and economic tensions that will undoubtedly hinder the success of resettlement projects. It is hoped that the findings of this research will influence the policies for implementing successful relocation projects in the future.

2. Factors influencing acceptance or rejection when requested to be the host for post-disaster resettlement projects in developing countries

Although there is no seminal work in the current literature leading to the identification of the salient factors which influence a host community's willingness to accept or reject displaced communities, researchers and practitioners on the ground have reported different and, in some cases, conflicting perspectives about the matter [19]. and [10] argue that ignoring local communities and prioritising the needs of internally displaced parties (IDPs) by policymakers during resettlement planning is a key factor in the rejection of IDPs by the host communities. While the vulnerability and poverty of the IDPs cannot be denied, there are also people and communities in the host population that are similarly poor and vulnerable, sometimes even more so. The host community perceives that, often, many vulnerable groups (including the elderly, disabled people and women) within their community receive very little support and assistance while IDPs, who are newly relocated, continue to

be extensively and exclusively supported. Often many of the relocated community members have significantly improved their living conditions, asset bases, and commercial links as a result of their displacement [20,21]. This perceived inequality creates tension as groups in the host community see themselves as also deserving of external assistance [20]. In some situations, the attitudes of the host community towards the IDPs have changed over time, from offering welcome and support at the beginning to direct competition for livelihood support, development benefits and services after their arrival [17]. This competition has led to incidents of conflict and growing resentment between the IDPs and some groups in the host communities.

The fear of losing, or the need to share, resources such as land and regular incentives from the local authorities with a larger group of people is one of the primary sources of resentment and hostility [22]. As such, often the members of host communities do not entertain the idea that the IDPs are settling in their community permanently. This situation is fuelled by the competition for land, livelihoods, government jobs, wages and services such as health and education [21]. Within the context of Sri Lanka where entrance into University is extremely competitive based on the local quota [21], stated that the increased local competition to qualify for university education is one of the key concerns.

Furthermore, the integration of the IDPs and the host community members can be influenced by different cultural practices [23]. The level of education of the displaced community is another key barrier towards integration [24]. stated that where the level of education of IDPs is relatively low, the host community is not willing to associate with them. However, in the context of Sri Lanka, research reported by Refs. [21] reveals that the educational performance of IDP children is higher when compared with the local children, resulting in a low level of integration.

The division between the IDPs and the host communities is fuelled by the political support that each of the groups receives. IDPs are typically treated differently by politicians, based on where they originate from Refs. [13]. This biased treatment has often been the source of conflict and violence between the two parties. Furthermore [17], stated that the resentment is made worse by political figures manipulating the grievances of the different groups for their own gain. The situation is further worsened by development projects that continue to support only the areas occupied by the IDPs, often ignoring the host community needs [19,20,25,26]. For instance, people in host communities frequently highlight the fact that the areas in which the IDPs have settled have improved since they arrived, in terms of infrastructure, service provision and enterprise development, but not the areas occupied by the host community [21]. Another source of resentment between the IDPs and the host communities is the perceived marginalisation of the IDPs in social activities [21]. [25] observed that IDPs often feel that the local host community treats them as a separate group of people. While IDPs do not have objections to being treated as a distinct group, they object to being marginalised as a result of this identification [21].

The above discussion is a snapshot of the state-of-the-art of the literature reviewed for this study in order to identify and classify the salient factors influencing host communities' perspectives on relocation projects in developing countries. An extensive set of latent variables were identified from the literature containing both positive and negative influences in the willingness to accept IDPs and their resettlement by host communities. Looking further at their nature and relevance, these factors were classified into 12 categories for a better understanding of the acceptance/rejection between host and displaced communities and are presented in [Table 1](#).

3. Research methods

Initially, a comprehensive literature review was conducted to explore disaster-induced relocations in developing countries and host community involvement in resettlement projects and, thereby,

Table 1
Classification of factors influencing acceptance/rejection to be the host for IDPs.

Category	Sub factors	
	Acceptance factors	Rejection factors
1. Segregation (structural separation) and labelling of displaced persons	None	i. New community has improper behaviour and living style [13,26–28] ii. Difference in language [13,24] iii. New community take a long time to adapt [10,29] iv. New community create enclave settlements [21] v. New community have preferential access to political representation [21] vi. New community have special access to local administration [21,30,31]
2. Financial	i. Increase in the regional customer base [29]	i. Financial burden to host [13,26,32] ii. Impact on livelihoods due to the arrival of new communities [31] iii. Level of poverty and deprivation [33] iv. New community receiving foreign aid allocated for local people [22,31,34] v. Increased competition for the target market [35]
3. Inadequate resources to share	i. Addition to existing facilities [35–37] ii. Improvements to existing facilities [35–37]	i. Reduction or depletion in the availability of resources [11,13,30] ii. Food insecurity [14,21,27,29,31,32,38–43] iii. Inadequate access to food supply [29,40] iv. Inadequacy of hygiene facilities [15,27,28,33,36,40,43] v. Competition regarding public facilities [13,35–37] vi. Competition for government jobs [30,44] vii. Competition for national schools [45,46] viii. Competition for university admission due to limited district quota [24,25,31,44,46–48]
4. Growth of the informal economy	i. Increase in the labour force of the host community [19] ii. Increase in regional production [31]	i. Reduction of wages [11,13,22,29,42,47] ii. Unemployment of locals [11,21,25,41,43] iii. A long time was taken by respective authorities to create new employment [43] iv. Illegal work/jobs done by new community [31] v. Competition against the local labour force [47]
5. Social and cultural	None	i. Social burden to host [13,25] ii. Misuse of resources by new community [11,49] iii. Discrimination and racism [21,26,27,30,33,47,50–52] iv. Ideological differences [5,25,51,53–56] v. Cultural differences [13,49] vi. Religious differences [34]

Table 1 (continued)

Category	Sub factors	
	Acceptance factors	Rejection factors
		vii. Ethical differences [21] viii. Clashes and confrontations between local and new community [11,50] ix. Colour discrimination [21,26,27,30,33,47,50–52] x. Noisy environment from large families [45] xi. The livelihoods of displaced persons are a threat to locals [11,50] xii. Trouble of displaced persons having large families [26,33]
6. Threat to security	None	i. Threat to hosts' physical security from new community (e.g. abuse of women) [21,26] ii. Threat to the security of hosts' property [13,21,26]
7. Health condition	None	i. Prone to poor nourishment [29,43] ii. Prone to communal diseases [31,44,46]
8. Level of education	i. Good educational performance of internally displaced children [24] ii. The internally displaced children, particularly girls have completed their tertiary education [21,24] iii. New community encourages local community children to follow secondary and tertiary education [21,24]	None
9. Public services	None	i. Inadequate access to roads [21] ii. Inadequate access to common property [21,23,29,32,38–41,43,57,58] iii. Inadequate access to water bodies [24,26,31,42,45,56] iv. Inadequate access to lands [11,14,23,24,26,30,31,33,42,46,50,56] v. Inadequate access to food supply [29,40,43,54,56] vi. Inadequate access to healthcare centres [21,26,45] vii. Inadequate means of livelihood [21,23,33] viii. Inadequate provision of alternative resources [3,13] ix. Inadequate access to resources outside the area [3]
10. Preferential treatment	None	i. Imbalance in received assistance to locals compared to displaced parties [50] ii. Host community's higher level of living conditions compared to displaced parties [36] iii. Significant improvement in the asset base of IDPs after the replacement [21]

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Table 1 (continued)

Category	Sub factors		
		Acceptance factors	Rejection factors
11. Extreme political assistance to internally displaced parties	None		iv. The authorities focus solely on the needs/vulnerabilities of displaced parties [26,56] i. Political divisions among internally displaced parties [22,36,59] ii. The IDPs receive preferential treatment by politicians from their native regions as well as current region politicians [22,36,59] iii. The IDPs have more political powers than locals [21,25,50,56,59]
12. Community engagement in relocation projects	None		i. Long-time taken to relocate new communities [43] ii. Drawbacks in government policies [14,19,21,24,30,42,52,54] iii. Financial unpreparedness of implementors of the resettlement process [40] iv. Ignoring locals' involvement in planning/implementation of relocation programmes [13,72] v. Less consultation with/awareness of locals before the resettlement [40] vi. Limited attention compared to new communities [21]

identifying the factors influencing acceptance/rejection to be the host. This study subsequently followed a survey approach employing a 5-point Likert scale questionnaire as the tool for data collection. The purpose of the questionnaire survey was to identify the latent factors affecting the acceptance and rejection of a new community based on the identified parameters. In total 250 participants were surveyed. The participants were asked to indicate their perceived level of willingness to accept or reject to be the host community for displaced parties based on the 70 sub-factors (classified under 12 categories) given. The participants gave their opinion on the level of willingness to be the host community for displaced parties based on the following Likert scale: 1-Highly rejected; 2- Slightly rejected; 3- Neutral; 4- Slightly accepted; 5-Highly accepted.

The data collected were analysed using the factor analysis. The study, initially, attempts to group the factors identified based on their homogenous characteristics. Thus, a principal component analysis (PCA) was conducted to determine the number of components to be retained as it facilitates reducing a large set of variables to a small set that still contains most of the information in the large set [60]. Subsequently, an exploratory factor analysis (EFA) was conducted to identify the sub-latent variables for each component. Even though most statistical methods are designed to deal with continuous data, ordinal variables are the norm for most EFAs [61]. There are several ways of treating Likert scale data as continuous depending on the number of categories available: if there are more categories, thus more variables, these can be treated as continuous variables, whereas with a few variables, it makes more sense to treat them as ordinal [62]. The current data set consists of 12 categories with 70 factors; therefore, it is sufficient to consider the data as continuous. Furthermore, Likert scales, in some instances, show the properties of continuous data, often with normal distributions (if the

scale is well constructed). Indeed, simulation studies show that statistical tests work well with five-point scales [62].

The empirical study to identify latent variables influencing host community's decision to be the host for IDPs was conducted in Galle district in Sri Lanka which has a considerable population of vulnerable communities acting as hosts to many IDPs impacted by disaster-induced relocations. Two resettlement housing schemes constructed to relocate the displaced community due to the Tsunami which took place on 26 December 2004 which were selected for the survey are depicted in Fig. 1 alongside the area of the host community considered for the survey.

The community leaders of the selected areas were initially contacted, and the research sample was then expanded by recruiting further contacts from their acquaintances. Accordingly, the questionnaire was distributed among 250 people in the host communities coming from varying demographic backgrounds. However, the valid samples utilised for the data analysis were limited to 247 due to a high level of missing values in three of the questionnaires collected. The collected questionnaires were analysed using factor analysis with the aid of SPSS statistical analysis software. A summary profile of the participants from the host community selected for the survey is presented in Table 2 below.

As shown in Table 2, the survey participants were approximately 57% male and 43% female. The majority of the participants were adults (82.2%), with 13.2% classified as senior adults and 4.5% as teenagers. In terms of education, the majority of the participants had completed or pursued secondary education. The occupations of the selected sample community were classified into 9 major groups of jobs as per the International Standard Classification of Occupations [63]. Additionally, the sample included approximately 1% self-employed persons, 3.3% retired persons and 7.7% of students. Furthermore, 18.7% of the participants were unemployed at the time of the survey. The monthly income level of the participants was divided into three salary scales, whereby the majority (95.3%) of the participants earned less than 50,000 LKR per month. Moreover, most of the participants were married (75.6%) with the rest being single.

4. Factor analysis of the factors influencing a host community's acceptance or rejection of IDPs

Initially, the data entered into the SPSS data view were subjected to a missing value analysis and transformed by imputing missing data values. The multiple imputation method for missing data imputation was used as the original data set contained nearly 25% of missing values from the total. The transformed variables were analysed using the bivariate Pearson correlation coefficients provided by the correlation matrix to check any significant intercorrelations between variables. Accordingly, 25 out of the 70 variables were found as having high intercorrelations, with a correlation coefficient higher than 0.6. Of these, 12 variables were excluded from further analysis to ensure that the data set was free from the multicollinearity effect. Please refer to the factors highlighted in Table 1 for the variables excluded.

4.1. Determining the number of retaining components: principal component analysis

A total of 58 variables were selected for the principal component analysis based on an eigenvalue greater than 1, to reduce the data redundancy and to determine the number of components to retain. The descriptive analysis derived for the 58 factors presents the mean, and the standard deviation and the next result showed the communal values for each factor after the extraction. The initial communal value for each factor is 1.000 in default. The results derived from the descriptive statistics and the extraction communalities are shown in Table 3. Please note that the variables are listed as entered to the SPSS software and not sequenced by the eigenvalue.

As shown in Table 3, the mean value of all 70 sub-factors ranges between 1.1 and 4.2 as the data were collected based on a 1 to 5 Likert



Fig. 1. Post Tsunami relocation housing schemes considered for the survey: (1) China Sri Lanka Friendship Village and (2) Panvila Tsunami Village.

scale. The standard deviations resulting for the factors varied between 0.257 and 1.435, however, all sub-factors were accepted for further analysis as $SD \leq 1.25$ is acceptable as well as $1.25 < SD \leq 1.49$ being acceptable for marginal performance. However, only 13 (22%) out of the 58 variables belong to the marginally accepted category whereas the rest of the factors are fully accepted. The communalities presented in the Table range between 0.553 and 0.792, therefore, satisfying the sampling requirement as [60] suggests that communalities should desirably be between 0.5 or higher for adequate sampling.

The Kaiser-Meyer-Olkin (KMO) and Bartlett's test results printed from the principal component analysis implies that the data set is positive definite, and the results are shown in Table 4.

In general, the rule of thumb is that KMO values between 0.7 and 1 indicate that the sampling is adequate [64]. Therefore, the KMO measure of sampling adequacy value of 0.757 indicates that the sample of data considered for the factor analysis is adequate, thus, no remedial actions are needed. The significance value of 0.000 resulting from Bartlett's test of sphericity indicates that the variances are equal for all samples and, thus, are qualified for factor analysis.

Next, the scree plot printed with the eigenvalues on the y-axis and the number of factors on the x-axis depicted in Fig. 2 offers a visual strategy for determining the number of components to be retained [65]. The point where the slope of the curve is levelling off (the "elbow") indicates the number of factors that should be generated by the analysis. This can be further determined by the number of factors that have eigenvalue greater than 1 [66].

It is observed that the first 16 components have variances (eigenvalues) that are greater than 1 and, therefore, appear to explain more of

the variability in the data. The remaining factors account for a very small proportion of the variability and thus are likely to be less significant.

The number of components to retain is further evaluated by the statistics presented in the total variance explained as presented in Table 5. This illustrates the statistics for total variance (eigenvalue), the percentage of variance, and the cumulative percentage of variance for the initial eigenvalues and the extraction sums of squared loadings for determined components.

As can be observed from the above table, the first 16 components determined from the scree plot have initial eigenvalues greater than 1 (ranges between 1.003 and 7.687). Therefore, these 16 components are accepted as components to be retained. As a percentage of variance, the first component accounts for 13.25% from the cumulative total variance while the lowest component accounts for 1.73%. Furthermore, the first four components individually account for a total variance greater than 5% and, cumulatively, over 36% which indicates that these components significantly influence the acceptance or rejection to be the host for DIRs. Moreover, over 50% of the cumulative total variance is influenced by the first 8 out of 16 components, which is exactly 50% of the retained components. The cumulative percentage of variance indicates that these 16 components altogether account for nearly 70% of the total variance. In other words, these 16 components significantly influence the decision regarding accepting or rejecting the displaced communities by the host population. In other words, all other components with an eigenvalue of less than 1.0 (42 components) are associated with nearly 30% of the total variance.

Table 2
A summary profile of the host community selected for the survey.

Demographic criteria		Number	Per cent
Gender	Male	141	57.1%
	Female	106	42.9%
Age	Adolescence (13–18 years)	11	4.5%
	Adult (19–59 years)	199	82.2%
	Senior Adult (60 years and above)	32	13.2%
Ethnicity	Sinhala	244	98.8%
	Other	3	1.2%
Religious conviction	Buddhists	247	100.0%
Educational status	Primary	62	26.1%
	Secondary	164	68.9%
	Tertiary	12	5.0%
Occupation	Managers	2	1.1%
	Professional	43	23.6%
	Technicians and associate professionals	5	2.7%
	Service and sales workers	4	2.2%
	Skilled agricultural, forestry and fishery workers	4	2.2%
	Craft and related trades workers	18	9.9%
	Plant and machine operators, and assemblers	28	15.4%
	Elementary occupations	15	8.2%
	Armed forces' occupation	7	3.8%
	Self-employed	2	1.1%
	Retired	6	3.3%
	Students	14	7.7%
	Unemployed	34	18.7%
	Monthly income	Less than 50,000 LKR	163
Btw 50,000–100,000 LKR		7	4.1%
More than 100,000 LKR		1	0.6%
Marital status	Single	58	24.4%
	Married	180	75.6%

4.2. Sub-latent variables influencing key components: exploratory factor analysis

After determining the number of components to be retained (16), exploratory factor analysis was conducted to identify the sub-latent variables for each component. Principal axis factoring was selected as the extraction method as it enables the identification of the meaningful sub-latent variables which influence each key component. The Equamax rotation method with Kaiser normalization was used, assuming that the variables are orthogonal/uncorrelated [67]. The most related sub-latent variables (affecting acceptance or rejection between the host and the displaced communities within involuntary resettlement) for each component were determined by the maximum rotated correlation coefficient value resulting from the rotated factor matrix. A brief name for each main component was given based on the nature of sub-latent factors grouped under each component. The appropriate names were decided to represent the common nature of the sub-latent factors grouped.

The results for the identification of the sub-latent variables are presented in Table 6 below. The first column of the table provides brief names assigned to the extracted components.

4.3. Differences in hosts' opinions based on their demographic characteristics: a detailed scrutiny

Further, a detailed analysis of ‘‘how host communities’ decision on accepting or rejecting IDPs may differ based on their profile characteristics?’’ was investigated. Accordingly, the Kruskal-Wallis H test using SPSS Statistics was conducted for several main demographic characteristics such as age, level of education, and income. Following null hypotheses were tested at 95% confidence level.

H1. – There is no statistically significant variability in level of willingness to accept / reject IDPs between different age groups of

Table 3
Descriptive analysis of factors affecting acceptance/rejection to be the host for DIRs.

Factors affecting acceptance/rejection to be the host for DIRs	Descriptive analysis		Communalities	
	Mean	Std. Deviation	Initial	Extraction
1. Inadequate access to roads	2.489	0.5826	1.000	0.588
2. Increase in the regional customer base	1.912	1.0715	1.000	0.593
3. Unemployment of locals	2.068	1.3035	1.000	0.698
4. Excessive time taken by respective authorities to create new employment	1.452	0.8595	1.000	0.654
5. Impact on livelihoods due to the arrival of new communities	2.089	1.1829	1.000	0.553
6. Reduction or depletion in availability of resources	2.041	0.9122	1.000	0.673
7. The internally displaced parties have more political powers than locals	2.232	0.9984	1.000	0.685
8. New community has preferential access to political representation	3.113	1.1309	1.000	0.725
9. Prone to poor nourishment	1.532	0.7124	1.000	0.602
10. Threat to hosts' physical security from new community (abuse of women)	1.148	0.3649	1.000	0.729
11. Discrimination and racism	1.628	0.9634	1.000	0.586
12. Reduction of wages	2.478	1.4348	1.000	0.640
13. Good educational performance of internally displaced children	2.425	1.2788	1.000	0.765
14. Inadequate access to water bodies	1.992	1.1405	1.000	0.683
15. Inadequate access to resources outside the area	2.130	1.3328	1.000	0.734
16. Threat to the security of hosts' property	1.828	0.9986	1.000	0.752
17. Inadequate access to lands	3.475	1.3177	1.000	0.652
18. Illegal work/jobs done by new community	4.096	0.6718	1.000	0.720
19. Inadequate access to food supply	1.434	0.7439	1.000	0.678
20. Inadequate access to healthcare centres	2.232	1.2846	1.000	0.715
21. Imbalance in received assistance to locals compared to displaced parties	2.043	1.2521	1.000	0.715
22. Reduction in food supply	4.148	1.1458	1.000	0.634
23. Trouble of displaced persons having large families	1.860	0.9784	1.000	0.700
24. Increased competition for the target market	1.727	1.0599	1.000	0.721
25. Competition over public facilities	2.056	1.0129	1.000	0.667
26. Level of poverty and deprivation	1.730	0.8391	1.000	0.611
27. New community has improper behaviour and living style	1.683	0.9036	1.000	0.751
28. New community create enclave settlements	1.845	1.1784	1.000	0.686
29. Significant improvement in the asset base of IDPs after the relocation	2.010	1.1333	1.000	0.719
30. Addition to existing facilities	1.665	0.8504	1.000	0.644
31. New community take a long time to adapt	1.530	0.9738	1.000	0.739
32. Clashes and confrontations between local and new community	2.148	1.2912	1.000	0.658
33. Ideological differences	1.995	1.1098	1.000	0.603
34. Noisy environment from coast/ large families	1.126	0.2569	1.000	0.640
35. Misuse of resources by new community	2.864	1.0056	1.000	0.630
36. Cultural differences	1.863	0.8811	1.000	0.668
37. Ethical differences	2.584	1.1829	1.000	0.661
38. Competition for national schools	1.801	1.2357	1.000	0.652
	3.504	1.3896	1.000	0.664

(continued on next page)

Table 3 (continued)

Factors affecting acceptance/ rejection to be the host for DIRs	Descriptive analysis		Communalities	
	Mean	Std. Deviation	Initial	Extraction
39. Competition for university admission due to limited district quota				
40. Competition for government jobs	1.270	0.6480	1.000	0.783
41. Financial unpreparedness of implementors of the resettlement process	3.301	1.3277	1.000	0.792
42. Drawbacks in government policies	3.326	1.2524	1.000	0.727
43. Competition against the local labour force	3.191	1.2303	1.000	0.682
44. Limited attention compared to new communities	2.916	1.3755	1.000	0.658
45. Less consultation with/ awareness of locals before the resettlement	1.494	0.7860	1.000	0.743
46. Excessive time taken to relocate new communities	1.669	0.8461	1.000	0.714
47. Ignoring host communities' involvement in planning and implementing relocation programmes	1.734	0.8808	1.000	0.744
48. Increase in the labour force of the host community	1.708	0.9278	1.000	0.767
49. Increase in the regional production	1.773	1.2341	1.000	0.633
50. Inadequate means of livelihood	2.439	1.3682	1.000	0.736
51. Inadequacy of hygiene facilities	4.063	0.2624	1.000	0.739
52. Social burden to hosts	1.537	0.9871	1.000	0.712
53. The livelihoods of displaced persons are a threat to locals	2.649	1.0902	1.000	0.782
54. Food insecurity	3.229	1.0890	1.000	0.749
55. Religious differences with new community	2.470	0.9031	1.000	0.726
56. Colour discrimination	2.017	0.8648	1.000	0.740
57. Improvements to existing facilities	1.864	1.0595	1.000	0.676
58. The authorities focus solely on the needs and vulnerabilities of displaced parties	1.902	0.9125	1.000	0.771

Extraction Method: Principal Component Analysis.

Table 4
KMO and Bartlett's test results.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.757
Bartlett's Test of Sphericity	Approx. Chi-Square	7064.339
	df	1653
	Sig.	0.000

respondents

H2. - There is no statistically significant variability in level of willingness to accept / reject IDPs between different income groups of respondents

H3. - There is no statistically significant variability in level of willingness to accept / reject IDPs between different educational levels of respondents

Table 7 presents the results of the above tests for the final decision/dependent variable of whether hosts will accept or reject IDPs.

As shown in Table 7, the Kruskal-Wallis H test showed that there is no evidence to reject the null hypothesis H1 related to hosts' decision to accept/reject IDPs among the different age groups, where $\chi^2(2) = 1.258$, $p = 0.533$ (P value > 0.05), with a mean rank age of 134.14 for adolescence, 122.58 for adults, and 110.47 for senior adults. A much similar results on the decision to accept or reject IDPs by hosts' is visible

on the income levels of host communities, resulting in no evidence to reject H2. The test statistics shows an H statistics of 1.150 with a P-value of 0.563 (P value > 0.05) for three groups of income levels: 86.39 mean value for income less than 50,000 rupees, 84.21 for income between 50,000 and 100,000 rupees, and 34.5 for more than 100,000 rupees. The significance value of 0.106 (P value > 0.05) with an H stat of 4.480 indicated that there is no evidence to reject the null hypothesis H3, related to the hosts' willingness to accept/reject IDPs by different educational levels/groups. As there are no evidence to reject any of the null hypothesis above at 95% confidence level, it can be concluded that there are no statistically significant variability in views related to accept or reject the IDPs based on the respondents' age, income or educational level.

5. Discussion

The first component: livelihoods and access to resources, which accounts for the highest percentage of the total variance (13%) in influencing a host community to accept or reject DIRs, has resulted in 6 sub-latent variables. Amongst the 6 variables, inadequate access to roads is the most significant variable: highly and positively correlated (0.682) with the component. This implies that inadequate access to roads is an important factor in the rejection of displaced communities resettling in the host's area. Studies by Refs. [13,16,17,21] confirmed that access to physical resources is a common problem faced by local communities after resettlement. Moreover, it places the host community in a position where they have to share their resources such as roads, common buildings, schools, and water bodies [13]. Similarly, the other variables: unemployment of locals (0.582), time is taken by respective authorities to create new employment (0.492), impact on livelihoods due to the arrival of new communities (0.336), and reduction or depletion in available resources (0.327) respectively, influence a host population to reject displaced parties. However, one variable which positively influences a host community to accept the IDPs is an increase in the regional customer base (-0.582). Overall, this component covers the issues that can arise concerning the host community's livelihoods and their access to common resources.

Another 6 variables, which influence whether host communities reject IDPs, are gathered under the second component. The component is briefly entitled political power and human wellbeing as this describes how displaced parties' resettlements affect the political power and representation of host communities. This component includes 3 strongly correlated variables: internally displaced parties have more political powers than locals (0.658), a new community has preferential access to political representation (0.630), and prone to poor nourishment (0.600). Regarding political power, there is an imbalance of political power between hosts and IDPs [21]. This is evident from one of the resettlement projects in Mannar, Sri Lanka, where the IDPs were treated differently by politicians, based on where they originated from Ref. [11,21]. In another instance, separate political representation for the IDPs skewed the power structure in the district and at the national level, giving people in Puttalam area in Sri Lanka the impression that the IDPs have more political influence [13,17,21,68]. Furthermore, Cao et al. [69] based on a study in China, demonstrated that food insecurity, owing to an inadequate food supply, increased the displaced community's proneness to poor nourishment and related diseases. In addition, the threat to the physical security of locals from the new community (0.475), discrimination and racism (0.426), and reduction of wages (0.344) are moderately correlated with the component. These combined factors influence the host community's decision to accept/reject IDPs with 9% of the total variance.

The third component, access to public services and social security, which has nearly 7% of the total variance, has grouped another 6 latent variables to describe how the resettlement projects affect communities' access to public services and social security. As the survey shows that children in displaced communities have a relatively good educational

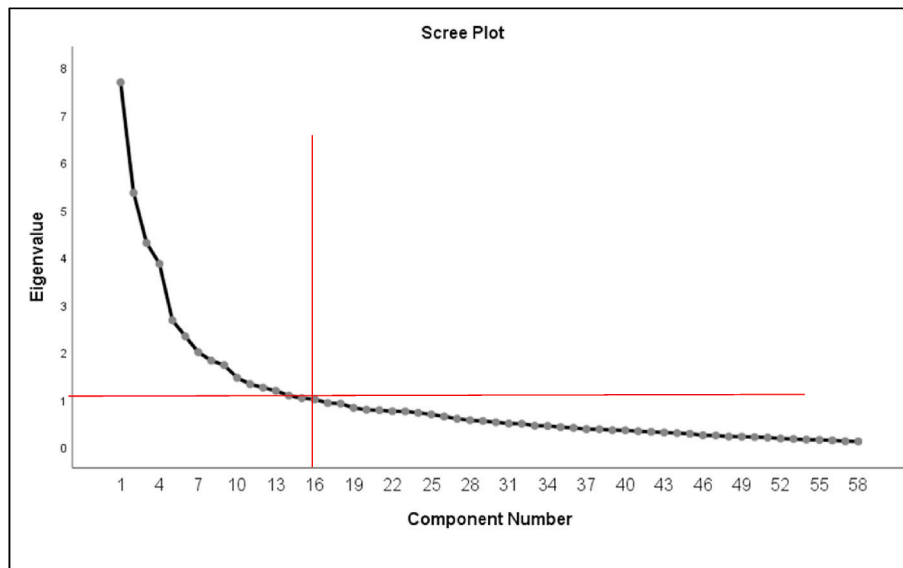


Fig. 2. Scree plot of the components.

Table 5
Total variance explained.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.687	13.254	13.254	7.687	13.254	13.254
2	5.356	9.234	22.488	5.356	9.234	22.488
3	4.301	7.416	29.904	4.301	7.416	29.904
4	3.860	6.655	36.559	3.860	6.655	36.559
5	2.670	4.603	41.162	2.670	4.603	41.162
6	2.330	4.018	45.180	2.330	4.018	45.180
7	1.997	3.444	48.623	1.997	3.444	48.623
8	1.819	3.136	51.760	1.819	3.136	51.760
9	1.723	2.971	54.731	1.723	2.971	54.731
10	1.456	2.510	57.241	1.456	2.510	57.241
11	1.322	2.279	59.520	1.322	2.279	59.520
12	1.249	2.154	61.674	1.249	2.154	61.674
13	1.181	2.037	63.711	1.181	2.037	63.711
14	1.080	1.862	65.573	1.080	1.862	65.573
15	1.027	1.770	67.344	1.027	1.770	67.344
16	1.003	1.729	69.072	1.003	1.729	69.072

Extraction Method: Principal Component Analysis.

performance when compared with the children in host communities, the educational performance of internally displaced children (0.717) has been derived as the most correlated variable with the third component. Even though a good educational background of IDP children is evident in south Sri Lanka, at the height of the conflict between the army and the LTTE in the east over the past year, more than a quarter of a million children experienced partial or complete disruption of their education [18]. Furthermore, the studies of [70,71] revealed that refugees and IDPs often come from areas of a long-standing conflict with interruptions in schooling resulting in low levels of basic education and literacy. Additionally, inadequate access to water bodies (0.599), lands (0.479), resources outside the area (-0.532) affect the rejection of IDPs. The study further reveals that illegal work/jobs such as burglary undertaken by new community create a threat to the security of the host communities' properties, thus, the host community tend to reject them.

The fourth component includes another 4 latent variables that describe host communities' concern regarding food and health facilities. These include inadequate access to food supply (0.807) and healthcare centres (0.697), and reduction in food supply (0.412) due to the increased population in the area. This inadequacy in food supply and other facilities (such as healthcare) experienced by local people can be

caused by the resettlements [13,29,43,54]. Also, there is an imbalance in received assistance to the IDPs as compared to the hosts (0.472). The inadequacy in food supply and health facilities together with the substantial support delivered to the IDPs provide reasons for the host communities to reject the IDPs and to oppose their resettlement projects.

The fifth component, explaining the socio-economic impact on the host population due to the displaced parties' arrival in their area, has gathered five variables. The trouble of displaced persons having large families (0.700) is the most significant variable. Davies [33] pointed out that vulnerability criteria included large families sharing a single shelter, i.e. those numbering over six family members living in makeshift shelters of plastic, sticks and mud, female-headed households, unaccompanied minors, people with disabilities and the elderly, and thus this makes an uncomfortable environment for the host community. In addition, increased competition for the target market (0.596), competition over public facilities (0.583), the level of poverty and deprivation (0.373), and IDPs' improper behaviour and living style (-0.277) causes further rejection of the DIRs by the host communities.

Latent variables which describe the structural and behavioural separations of IDPs are the sixth component with 4% variance. Four out of the five variables have rejection qualities while the fifth variable,

Table 6

Classification of sub-latent variables influencing the decision regarding accepting or rejecting displaced communities by the host population in involuntary resettlement projects.

Main component	Sub-latent variables	Highest rotated correlation value
1. Livelihood and access to resources	1. Inadequate access to roads	0.682
	2. Increase in the regional customer base	-0.582
	3. Unemployment of locals	0.582
	4. Excessive time taken by respective authorities to create new employment	0.492
	5. Impact on livelihoods due to the arrival of new communities	0.336
	6. Reduction or depletion in the availability of resources	0.327
2. Political power and human wellbeing	1. The internally displaced parties have more political powers than locals	0.658
	2. New community has preferential access to political representation	0.630
	3. Prone to poor nourishment	0.600
	4. Threat to locals' physical security from new community (abuse of women)	0.475
	5. Discrimination and racism	0.426
3. Access to public services and social security	6. Reduction of wages	0.344
	1. Good educational performance of internally displaced children	0.717
	2. Inadequate access to water bodies	0.599
	3. Inadequate access to resources outside the area	-0.532
	4. Threat to the security of hosts' property	0.506
	5. Inadequate access to lands	0.479
4. Access to food and health needs	6. Illegal work/jobs done by new community	0.280
	1. Inadequate access to food supply	0.807
	2. Inadequate access to healthcare centres	0.697
	3. Imbalance in received assistance to locals compared to displaced parties	0.472
	4. Reduction in food supply	0.412
	5. New community has improper behaviour and living style	-0.277
5. Socio-economic impact	1. Trouble of displaced persons having large families	0.700
	2. Increased competition for the target market	0.596
	3. Competition over public facilities	0.583
	4. Level of poverty and deprivation	0.373
	5. New community create enclave settlements	0.692
6. Structural and behavioural separations	2. Significant improvement in the asset base of IDPs after the replacement	0.547
	3. Addition to existing facilities	0.480
	4. New community take a long time to adapt	0.398
	5. Clashes and confrontations between local and new community	0.395
	1. Ideological differences	0.670
7. Socio-cultural impact	2. Noisy environment from coast/large families	0.510
	3. Misuse of resources by new community	0.496

Table 6 (continued)

Main component	Sub-latent variables	Highest rotated correlation value
8. Competition for education and employment	4. Cultural differences	0.481
	5. Ethical differences	0.403
	1. Competition for national schools	0.701
	2. Competition for university admission due to limited district quota	0.645
	3. Competition for government jobs	0.427
9. Local government failures	1. Financial unpreparedness of implementors of the resettlement process	0.675
	2. Drawbacks in government policies	0.650
	3. Competition against the local labour force	0.410
10. Community engagement in relocation projects	1. Limited attention compared to new communities	0.803
	2. Less consultation with/ awareness of locals before the resettlement	0.627
	3. Excessive time taken to relocate new communities	0.469
	4. Involvement by host communities in planning and implementing relocation programmes	0.375
11. Informal economy	1. Increase in the labour force of the host community	0.715
	2. Increase in the regional production	0.587
12. Long term risks	1. Inadequate means of livelihood	0.692
	2. Inadequacy of hygiene facilities	0.529
	3. Social burden to host community	0.279
13. Threats	1. The livelihoods of displaced persons are a threat to locals	0.546
	1. Food insecurity	0.747
14. Perceived insecurity and incompatibility	2. Colour discrimination	0.513
	1. Religious differences with new community	0.702
15. Perceived spiritual and physical improvement opportunities	2. Improvements to existing facilities	-0.525
	1. The authorities focus solely on the needs and vulnerabilities of displaced parties	0.488

namely the addition to existing facilities in the area, inspires hosts to accept displaced communities. The rejection variables are enclave settlements created by the IDPs (0.692), significant improvement in the asset base of the IDPs after the replacement (0.547), the new community takes a long time to adapt (0.398), and disputes between the locals and the new community (0.395). According to Refs. [21], hosts in Puttalam, Sri Lanka, noted that the IDPs always lived away from them and created small enclave settlements. They also resented their special access to political representation, institutions, and local administration [21].

The seventh component gathers together the latent variables describing the socio-cultural impact on host communities. All five variables observed provided reasons to reject the IDPs. The five variables are ideological differences (0.670), noisy environment from the coast/large families (0.510), misuse of resources by the new community (0.496), and differences in culture (0.481) and ethics (0.403).

Competition between host and displaced communities is the eighth component. This includes competition for national schools (0.701), university admission due to limited district quota (0.645) and government jobs (0.427). It is an obvious fact that the host population is not willing to accept new communities due to such competition. This

Table 7

Kruskal-Wallis H Test for the decision of accepting or rejecting displaced communities by the host population in involuntary resettlement projects.

Demographic factor	Groups	N	Mean Rank	Kruskal-Wallis H	df	Asymp. Sig.
Age	Adolescence	11	134.14	1.258	2	0.533
	Adult	199	122.58			
	Senior Adult	32	110.47			
Income	Less than 50,000LKR	163	86.39	1.150	2	0.563
	Btw 50,000–100,000 LKR	7	84.21			
	More than 100,000 LKR	1	34.50			
Educational status	Primary	62	113.40	4.480	2	0.106
	Secondary	164	118.98			
	Tertiary	12	158.17			

competition has led to incidents of conflict and growing resentment between the IDPs and some groups in the host community. For example, most locals did not expect the IDPs to settle in Puttalam due to the fear of competition for government jobs and the competition to qualify for university education [21]. The host community perceives this as a disadvantage because the district quota available for Puttalam district is now shared between the locals and IDPs [21].

Beyond issues with the IDPs themselves, host communities are also likely to reject resettlement construction due to local government failures such as lower financial unpreparedness (0.675) and drawbacks in government policies (0.650). Furthermore, the government's failure in offering adequate job opportunities creates competition by the IDPS against the local labour force (0.410). Considerations about the compatibility between the host and the displaced community are often overlooked by the relevant authorities owing to time limitations, drawbacks in the policies, and financial unpreparedness [13,40].

Factors regarding community engagement in relocation projects (such as non-recognition of host communities as a stakeholder in implementing resettlement projects) comprise the tenth, and next, component. This is highly influenced by limited attention to the host population (0.803), absence of consultation with/awareness of the host population before implementing resettlements (0.627), time taken to relocate new communities (0.469), and not involving the host communities in planning and implementing relocation programmes (0.375). A lack of consultation with host communities regarding resettlement projects has been evident over the years and, therefore, their local knowledge and experience have not acted upon by donors/government agencies involved in DIRs [21,72]. It is suggested that consultation with local communities should be a routine step in the resettlement/relocation process so that local communities do not feel ambushed by new settlements entering their area [21].

Two latent variables are gathered under the eleventh component: an increase in the labour force of the host community (0.715) and regional production (0.587); these reflect the informal economies developed by the new communities. These informal economies can inspire locals to be the host for post-disaster resettlements. However, in some instances, new community members undertake work illegally, thus competing against the local labour force and, consequently, this can replace the local labour force and create downward wage pressures [13]. Furthermore, after resettlement, the role of women in the labour force (and specifically, the paid labour force) increases significantly as women are needed to earn income to replace lost resources and to offset rises in family budget expenditures [58].

Additionally, a few long-term risks including inadequate means of livelihood (0.692), the inadequacy of hygiene facilities (0.529), and the social burden to the host community (0.279) mean that host community are reluctant to accept IDPs. Furthermore, the livelihoods of displaced persons are also a threat to locals (0.546). Because of limiting local communities' accessibility to food (0.747) and colour discrimination (0.513), local communities tend to reject IDPs. Improvements to existing facilities (−0.525) due to the growth of the regional population, and religious differences among community (0.702) are two contradictory variables gathered under one component; this component is named as

perceived spiritual and physical improvement opportunities. The final component is a single variable which reflects the ignoring of host communities as the authorities solely focus on the needs and vulnerabilities of the displaced parties.

With the above discussion, the current study provides a clear empirical account of the actual factors which affect the acceptance/rejection of a host community to a displaced community within an involuntary resettlement setting, which is not evident from the state-of-the-art in this field.

6. Conclusions

The latent variables identified in this study are common in many resettlement programmes. Livelihoods and access to resources remain the most significant component which influences local communities' decision as to whether to accept or reject displaced communities. Political power and human wellbeing is the next concern when accepting displaced parties. When IDPs have more political power and they are assisted by many political parties, locals will feel they are being ignored and have very little say in regional activities hence leading to resentment against IDPs. Regarding significant components which influence hosts' decisions, access to public services and social security, access to food and health needs, and the socio-economic impact were also shown as being crucial. Identifying these latent factors that affect the acceptance of a new community assists in providing perspectives on the establishment of efficient community integration mechanisms for any assisted resettlement in order to ensure their longevity. Furthermore, this empirical account on the elements that enable integration is essential to reduce the effects of the rejection factors. It is recommended that due consideration should be given to the identified latent variables in this paper to promote community integration and to ensure the longevity of future resettlement programmes. The findings of this study can be used by authorities and policymakers who are tasked to design and implement post-disaster relocation programmes. In particular, this study will help them to understand the host community's viewpoints and their role in making the resettlements successful and sustainable. For example, the factors identified can be used as guidance by the decision-makers when selecting an appropriate resettlement location for disaster-affected communities. The decision-makers may also use this to recognise factors that hinder successful interaction between host and resettling communities and take appropriate actions to mitigate the risk of potential conflicts between the resettling IDPs and the host communities. Although the findings are based on data from the Sri Lankan context, there is a high possibility that many of the identified factors are relevant within other developing countries. However, further research is required to investigate the dominant factors that are paramount within each local context, using the methodology proposed in this paper.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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