



Prospective Interventions for reducing vulnerability of communities in post-disaster resettlement, a case of Bunambutye camp, Eastern Uganda

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Abstract

This study explored the prospects of reducing the vulnerability of communities in post-disaster resettlement, a case of Bunambutye camp in Eastern Uganda. Using a participatory research approach, 20 participants were engaged in mini-Delphi iterative meetings that determined and validated relevant livelihood skills necessary to reduce vulnerability. The world indicator of skills for employment theoretical framework was used to understand and identify various skills needed by resettled communities. This was coupled with the livelihood programming model which provided a conceptual lens into livelihood capitals that survivors utilize to produce various livelihood characteristics. Both Interpretive and descriptive research designs were used to gather qualitative and quantitative data. A Delphi tool containing structured interviews was utilized to gather the views of the participants on the objectives of the study which included: - skills possessed by the survivors, current skills valued, and needed but missing in the resettlement and prospective mitigation strategies to bridge the skill gaps. Results from exploratory data analysis done using Statistical Package for Social Scientists version 20 revealed survivors possessed limited livelihood skills thus exposed to socio-economic and livelihood vulnerability. Lack of skills training institutions was sighted as a contributing factor. The survivors considered reskilling, cross-skilling, or up-skilling on relevant livelihood skills. There is a projection of entrepreneurship, project-based work, products, and services being profitable sectors in the future. The study concludes that though the survivors possess farm-based skills, there are gaps in other crop and animal husbandry practices. We recommend the establishment of a skills-based training institution within the resettlement that should train survivors using content customized to address current and future needs hence ensuring self-sufficiency, reliance, and livelihood sustainability through outcomes like increased disposable incomes and wellbeing of the survivors in the resettlement.

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Introduction

Most studies on vulnerabilities in post-disaster resettlements have focused on socio-economic vulnerability to resettlement, livelihood reconstruction, and post-disaster recovery (Aboda et al., 2019; Finucane et al., 2020; Forbes-Mewett et al., 2019; Okaka, 2020; Wilson et al., 2019; Xiao et al., 2018). However, there is still limited research on prospective interventions for reducing



vulnerability in the post-resettlement phase. Yet, environmental disaster-induced displacements and resettlement are increasing in various parts of the world today (Manawadu et al, 2022). The available studies on reducing vulnerability have focused on preventive resettlement, disaster recovery planning to reduce vulnerability and guidelines for post-disaster vulnerability reduction (Claudianos, 2014; Doberstein et al., 2013; Finucane et al., 2020). The study analyses explicitly resettlements that have resulted from landslides, a localised hazard affecting highland areas in Uganda. The vulnerability context for this study centred on the defenceless people in the face of risks and shocks experienced in their newly resettled areas (Forbes-Mewett et al, 2019). Conceptually, risks refer to the exposure of survivors to consequences of uncertainty (Orhon et al., 2020) and are contextualised to impact and likelihood risks. At the same time, shocks are the external short-term deviations that substantially impact the survivor's current well-being and livelihoods contextualised into slow-onset shocks like drought (Sagara, 2018). To further structure the content scope, the vulnerability was conceptualised into physical vulnerability, which included risks of harm due to physical factors, external threats or environmental conditions and socio-economic vulnerability, which focused on the likelihood or impact risks associated with individuals or community social and economic circumstances. Chaudhury, (2017) undertook a study on the strategies for reducing vulnerability and building resilience to environmental and natural disasters in developing countries. Still, the focus of his study was on conducting vulnerability assessment to develop resilience planning, incorporating uncertainty in resilience planning and including poor, socially excluded groups in decision-making with bias on climate change and not on resettlements, which was the focus of this study. This study aimed to determine and validate relevant livelihood skills resettled communities need to reduce socio-economic vulnerability.

Socio-economic vulnerability and resettlement nexus

For this study, resettlement is understood as the experience of planned internal forced displacements where people/persons have been obliged to move from an area deemed unsafe for human habitation to another safe location to live permanently. The Government of Uganda created Bunambutye resettlement camp through the Office of the Prime Minister to resettle households from landslide-prone areas of the Mt. Elgon region. Since its establishment in 2019, the resettlement has provided shelter, food, water and other basic services to resettled persons. Whereas resettlement is viewed as an essential tool in alleviating problems associated with disasters, studies Aboda et al. (2021); Bang et al. (2012); Chen et al. (2023) have indicated that planned resettlement schemes have often failed to achieve their intended objectives but, rather than improving on the lives of resettled persons, They have reportedly increased the risk of impoverishment. A reconnaissance survey conducted by the study in May 2021 revealed that survivors in Bunambutye resettlement are exposed to post-disaster socio-economic vulnerability as they struggle to adapt to the new environment. Loss of access to productive resources including land, water, and forests might lead to socioeconomic vulnerability during resettlement (Knapp et al., 2020). Vulnerability may also be influenced by an individual or group's livelihood characteristics like gender or age and levels of Education (Wheeler, 2019).

The role of livelihood skills in reducing vulnerability in post-disaster resettlement

In this study, livelihood skills were understood as the job-specific skills people get paid for performing a specific task. They are the skills learned by doing in sequential steps relating to a person's age. Skills development is essential to address the opportunities and challenges faced by those in vulnerable situations, for example, survivors resettled in camps, as it can make a contribution that facilitates transition from an informal to a formal economy through improved productivity of the labour force thus enabling the survivors to cope with and meet new demands of change that can either be economic, social or environmental in the context of their new environments (Kiaga et al., 2020).



Skills are essential in meeting the Sustainable Development Goal Target 4, which seeks to ensure inclusive and equitable education and promote lifelong learning opportunities for all, specifically subsection 4.4. seeks to substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment in decent jobs, and subsection 4.5 seeks to eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, Indigenous peoples and children in vulnerable situations (Group et al., 2016).

A low-skilled workforce encourages low productivity, hence a low-wage economy incompatible with poverty reduction (Brixiova et al., 2017). The inadequate education and poor skills training trap the working poor in low wages and exclude those without relevant skills from participating in economic growth and social development in a globalised economy (Morris et al., 2020). This encourages low productivity and high rates of poverty and increases vulnerability, especially of persons or individuals at risk (Birkmann et al., 2022) . It also negatively affects enterprises' competitiveness and capacity to contribute to economic and social development (Neumann et al., 2020).

A few recent studies on skills-based education and training in Uganda have focused on technical and vocational skills, focusing on soft skills (Mitana et al., 2019). To this end, we observed little documentation on prospective interventions for reducing vulnerability in post-disaster resettlement. Hence the study

- 1) Generated an inventory of livelihood characteristics and skills possessed by the survivors in Bunambutye resettlement.
- 2) Established the livelihood skills valued by the survivors but are currently missing in the resettlement.
- 3) Determined the market demand for the livelihood skills needed currently and in the near future.
- 4) Developed prospective skills needed to reduce socio-economic vulnerability in Post disaster resettlement.

The theoretical framework applied in choosing skills indicators.

Various approaches are available to aid in selecting skills indicators (Organization Economic Cooperation Development, 2020). The Organization for Economic Cooperation and Development (OECD) World Indicator of Skills for Employment (WISE) (Future, n.d. 2019) framework was used to identify indicators and variables. This framework provided relevant information to the study, especially on sectors where skills development is most needed (Kiaga et al, 2020). The five broad indicators identified in this framework were the contextual factors driving both the supply of skills (skills acquisition) and the demand for the skills (skills requirement), which have an impact on how well skills obtained through Education and training are matched to skills required in the labour market (matching) which in turn has an impact on economic performance, labour market outcomes and social outcomes (Mertens, 2022).

In applying the World Indicator of Skills for Employment (WISE) framework for indicators, contextual factors like employment in the informal sector, self-employment, ease of doing business and educational attainment were considered. For skill requirement, the indicator that guided the study was the incidence of self-employment and Job task measure of skill use (writing, reading, teamwork, learning new things, physical work and manual handiness) which guides skills acquisition through participation in education and training with options of re-skilling, cross-skilling and up-skilling but matched to the skill gaps and earnings by occupation to attain outcomes like labour productivity, employment rate by skill, Incidence of poverty and ultimately a growth in Gross Domestic Product.



Conceptual Framework

We adopted (United Nations High Commission for Refugees, 2012) livelihood programming model, which stems from the sustainable livelihood framework to determine livelihood skills needed by survivors to reduce vulnerability in post-disaster resettlement. We specifically incorporated livelihood characteristics to delineate the livelihood context for this study. These specifically relate to the socio-demographic profiles of the survivors in the resettlement. These include age, education level, income, expenditure, and employment. The model focuses on the livelihood assets that households have access to and can use to produce the identified livelihood characteristics, enabling them to attain livelihood outcomes like more income, increased well-being, and improved security. The major focus of this model is building skills and capacities to enable people to earn a living and support them over the long term. The relevant livelihood skills in the model include vocational and entrepreneurship skills (Gyawali et al., 2020). The model was relevant to the study because it promotes long-term self-sufficiency and resilience. We used the concepts in the model to conduct an in-depth analysis of the prospective livelihood skills needed by the survivors to reduce vulnerability like digging, rotating crops, dancing, dressmaking, cooking, keeping animals, teaching, poultry keeping, preparing a field for planting, building houses, painting. Our primary focus was to provide empirical evidence on building skills and capacities needed for sustainable livelihood to enable individuals and communities to better cope with the crisis's impacts and improve their overall well-being.

Materials and Methods

The study was conducted in Bunambutye resettlement camp in Bulambuli district, Eastern Uganda: Latitude 1° 21' 59.99" N Longitude: 34° 08' 60.00" E. Bunambutye resettlement camp was created by the Government of Uganda through the Office of the Prime Minister to resettle over 100, 000 persons from the landslide prone areas of Mt. Elgon region. This Government-planned resettlement camp is intended to provide shelter and other livelihoods to survivors from landslide-prone areas on the slopes of Mt. Elgon. Hence, this research becomes handy as the Government plans to resettle more people in subsequent phases. We provide insights into livelihood skills as a prospective intervention for reducing the socioeconomic vulnerability of survivors in the resettlement.

Research Design

The study employed a participatory research approach in which the respondents had control of the research process and agenda. This approach aligns well with humanism philosophy, which combines constructive and social reconstruction theories. The research design for the study was a descriptive and interpretive case study that was analysed through qualitative and quantitative methodologies. The research strategy involves collecting and analysing primary qualitative data before arriving at tentative interpretations. Its robustness enabled the study to describe and gain a deep understanding of information and perceptions from research methods such as interviews, observations and focus group discussions. The study population consisted of those persons who had been resettled in Bunambutye camp due to the disaster-induced displacements that occurred on the slopes of Mount Elgon, with the Bududa district being mostly affected. They were specifically targeted because they possessed the experience and knowledge regarding livelihood skills needed to reduce socio-economic vulnerability.

Data collection

The study employed a mini-Delphi technique to collect primary data on prospective livelihood skills. The rationale behind the Delphi technique was to obtain the most reliable consensus of opinions from a group of experts on the issue being investigated. Therefore, the design, construction and execution of the technique followed a phased process identified by (Ansah et



al., 2021) that started with identifying the problem, selecting the panel of experts, determining the panel size and conducting the Delphi technique iterations. The experts for this study were purposefully selected based on residency in the resettlement camp, knowledge and experience of the subject matter or issue under investigation, employment in a professional or voluntary capacity, willingness to participate in the study, sufficient time to participate and effective communication skills. The panel size was calculated using the Stat Trek.Com (2021) Sample size Formula shown below:

$$n_h = (N_h / N) * n$$

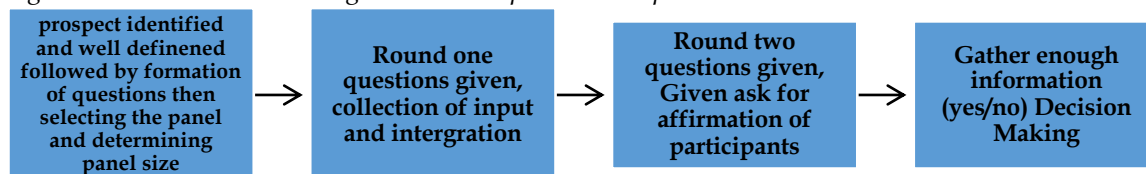
where n_h is the sample size for stratum h , N_h is the population size for stratum h (Number of households), N is the total population size (Total number of households), and n is the total sample size. The summary of panel size for Phase I and Phase II resettlement villages is shown in Table A I.

Table A I: Representative sample size for the panel of experts who participated in the Delphi analysis technique.

| Settlement Village | No- of households | Sample size for Delphi Analysis |
|--------------------|-------------------|---------------------------------|
| Phase 1 | 97 | 08 |
| Phase 11 | 136 | 12 |
| Total | 233 | 20 |

The Delphi Analysis Grid Tool, which contained open-ended and closed-ended questions, was developed. This enabled the panel of experts to understand the broad context within which the questionnaire is designed, especially with the current research where the concept of reducing vulnerability in post-disaster resettlement has different suggestions; hence, the prospective interventions aimed by the study had to be broadly clarified. For this research to achieve its specific objectives, two questionnaire rounds were used to obtain iterative responses. Round I had key open-ended and closed-ended questions and was intended to be a brainstorming exercise to produce a list of empirical attributes to determine the prospects of reducing vulnerability in post-disaster resettlements. The responses from Round I were analysed and formed a basis for developing Round II questions. The purpose of Round II was to enable the experts to review and comment on the proposed prospects from other participants in Round I. Closed-ended questions were used in Round II to investigate participants’ comments expressing agreements, disagreements or clarification on comments of the proposed prospects from Round I. The experts were requested to give their final affirmation or comment on the attributes from Round I, leading to a consensus which enhanced decision-making. A developed flow chart (Figure A I) provided a road map through the rounds of the Delphi iterations.

Figure A I. Flow chart showing the mini-Delphi iterative process.



Data Analysis

Descriptive statistics of Delphi-based datasets typically involve qualitative and quantitative data analyses (Beiderbeck et al., 2021). Qualitative analysis particularly focused on content analysis of expert comments about the skills necessary and revealed insights about participants’ engagement levels as suggested Nassaji, (2020). To analyse the content, comments were coded based on the attributes and categorised as very relevant skill, relevant skill or less relevant, respectively. Quantitative data was computed using measures of central tendency (median, Mode and mean



rank), measures of frequency (percentages) and measures of dispersion, especially standard deviation.

The study computed the percentage response, median, mode and associated mean group ranking for each item under investigation. For measures of frequency, the criterion of at least 50% responding to any given category was used to determine consensus because it revealed the convergence of ideas towards a subjective central measure (Aigbavboa, 2015). For measures of dispersion, smaller values of the standard deviation were considered. Consensus was determined following the outcomes of data analysis from SPSS version 20, and decisions were made based on the scales adopted, which included.

- Very Strong Consensus-Median=3, Mode=3, mean rank > 2.5 standard deviation < 0.3 and percentage frequency > 81%
- Strong consensus= Median=2, Mode= 2 mean rank = < 2 standard deviation $0.3 < X \leq 0.5$ and percentage frequency > 50%
- Weak consensus= Median=.0, Mode=.0 mean rank = < 1 standard deviation > 0.5 and percentage frequency < 50%

Results

Socio-demographic characteristics of the respondents

Gender was well distributed, with 55% (N = 11) of respondent's female and 45% (N = 9) male. A high proportion, 55.0% (N = 11) of respondents were between 41 and 60. There were 35.0% (N = 7) between 20 and 40 and 10% (N = 2) above 61 years. Most respondents were primary level dropouts 60.0% (N = 12), with the remaining being secondary school educated 35.0% (N = 7) and 5.0% (N = 1) had no formal education. The type of work was casual work, 80% (N = 16), 10% (N = 2) full time with 10% (N = 2) employed on commission and part-time. Therefore, various views on prospective skills to reduce socioeconomic vulnerability generated by the different stakeholders have been analysed in this study.

Livelihood characteristics of respondents

Understanding the livelihood characteristics provided insights into the livelihood skills needed by the survivors. Resettled households rely on livelihood capitals, which include human, natural, physical, and social, to produce livelihood characteristics contextualised by the study to sources of income, expenditure, social networks, food, shelter, water resources, and land.

Subsistence crop farming 55.0% (N = 11) was the main source of income followed by 15.0% (N = 3) earnings from motorcycle riding commonly referred to as "Boda-boda" in local context, 10.0% (N = 2) engaged in subsistence livestock farming, 10.0% (N = 2) engaged in teaching, 5.0% (N = 1) small scale trading and 5.0% (N = 1) earning from local brewing. 90% (N = 18) experienced a reduced income compared to areas of origin. This is associated with several factors, including the failure to diversify agriculture 15% (N = 7) and limited business prospects 25% (N = 5). The land size owned varied from 20% (N = 4) owning one acre, 65% (N = 13) two acres and three acres, 15% (N = 3). However, if compared to their areas of origin, 60% (N = 12) experienced an increase in land size while others, like 30% (N = 6), saw a decrease and 10% (N = 2) had land size remaining the same.

The main food crops produced are Maize and beans at 100% (N = 20), Cassava at 75% (N = 15) and 15% (N = 3) for millet. If compared to their areas of origin, there was a general decline in food crop production by 75% (N = 15). The decline is associated with prolonged drought 75% (N = 15), pests and diseases 50% (N = 10), inadequate capital 60% (N = 60%), fake inputs 30% (N = 6) and shortage of labour 65% (N = 13). 95% (N = 19) are members of formal group associations for social networks. The main water source was tap water, and 95% (N = 19) and 60% (N = 12) experienced water scarcity. Households spent much of their income on food 65% (N = 13), transport 85% (N = 17), medical bills 40% (N = 8) and education 25% (N = 5). Shelters, especially houses, provide livelihood security. 25% (N = 5) had cracked walls, 60% (N = 12) had rough floors, 40% (N = 8) had leaking

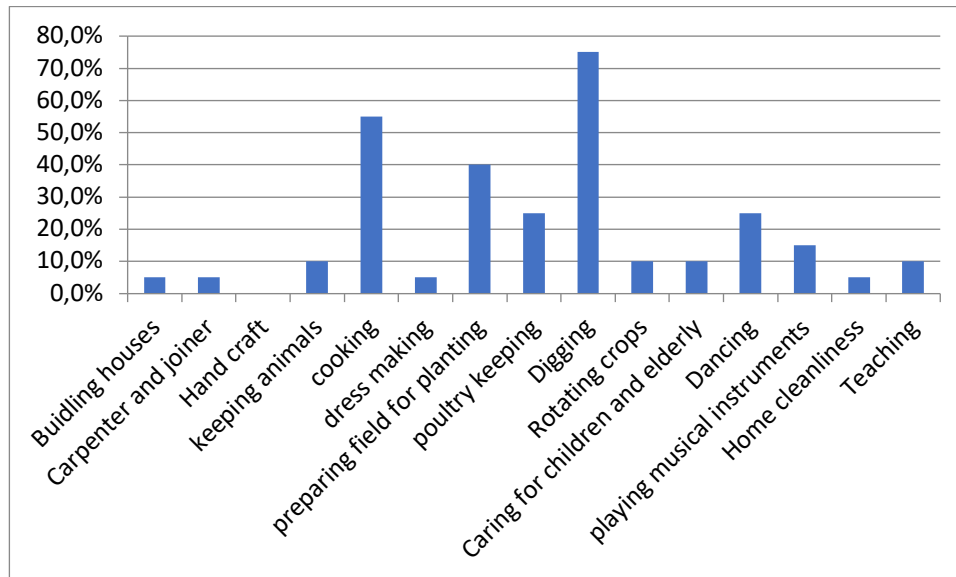


roofs, 30% (N=6) had broken windows and doors, and 10% (N=2) had their houses in general good condition. As to whether shelter type puts them at risk, 75% (N=15) reported No compared to yes 25% (N=5). The main risk reported includes harbouring reptiles at 60% (N=12), collapsing at 25% (N=5), and thieves breaking into the house at 6% (N=30).

Skills profiles of the respondents

Within the resettlement, 75% (N=15) utilise digging skills, 55% (N=11) cooking, 40% (N=8) provide the skill of preparing gardens for planting, and 25% (N=15) poultry keeping and dancing. Other livelihood skills included rotating crops, home cleanliness, teaching, caring for children and the elderly, dressmaking and playing musical instruments, as shown in Figure A II. Even within the skills possessed, respondents acknowledge a gap in utilising such a skill, which is associated with a lack of access to financial or social means to aid in using the skill. The resettlement does not have a vocational training institution 100% (N=20) to enable survivors to boost their skills to be more productive, especially in labour exploitation.

Figure A II: Livelihood Skills profiles of survivors in the resettlement



Livelihood skills valued by the survivors but are currently missing in the resettlement.

Based on their requirements and experiences within the resettlement, the respondents indicated several skills that are now lacking. Yet, such skills are necessary to reduce post-disaster vulnerability. This included:- local repairs and domestic weaving 65% (N=13), Tailoring, borrowing and lending money for a business 55% (N=11), Environment conservation and management 50% (N=10), the skill on how to start a business 35% (N=7), Business accounting 30% (N=6), Recordkeeping and painting 25% (N=5), the skill of energy saving stoves with briquette making 20% (N=4), hairdressing 15% (N=3) and handcraft 10% (N=2). This was attained during the round I Delphi iterative sessions.

If allowed to undertake skills training, 30% (N=6) prefer to up-skill, 10% (N=2) need to cross-skill, while the majority, 60% (N=12), opt for reskilling. In round II iterations, the panel of experts was required to give their final judgement, expressing their agreements and disagreements to enable the study to determine the consensus on prospective skills needed to reduce vulnerability. Results in Table II indicate farming, sewing and tailoring, hairdressing and handcrafting livelihood skills with very strong consensus given by the median (3.000) and mode (3.00) with corresponding percentiles >80% agreeing to the skill. Building houses, how to start a business, borrowing and lending money for a business, local repairs, painting and environment



management and conservation have a strong consensus given by the median (2.00), mode (2.00) with percentiles >50% agreeing to the skill.

Table II: Showing consensus agreements and disagreements on prospective livelihood skills.

| Livelihood skill | F | EMC | BH | HSB | BLM | LRA | ST | P | HD | ESB | HC |
|--------------------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Median | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 2.0000 | 3.0000 | 2.0000 | 3.0000 |
| Mode | 3.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 3.00 | 2.00 | 3.00 | 3.00 | 3.00 |
| Std. deviation | 0.00000 | .52427 | .57735 | .33060 | .45883 | .45883 | .22942 | .38239 | .21299 | .38399 | .22399 |
| (%) strongly agree | 100 | 11 | 16 | 11 | 5 | 5 | 5 | 5 | 47 | 11 | 10 |
| (%) Agree | 00 | 74 | 68 | 58 | 79 | 79 | 95 | 58 | 53 | 42 | 90 |
| (%) Disagree | 00 | 16 | 16 | 32 | 16 | 16 | 00 | 37 | 00 | 47 | 00 |
| Legend | F - Farming, EMC - Environment management and conservation, BH - Building houses, HSB - How to start a business, BLM - Borrowing and lending money for a business, ST - Sewing and tailoring, P - Painting, HD - Hair dressing, ESB -Energy saving stoves and briquette making, HC - Handcraft | | | | | | | | | | |

The mean rank (Figure A III) puts farming first, with the highest rank at 3.0000. The rest of the livelihood skills are ranked accordingly, with energy-saving stoves and briquette-making being the lowest (.8421). Mean rank (Table A-III) and standard deviation (Figure A III) were used to establish the very relevant livelihood skills needed by the survivors.

Table A III: Mean rank for Prospective livelihood skills

| Livelihood skills | Mean Rank |
|---|-----------|
| Farming | 3.0000 |
| Sewing and tailoring | 2.9474 |
| Hand Craft | 2.6316 |
| Hairdresser | 2.5263 |
| Painting | 2.3158 |
| How to start a business | 2.2105 |
| Local repairs and automobile | 2.1053 |
| Borrowing and lending money for business | 2.1053 |
| Environment management and conservation | 2.0526 |
| Building houses | 2.0000 |
| Energy saving stoves and briquette making | .8421 |

The standard deviation was utilised to comprehend the variability of the data set. Compared to a low standard deviation, which suggests that the values are more closely packed around the mean, a high standard deviation implies a wider spread of values. Figure A III presents the findings for farming, sewing and tailoring, handcrafting, and hairdressing, with small values of the standard deviation values indicating that the survivors primarily agreed that these talents would be needed in the future. This is fundamental to other livelihood skills such as painting,



borrowing and lending money to establish a business, conserving the environment, managing the environment, creating energy-efficient stoves, and generating briquettes. Their high standard deviation values indicate that the concepts are distributed from the centre mean.

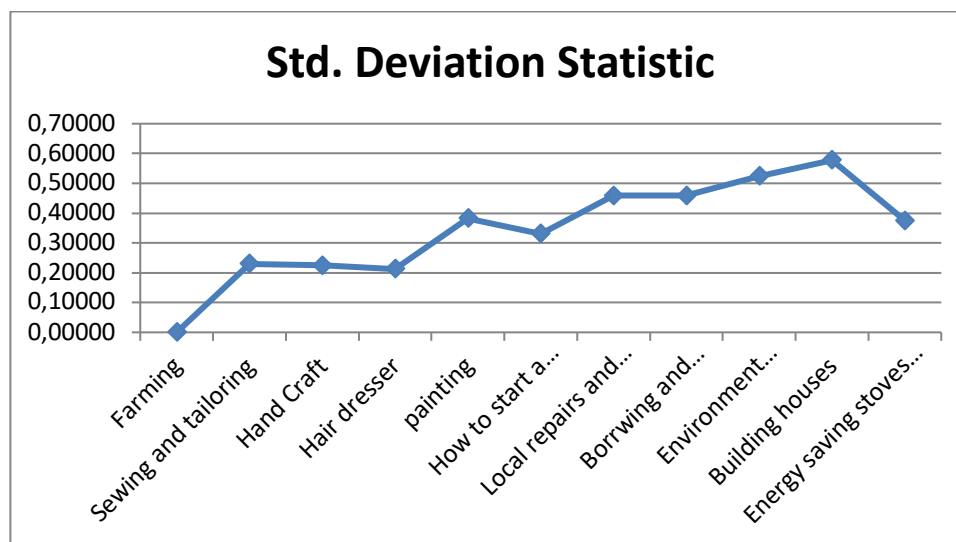


Figure A III: Respondent dispersion of livelihood Prospective skills needed to reduce vulnerability

Discussion

The study found a close link between the respondent’s livelihood characteristics and socio-demographics. Most of them had acquired primary education, with only a few having secondary and tertiary education. This meant their human capital was not well-built, thus limiting livelihood opportunities. This accounts for heavy reliance on a few livelihood sectors, especially subsistence crop cultivation, which is also subject to price fluctuations and drought and is hence responsible for the reduced incomes witnessed by the survivors in the resettlement. Findings by Wu et al. (2019) indicate higher Education and training levels enable more access to livelihood options, hence higher adaptive capacity, built resilience and reduced vulnerability in post-disaster resettlement. Other forms of socio-economic vulnerability affecting survivors include reduced food stocks associated with drought, pests and diseases, fake inputs and shelter that is needed to provide livelihood security, which is instead a source of risks of harbouring reptiles due to cracked walls and rough floors. Comparable to the resettlement-related impoverishments noted by(Cernea, 2000) the impoverishment risk and reconstruction model.

Although the respondents possessed various skills utilised to provide services to the resettlement, the skills were less utilised due to the lack of social, financial and physical means like vocational training institutions to strengthen skill development, use and uptake. The skills were also limited to a few sectors, which has resulted in reduced employment opportunities, reduced income potentials and, in the long run, may contribute to social and economic inequality and other societal impacts such as reduced productivity, reduced innovation and economic growth, which is similar to findings Hansson et al., (2020) that showed that a lack of skills exposes survivors to more risks and vulnerability.

The work available in the resettlement is casual, with a few working full-time and employment on commission. Therefore, there was a preference for skilling, reskilling, or cross-skilling for them to develop perspective skills to reduce socio-economic vulnerability. Thus, they were self-reliant and resilient, promoting the sustainability of the resettlement. Kanwar et al. (2019) note



the importance of investing in skills development to ensure individuals have the knowledge and competencies necessary to succeed in a rapidly changing world.

The prospective skills with strong consensus included farming, hairdressing and handcrafting. This was based on the median, mode and percentiles, the mean rank, and small standard deviation values. Per the study scales, they were very relevant livelihood skills the survivors need to reduce vulnerability. The skills with strong consensus included environment conservation and management, building houses, painting, local repairs and maintenance, how to start a business, and borrowing and lending money for a business. Such skills are found to be relevant in reducing vulnerability.

Conclusion

The study concludes that the socio-demographic characteristics of survivors, especially low levels of education, affect human capital and limit other sources of livelihood, hence exposed to socio-economic vulnerability. This accounts for overreliance on subsistence crop production as a source of income, which is affected by environmental conditions of drought, resulting in poor yields and a reduction in income. Survivors also experience vulnerability related to livelihood characteristics of shelter, expenditure and casual work employment with low earnings. The survivors possessed limited livelihood skills that had not been sufficiently utilised due to inaccessibility to social, financial and physical support means; they considered reskilling, cross-skilling or upskilling on prospective skills like farming, handcraft, hairdressing, sewing and tailoring. There is a need to establish a training institution to strengthen skills development, which needs to be done in line with the components of the UNCHR livelihood programming model.

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