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Permanent Housing Reconstruction in Post Tsunami Reconstruction in Aceh, Indonesia: Quality vs. Quantity.

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Abstract: This study examined the effectiveness of Permanent Housing Reconstruction (PHR) in the Reconstruction and Rehabilitation (RR) phase that had a significant effect on the socio-economic climate of affected communities (ACs). This research was based on 60 respondents from Banda Aceh and West Aceh, which was the two most tsunami affected region including beneficiaries from the local administration offices, the local NGOs and INGOs, and the local affected communities.

PHR was the only project in this phase that gave ACs a sense of ownership and legitimate participation through Komiter Perumahan Rakyat (KPR), a local housing committee selected due to its trustworthiness and transparency to monitor contractors with the assistance of INGOs. However, the findings show that PHR experienced many problems such as the lack of human capital, resources and skills in Aceh had attracted an influx of contractors from Medan Sumatra.

This issue indirectly effect the quality of the PHR depriving the ACs of good socioeconomic and livelihood sustainability due to lack of coordination and instant spending of the tsunami fund. Issues such as pattern of foreign employment caused funding to flow out of the region into other areas, depriving the local market of sustainable business activity. These obstacles eventually affected ACs' long-term ownership of their houses. This chain of problems kept them vulnerable to disaster, which later affected their capacity building (CB) and livelihood sustainability. This paper discusses the issues, problems and challenges faced by the main stakeholders such as the beneficiaries representing ACs, local government and INGOs in PHR.

Keywords: Permanent Housing Reconstruction, Livelihood, Socioeconomic Sustainability, Beneficiaries, NGOs and INGOs

Introduction

PHR was one of the main activities in the RR phase that had a significant effect on the socio-economic climate of ACs. It was the only project in this phase that gave ACs a sense of ownership and legitimate participation. This community-based reconstruction gave ACs the opportunity to participate through Komiter Perumahan Rakyat (KPR), a local housing committee selected due to its trustworthiness and

transparency to monitor contractors with the assistance of NGOs. However, the findings show that PHR experienced many problems, such as labour shortages and building material issues. The lack of human capital, resources and skills in Aceh attracted an influx of contractors from other parts of Sumatra, especially Medan.

This pattern of foreign employment caused funding to flow out of the region into other areas, depriving the local market of sustainable business activity. This section discusses the issues, problems and challenges faced by the main stakeholders in PHR (the beneficiaries representing ACs, local government and NGOs). Beneficiaries were the main recipients of PHR projects. NGOs' role was to serve as a medium between ACs and the Indonesian government. As the most observable physical RR project, PHR generally stands out as having the most successful programs and projects in the RR phase.

The findings suggest that NGOs and government agencies faced many specific issues in managing PHR in the RR phase. Problems originated from the lack of coordination between agencies and the need to spend funds immediately. These obstacles eventually affected ACs' long-term ownership of their houses. This chain of problems kept them vulnerable to disaster, which later affected their CB and livelihood sustainability.

Methodology

The research focus in Banda Aceh (BA) and West Aceh (WA) for the sampling, based on the vast scale of destruction caused by the tsunami in these two regions. BA is the capital city of the province and two other cities in WA, Calang and Meulaboh, were located along the BA and WA coastlines. These cities were located along 300 km of coastlines that were damaged by the tsunami. (Norhazlina, 2018) The comparative figures (see Figures 1.1–1.4) illustrate the characteristics, such as age range, gender, marital status and background, of interviewees from both regions. These figures help explain the difference in patterns between ACs in BA and WA.

Comparison between Respondent Categories in Banda Aceh and West Aceh (Calang and Meulaboh)

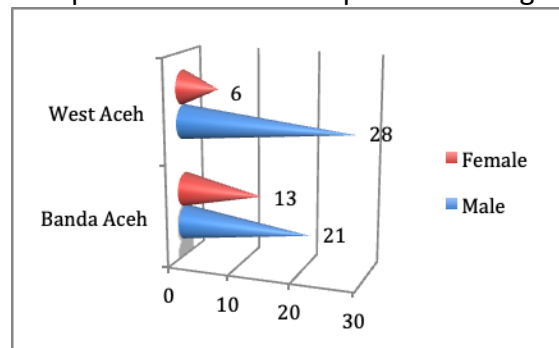


Figure 1.1: The Gender of Participants Interviewed in Banda Aceh and West Aceh

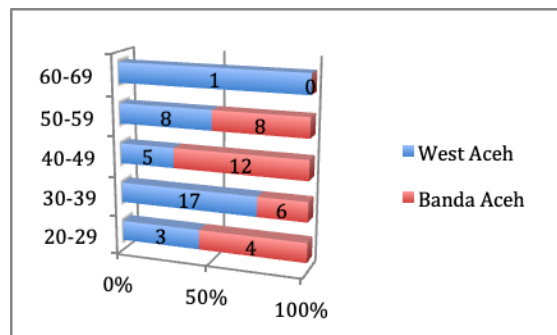


Figure 1.2: The Age Range of Participants Interviewed in Banda Aceh and West Aceh

Based on the comparative data in Figures 1.1–1.4, it is evident that male respondents outnumbered female respondents by almost half in both regions. WA had the smallest percentage of women participants. The gender compositions were a direct result of the traditional responsibilities of females and males in local Acehnese households. Most Acehnese families depend on either the fisheries sector, such as producing fish-based food products, or agriculture as their main source of income. This socio-economic factor is the pulling factor that led communities to build so close to unprotected coastlines.

Location of Data Collection: Banda Aceh and West Aceh

During visits to Aceh, the month of December 2012 marked the eighth anniversary of the tsunami disaster Aceh, Indonesia. The development of the Tsunami and Disaster Mitigation Research Centre (TDMRC) located in the coastal area signifies a remarkable and speedy recovery, despite the massive destruction of the tsunami eight years ago. The tsunami that hit BA and its surrounding districts caused extensive casualties and loss of life (more than 126,900 people). (Aceh Tsunami Museum, Banda Aceh, Indonesia, 2012). The tsunami also destroyed more than 300 km of coastline. (Kenny, 2010)

In WA, the highway connecting major cities like BA, Callang and Meulaboh was built through a collaboration between United States (US) aid and a Japanese agency. With disaster mitigation and DRR factor in place, the rebuilt highway was relocated a further five km from the coastline. The ruins of the old road remain as a tsunami memorial for the local population.

In this region, 90 per cent of the communities were involved in fisheries activities and lived five to 10 km from the sea before the tsunami. There were some hilly mountainous landscapes 10 km from the sea. The bay-like landscape explains why almost all communities along these beautiful coastlines were wiped out when the tsunami hit. The epicentre of the earthquake in Aceh was much closer to the city of Meulaboh than to BA.

This study undertook two rounds of data collection in the different regions surrounding Aceh and Jakarta. During the first trip (November–December 2012), the research team interviewed seven INGO staff members in Jakarta and 30 local respondents in BA. In BA, the research team interviewed a few local NGOs, local entrepreneurs, award-winning local leaders and ACs. The research team also visited some historical areas relevant to the conflict in Aceh and to interviewed some communities in Sigli in Pidie, which was known as a high-conflict region in Aceh. The location of this region was close to the GAM operation hub making it prone to be involved in the conflict between the central government

army TNI and GAM revolutionary army. The various interviewees' background information gathered during the first trip prompted better planning and perspectives for the second data collection trip to Aceh.

The second data collection trip took place May–June 2013 and focused more on the west coast of Aceh. The team interviewed more respondents from cities like Callang, Meulaboh and other small towns located along the coastline between BA and Meulaboh. This time, the research team aimed to reach the communities that lived along the highway, representing ACs along the west coast of Aceh. There were more than 30 local respondents, including the Geuchik (head of the village), community secretariat, chairman of the local district office, forestry department staff, former INGO staff and local villagers.

Research Methods

Sampling was done using the snowball technique, based on the referrals of key informants in the major regencies in Aceh, BA and WA (including Aceh Besar, Aceh Jaya, Pidie Jaya, Lumno, Callang and Meulaboh). Participants were cautiously selected with the assistance of key informants, who were also co-researchers in the TDMRC at Syiah Kuala University (BA). The methods applied were in-depth interviews and focus group discussion (FGD) with ACs, NGOs and government agency representatives.

The FGD at TDMRC on the second data collection trip helped researchers extract more information on collaboration and coordination among primary stakeholders during PTR. Attendees were carefully selected during the first trip to Aceh to ensure their relevant contribution to the course. This session was attended by various stakeholders including consultants, NGOs, local NGOs, disaster mitigation agencies, and representatives from TDMRC, BPBD, BAPPEDA and Pemadam at the province level. Discussions focused mainly on organisational responsibilities and coordination during PTR. (Norhazlina, 2018)

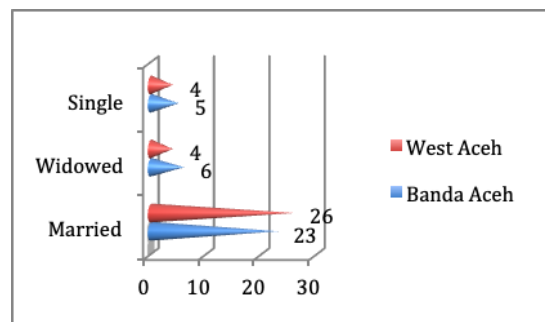


Figure 1.3: The Marital Status of Participants Interviewed in Banda Aceh and West Aceh

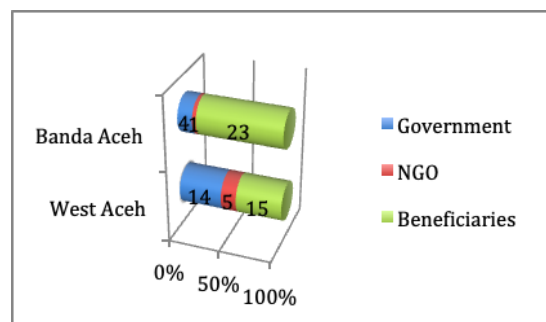


Figure 1.4: The Background of Participants Interviewed in Banda Aceh and West Aceh
Sampling Background

There are two perspectives of PTR in this empirical research. First, there were eight NGOs in Jakarta: MC, Oxfam, CRS, 118 Ambulance Service, PLAN International, Caritas Indonesia and Islamic Relief. Their experience and perspectives on their assistance in the aftermath of the tsunami and the RR process were useful to analyses the contribution of NGOs in PTR. In addition to NGOs in Jakarta, there were local NGOs: International Red Cross (BA division) (PMI), Islamic Relief BA, Islamic Relief Meulaboh, Rumpun Bambu BA, YPK BA and Panglima Laot Aceh (PLA). These local NGOs shared their stories and experiences of PTR processes.

Researchers also interviewed members of local government agencies, such as Agencies for Disaster Mitigation or Badan Penanggulangan Bencana Daerah (BPBD), Pemadam (fire brigade) Badan Perencanaan Pembangunan Daerah (BAPPEDA) and the head of the Forestry Department. This ensured representation of government agency perspectives in the research. Information, knowledge and experiences from local and international NGOs' operations during PTR were analyzed using Sphere handbook guidelines for common principles and universal minimum standards in Humanitarian Charter and Minimum Standards in Humanitarian Response. (SPHERE, N. A)

The second perspective came from approximately 60 tsunami survivors, representing the beneficiaries of tsunami aid. There were 30 local people from BA and another 30 from the WA regency. Respondents were selected based on whether they had direct involvement in the process of receiving, working or dispersing tsunami aid. Interviewees included the heads of villages, district officers, local staff, local university researchers and government consultants that had been employed by international agencies during the RR period. The study divides interviewees into three main categories: the beneficiaries from ACs who were the final recipients of aid; NGOs, NGO staff and consultants that practiced the implementation of programs; and the officers and employees of government agencies directly involved in PTR. (Norhazlina, 2018)

NGOs' perspectives was crucial to this research because they are responsible for conducting NA and determining whether local people and knowledge should be included in project planning. Second, people were selected from ACs that were the targeted beneficiaries and recipients of tsunami aid. Both perspectives are mutually crucial for program and project planning.

In addition to these two perspectives, other perspectives that can be classified as neutral were found in the empirical data. Some neutral views came from social and academic researchers in Aceh. These views explain how insufficient NA in the ERR and RR phases has an impact on outcomes of the programs in the developmental phase. Another important source of information was the FGD

sessions that included researchers at TDMRC and UnSyiah, disaster management PG students, local NGOs, locally based NGOs staff, international consultants and various staff from disaster-related government agencies. (Norhazlina, 2018) The respondents in this empirical study are coded based on their origin. For example BA1 means response number 1 in Banda Aceh. The same applies to response in West Aceh, coded as WA1.

Discussion

Incomplete Basic Infrastructure

Incomplete infrastructure within PHR refers to projects that failed to include kitchenettes and bathrooms. Lack of these basic features led ACs to rate their houses as 'bad' and lacking in MSD. Multisectoral development refers to an integrated approach in PHR projects. A good MSD considers socio-economic factors in the planning stages. Failure to use this planning approach had serious implications on ACs' socioeconomic conditions.

Table 1.1: Satisfaction with the Quality of Permanent Housing Reconstruction in the Main Regions of Aceh (Norhazlina, 2018)

Quality of houses	Good (8–10 %)	Average (4–7 %)	Bad (1–3 %)
Banda Aceh	62	27	11
West Aceh	72	17	11

By devolving all communication with beneficiaries to contractors, ACs were powerless to influence builders to consider their needs. The exclusion of ACs as primary stakeholders in PHR undermined the quality and delivery of homes. Further, high-cost homes did not necessarily guarantee excellent quality. The IRP70 million unit was not deemed of high quality. Houses built by BRR carried the tagline 'Build back better', leading to expectations of high quality. However, BRR units were considered low quality compared to other housing projects. For example, YCAR built houses of much greater quality for just one per cent (IRP7 million) of the cost of BRR houses (IRP70 million). (Norhazlina, 2018)

Beneficiaries in BA complained mostly about the small size of bathrooms. The inadequate facilities delivered often did not match the house plan given to ACs in the planning stage. For example, in BA, one recipient was given a display house with an incomplete bathroom and kitchen. The house was built by BRR and was ready within three months, but the quality was only rated 'average' (Norhazlina, 2018)

Safety and Security Issues in PHR

Safety and security issues in PHR had drastic implications for AC settlements in Aceh. For example, houses constructed by the Saudi Arabian and Turkish governments were of much higher quality than BRR homes. The good-quality housing had attracted hoarders to the homes, who contested the possession rights of the legitimate owners. The huge difference in the quality of PHR projects triggered additional communal problems after the RR phase.

Another common concern among beneficiaries was the materials used in PHR. In BA, ACs were worried about the use of asbestos. A lack of communication between stakeholders and beneficiaries meant that agencies could not explain that the materials were not as harmful as they were claimed to be. As rumours and discussion spread quickly, the use of asbestos was also controversial in WA.

The community was misinformed that houses built with asbestos, such as the Buda Tsu Zhi project, were medically harmful. Houses were abandoned by locals when other NGOs offered better-quality houses.

UN Habitat faced the same issue at the beginning of the RR phase. However, the confusion was resolved when NGOs clarified that the asbestos was certified and did not pose a health risk. The district officer from BPBD Meulaboh, Pak Dadek, confirmed that extensive research on the use of asbestos had shown the material to be safe. The district office in WA gave thorough instructions to ACs in Meulaboh on the safe use of asbestos.

The resolution of this issue illustrates the value of good coordination between stakeholders and beneficiaries. Further, it shows how two-way communication can have mutual benefits for all stakeholders. The same problem was handled differently in both regions. In BA, the lack of community consultation led ACs to abandon their homes. In contrast, WA ACs were assured of the safety of asbestos and remained in their houses.

Misuse of Permanent Housing Reconstruction Funding

PHR projects in Aceh faced many challenges. The findings indicate that 50 per cent of ACs experienced the mishandling of funds at the village level and some at the INGO level. (Norhazlina, 2018) Mishandling of funding does not necessarily refer to corruption. It also relates to the immediate use of funds by NGOs to fulfil upward accountability, rather conducting an NA to ensure targeted spending. Input from NA is very important to ensure that local knowledge is integrated into the planning and implementation of programs. Almost all levels in the Aceh region were affected by the mishandling of tsunami funds.

Mismanagement of funds by Indonesian government bodies increased the level of mistrust among NGOs and beneficiaries. The high number of corruption cases combined with a lack of transparency and coordination between the main stakeholders further damaged this trust. During the tsunami, the governor of Aceh was in prison for corruption, which added to the perception that NGOs could not trust local authorities. These obstacles made it difficult for NGOs to properly coordinate with local stakeholders, prompting them to opt for a direct approach. NGOs did not trust the head of village (HOV) or the Geuchik. Instead, they requested that the community appoint a committee comprising the most trusted members of the village to lead the project. This organizing committee (known as a KPR) was later appointed to manage the fund and monitor PHR on behalf of the AC.

It was only after BRR was established in early 2005 that most NGOs agreed to coordinate with local stakeholders to avoid problems and produce maximum benefits for ACs. Before the establishment of the BRR, NGOs used the direct approach to assist their beneficiaries. This led to other problems, such as the overlapping of aid. There were a number of abandoned units in PHR settlements. However, there were many more houses under construction, exceeding the actual number of houses damaged by the tsunami.

In total, there were about 300,000 people who lost their homes in the tsunami in Aceh. However, the housing data collected after the tsunami indicates that the request for new housing exceeded this number. In fact, more than 400,000 houses were built during the RR phase. NGOs in Aceh focused on housing aid as the main target in the RR phase. Most survivors have received housing aid, but due to a lack of coordination between stakeholders, some villagers received more than one house.

Water, Sanitation and Hygiene and Multisectoral Integration in PHR

WASH was an integral part of MSD in PHR. There were three types of WASH systems in Aceh: ring wells and drilled wells (sumur boor), water pipelines and natural sources, such as rivers. Almost 80 per cent of ACs still rely on ring wells for their WASH needs. There were two types of well. Ring wells were dug just far enough to reach the natural spring water source. The sumur boor, best described as a proper well, was dug a few meters deep using heavy machinery. The sumur boor was a bigger well, usually built by the community as a shared-cost project. Sometimes a few families shared one sumur boor as their WASH source. Aceh was lacking in good pipeline systems and was still very much underdeveloped. Only about 10 per cent of ACs used the second type of WASH facilities in Aceh. The data indicate that approximately 10 per cent of Aceh communities still rely on the third type of water source: rivers or spring water. (Norhazlina, 2018)

In BA, 100 per cent of ACs claimed that a lack of multisectoral coordination affected the functionality of their house. Further, 85 per cent reported difficulty in accessing basic WASH systems in their PHR project. In WA, 88 per cent of respondents claimed that a lack of MSD was an important factor in their decision to occupy their home. A further 12 per cent depended on rivers or other natural water resources. Almost 73 per cent of ACs in WA rated the effects of WASH and other multisectoral integrations as important factors in PHR occupancy.

A large number of ACs were still reliant on the rivers for their daily WASH needs. An Oxfam-led PHR recipient claimed that his family depended on a well for their household needs, but the water was not suitable for drinking. This was due to the close proximity of villages to the river. The river, which was the main water source, was only 20–50 m away from their homes. Most people depended on the river as a water resource and worked together by gotong royong to build access to the river for communal benefits. (Norhazlina, 2018)

Data from Aceh indicated that the quality of houses varied greatly. Most houses built through NGOs in BA were of much better quality and cost less to build than houses constructed by BRR. For example, two-bedroom houses built by NGOs like CRS and Caritas cost approximately IDR40 million, but houses of the same size built by BRR cost about IDR70 million, and were of lower quality. While BRR disputed any suggestions of corruption, there was physical evidence of low-quality housing reconstruction led by government agencies. This was a common problem faced by the Aceh community. It was the poor quality of the pre-tsunami houses that created the need for reconstruction, so replacing those homes with low-quality substitutes leaves the community just as vulnerable as it was before the disaster. (Norhazlina, 2018)

Challenges

Quality of PHR

Data from Aceh indicated that the quality of houses varied greatly. Most houses built through NGOs in BA were of much better quality and cost less to build than houses constructed by BRR. For example, two-bedroom houses built by NGOs like CRS and Caritas cost approximately IDR40 million, but houses of the same size built by BRR cost about IDR70 million, and were of lower quality. While BRR disputed any suggestions of corruption, there was physical evidence of low-quality housing reconstruction led

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A Geuchik in the Pidie Jaya district complained that UN Habitat and Serasi projects in his village produced low-quality houses. The act of outsourcing all communication with beneficiaries to contractors left his community with continuous problems with their houses. While the village had a KPR, a lack of monitoring by NGOs led to disputes between the Geuchik and KPR. This delayed the PHR process and left ACs with little recourse. The Geuchik declared that housing aid did not support the villagers' needs. The houses were in very bad condition, especially during heavy rains, which was a clear indication of poor quality. Continuous repairs on PHR units increases community resentment of foreign aid organisations. (Norhazlina, 2018)

Another contributor to low-quality PHR was the commonly accepted practice of nepotism. Favouritism was prevalent in the determination of who should benefit from tsunami aid. Theoretically, the aid should have been distributed fairly among ACs. However, the Indonesian government failed to clarify the criteria for eligibility, prompting many ACs to contest decisions. (Burke, 2006)

The recurrence of PHR-related problems placed the Geuchik in a difficult situation. The cost of repair from frequent earthquakes and other problems such as termites (anai-anai) has continued to rise. A recipient of housing built by the CRC claimed that she has continuously had to repair the house due to termite problems, costing her IDR20 million thus far. Most ACs complained about the use of low-quality timber in their homes, which they believe is the cause of the termite issues. (Norhazlina, 2018) In some cases, ACs who are unable to afford repair costs have abandoned their homes. Others have left to avoid living in constant fear of earthquake damage.

Building Back Better Versus Building Back Safely

BBS and BBB were the two main principles applied in PHR. This section will examine the effects of these principles on participation levels in Aceh PHR projects. The successful application of these principles depended on the level of participation and the inclusion of local knowledge in the planning and implementation stages.

Factors such as livelihood sustainability, education and good access to health services fell under BBB. It is essential that ACs are provided with useful ISK to guide them and the government should have a method in place to measure ACs' post-disaster capabilities and skills. With the appropriate ISK, ACs are able to assess their requirements and the resources required to fulfil them. Most ACs in Aceh did not have a channel through which to direct their complaints, especially during PHR. ACs asserted that Red Cross and G2G PHR projects lacked communication channels because the NGOs were only meant to operate during the ERR phase.

A shortage of skilled workers was another concern among beneficiaries. Trained labour was of the highest priority in PHR projects. In BA, ACs rated the importance of skilled labour to PHR quality at 46

per cent. In WA, 72 per cent of ACs were merely concerned with the issue of labour in their PHR. This claim was particularly directed at NGOs that outsourced all AC communication to contractors. In the absence of a monitoring process, ACs were forced to accept low-quality houses. Another issue during PHR was the many layers of contractors and subcontractors involved. The selection of subcontractors for PHR varied among NGOs. CRS (Jakarta), which built 10,000 homes in WA, claimed that only a few NGOs selected reputable contractors in Aceh. Local small contractors tended to subcontract to other locals, who lacked expertise and did not meet the standards of the original design.

The issue of contractor quality falls under the BBB principle. Other BBB issues include land ownership disputes, distance (500 km) from the coastline and socio-economic challenges for relocated communities. Relocated communities were concerned that the government did not calculate the suitability of the new settlement areas in terms of socio-economic needs. For example, fisheries workers expected to be relocated near the sea. There was no existing strategic plan to guide these decisions. According to most NGOs, a fishing-based village should be located one to two km from the coast.

The different types of shelters and housing materials were determined by funding availability and INGO discretion. In the case of Aceh, funding was plentiful and many NGOs were involved directly with the community-based reconstruction process.

In Aceh, the community was more passive, preferring to demand housing rather than participate in the reconstruction process. (Norhazlina, 2018) This example highlights the importance of community participation in establishing a sense of ownership and independence. (Norhazlina, 2018) According to beneficiaries, community-based house reconstruction was the best method to guide an effective recovery process.

The majority of beneficiaries in both regions were given housing built by contractors. In BA, 19 per cent of ACs participated in the reconstruction, while 81 per cent relied on contractors, which allowed them limited input. Table 6.3 indicates that in WA, 89 per cent of PHR was contractor-based and only 11 per cent was community-based. Community-based reconstruction was usually led by NGOs and the KPR. The KPR was a channel through which ACs could express concerns and provide feedback to NGOs. This committee allowed ACs indirect participation because ACs voted on KPR membership. The formation of KPR lowered the Geuchik's position at the village level, which helped eliminate favoritism and the mishandling of funds.

Only 31 per cent of ACs in BA preferred community-based reconstruction while 69 per cent favored contractor-based reconstruction. However, the scenario was the opposite in WA, where 67 per cent of ACs claimed that if they were given a choice, they would have opted for community-based reconstruction. Only 33 per cent of ACs in WA preferred contractor-based PHR. ACs were also asked to rate the quality of their PHR based on the choice they had made or that was made for them: 72 per cent of ACs in WA believed their choice had given them a 'good' quality home, 17 per cent rated their homes as 'average', while the remaining 11 per cent claimed the choice left them with 'bad'

quality PHR. In BA, 42 per cent believed their decision had given them a 'good' quality PHR. A further 42 per cent deemed the quality 'average' and 11 per cent rated their PHR as 'bad' quality.

While ACs in both regions were not given a choice between contractors or community-based reconstruction, this decision affected how ACs perceived the quality of their PHR. Table 6.4 indicates that the highest priority of ACs in PHR was the quality of the house, followed by its seismic-resistant factor, the involvement of skilled technicians/engineers, experienced and skilled labor, trained labor and the safety, security and livelihood factor.

Effects of Design and Material on Livelihood

The findings indicate that the design and choice of materials for PHR projects depended on three factors: material availability at the time of construction, the integration of the BBS concept and the preferred design of ACs. The design of the house was also determined by the geographic location, soil and landscape of ACs' land. Houses called 'rumah panggung' were common in coastal areas that had been submerged in the tsunami. This type of house was built predominantly of timber and featured a brick foundation. The design of this house resembled Rumoh Aceh, a traditional landmark. (Norhazlina, 2018)

Most ACs preferred bricks to wood for several reasons. First, timber was much more expensive than bricks, due to an increase in the price of building materials. The materials were imported from neighbouring countries, such as Malaysia and Thailand. Second, the delivery of imported goods was delayed due to road damage. Further, the price of imported timber had increased since the tsunami. (Norhazlina, 2018)

According to a participant, one contractor had used unsuitable timber in constructions to reduce expenses. The original timbers intended for PHR projects were semantok or meranti, which are known for their high quality. (Norhazlina, 2018) However, most ACs' homes were built with lower-quality timber, which later resulted in termite problems. Due to an increased demand for timber, prices rose by almost 100 per cent from pre-tsunami levels. In communities lacking KPR involvement in PHR projects, ACs had no way of monitoring this practice.

There was no official blueprint for housing reconstruction in Aceh, so building activity was largely conducted on a trial and error basis. Designs were not standardized and the integration of DRR measures was not mandated. Eventually, the blueprint produced by the central government's BPBN clearly stated that no homes should be built within two km of the sea. However, this blueprint was endorsed six months after the tsunami and many homes had already been built less than 100 m from the coast. (Norhazlina, 2018) Prior to the blueprint's release, NGOs had been waiting to begin construction based on community needs. ACs were willing to accept the risks of building close to the sea and refused to be relocated away from their livelihoods. In a Uleu Lheue Lambo village (North Aceh), communities agreed to be relocated. According to Caritas, some villages were better able to accept community-based reconstruction than others, depending on the strength and social links within the community. (Norhazlina, 2018)

Results

Permanent Housing Reconstruction Relocation Impact on Economic Climate and Livelihood

The relocation of ACs was the most common DRR strategy adopted by agencies in PTR. Beneficiaries who had lost their seaside land and villages qualified for PHR relocation programs. The findings indicate that relocation had a significant impact on the sustainability of the ACs' livelihoods. Relocation raised security issues and often forced ACs to find a new income source within close proximity to their new home. Survivors who chose to commute to their existing roles had to pay higher travel costs. Most ACs complained that PHR projects had not integrated livelihood sustainability as a priority.

ACs' livelihoods should have been considered in PHR planning. After the tsunami, most NGOs relocated ACs to higher and safer ground to prevent against future disasters. However, this was a temporary solution. The hilly areas offered no long-term socio-economic opportunities. These communities found it difficult to commute to their previous jobs due to the hilly terrain and distance. Relocated communities usually chose other occupations or began new economic activities rather than endure long commutes. The principles of BBS undermined an important element of BBB: integration of livelihood aspects. The DRR integration in BBS only promised greater safety measures to protect against disasters.

The lack of livelihood consideration in PHR planning eventually led many ACs to sell, rent out or abandon their homes. The findings show that 50 per cent of house abandonment cases were due to socio-economic reasons. A further 30 per cent were attributed to distance, while 20 per cent were due to geographic factors and other aspects. This trend posed problems for local district offices. For example, in the Mesjid Raya district, the Kecamatan had to monitor the status of these houses to prevent ACs selling or renting the homes.

Some ACs decided to return to their original village. (Norhazlina, 2018) ACs only occupied their houses for two years because PHR projects provided free SEMBAKO during this period to help survivors adjust to their new locations. (Norhazlina, 2018) When the support of SEMBAKO and JADUP were withdrawn, many ACs chose to migrate. Some ACs from Lumno Aceh Jaya moved to the Mesjid Raya district after the tsunami. When they were allocated a home by NGOs, they remained there for six months to one year, or until the home was complete. Usually, difficulties sustaining an income forced them to return to Lumno, where they still owned agricultural land. The Kecamatan did not approve of houses being sold or rented to outsiders. This could only be done with the consent of Kecamatan and the Geuchik. However, despite this policy, the community continued with this practice.

Relocated ACs who left their coastal homes claimed that they only returned to the sea after one year. They blamed this on the failure of NGOs and the government to consider socio-economic factors in PHR planning. The importance of livelihood sustainability should be considered when identifying relocation areas. (Norhazlina, 2018) Some fishers only go to sea once a week, some go every day and some take week-long voyages. (Norhazlina, 2018) It is important to understand that fishing activity is dictated by seasons, weather and the tides.

A similar problem occurred in WA. Some fisheries workers were relocated to a hilly area. The initial plan was to build a river that would link them to the sea, but they disagreed with this idea. These ACs preferred to build homes on submerged land than relocate. Despite the relative safety of the hills, many ACs did not prioritise safety over livelihood factors. This is in sharp contrast with the objectives of NGOs and other agencies. NGOs were primarily concerned with BBS, while ACs preferred to focus on BBB.

A local NGO, the YPK, functioned as an AC advocate. YPK collaborated with local government agencies towards the end of the ERR phase and engaged in relocation planning discussions. The main function of YPK was to convey the results of government discussions to donors and funders, who then liaised with NGOs to determine PHR project strategies.

According to YPK, accommodation choice was the sole decision of ACs. Relocation of reluctant communities would only create new livelihood and adjustment issues. In WA, ACs convinced the local government to acknowledge and respect ACs' requests. Some beneficiaries who lost their houses were relocated, while those with existing land were given the right to claim housing aid from NGOs. (Norhazlina, 2018) In Merboh, some rumah panggung (Norhazlina, 2018) houses were built on the bayou landscape at the request of ACs.

The second focus of the RR phase was ACs' livelihood development. Housing reconstruction had fewer chances of success if socio-economic factors were not integrated into PHR plans. During construction, ACs were supported to rebuild their livelihoods. The task of coordinating similar types of livelihood programs in different NGOs was identified by YPK as a difficult undertaking because NGOs have different resources, capabilities, donor criteria and programs.

Conclusion

PHR in Aceh was rated by beneficiaries as the most important sector in RR phase. Findings indicated, ACs placed great value on securing permanent accommodation. Further, it was important that they were recognised as rightful owners of their land and houses. Tsunami aid provided ACs with new homes, allowing them to continue with their lives. While PHR was important to securing economic sustainability, the sector did create some problems for beneficiaries in this regard.

PHR projects encouraged local participation through community-based reconstruction. In this approach, the KPR ensured that AC input was considered in projects. As discussed in this paper, contractor-based reconstruction in PHR limited community participation, leading to quality issues and beneficiary dissatisfaction.

Most contractor-based PHR projects faced problems fulfilling their accountability to donors. In this approach, NGOs devolved all aspects of PHR to contractors who chose not to consult ACs, resulting in community dissatisfaction and economic issues. While NGOs were accountable to beneficiaries, contractor-based projects undermined this relationship.

The integration of LRRD in this sector encouraged the integration of MSD. Providing ACs with new homes without considering other aspects had the potential to disrupt the economic climate. The inclusion of ACs in the NA process would have allowed NGOs to integrate local knowledge and capacity in the planning of PHR projects. The findings indicate that NGOs that conducted productive

need assessment by establishing a KPR in their projects achieved greater success in accommodating ACs' livelihood needs.

Analysis suggests that ACs who actively participated in PHR projects gained a better understanding of their rights as citizens and beneficiaries. Capacity building in PHR is achievable with the adequate integration of MSD in the planning stage. The integration of local knowledge and capacity creates a greater sense of ownership of the projects.

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