Experience of Household Level Financial Management in Rural Housing Reconstruction in Nepal

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Abstract

This paper is based on the assessment of construction cost and its management during the housing reconstruction activities which were carried out after the Gorkha Earthquake in Nepal. The aim of this paper is to explore the household level financial management and debt situation in the course of housing reconstruction. By documenting the housing reconstruction cost in Gorkha and Sindupalchok this paper compares it with the preference of structure type for rural housing reconstruction. This paper demonstrates that 47.10 percent beneficiaries preferred Stone Masonry in Mud Mortar (SMM) with seismic standards and the average construction cost is NPR 681,000 which is more than double of the government’s housing grant. Furthermore, the average loan amount is about NPR 288,000 with 21.85 percent average loan interest which is higher than the formal sectors. It is recommended to make the formal sector’s loan, easy and accessible for the rural people after disaster for housing reconstruction to reduce the financial burden.

Keywords: Housing Reconstruction, Loan, Financial Burden

1. Introduction

The Gorkha Earthquake of 2015 in Nepal resulted in damage of almost a million houses, and more than 900,000 families were roofless (UNDP, 2019). Center for Disaster Management and Risk Reduction Technology (CEDIM et al., 2015) reports that the total loss in economic sector is in the order of 10 billion U.S. dollars, which shares about a half of Nepal’s GDP. The damage from the 2015 earthquakes is expected to create a grave socioeconomic impact on people and communities in Nepal in a long-run (Goda et al., 2015). It was a tragedy that the poorest and most vulnerable, who occupy the largest population in rural areas, were disproportionately affected (Paul et al., 2017). As a consequence of earthquake, the progress of poverty alleviation and broader economic development of the rural area has been dragged (Shayka, 2016). While the housing reconstruction is also a technical matter after the massive disaster, the large-scale destruction of housing, primarily from the seismic vulnerability of mud mortar houses which is mostly dominant in the affected areas of Gorkha earthquake, needed a significant amount of financial resources for housing reconstruction (NPC, 2015). The price of reconstruction has potential to be variable, especially when new structure is to be made stronger and more resilient (UNDP, 2019). As hilly region being the most affected, most of the community have some common characteristics and socioeconomic condition such as accessibility of road, availability of water and local construction material which is not sufficient to build their house without government support.

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The owner-driven reconstruction approach adopted by the National Reconstruction Authority (NRA), places the responsibility of rebuilding and its financial arrangement on home owners where technical support was provided by the government or other agencies (NPC, 2015). Considering this reality, the government supported the home owners based on multiple tranches of grant assistance totaling up to NPR 300,000 through technical verification to maintain its Build Back Better (BBB) policy in housing reconstruction (NRA, 2015). The first priority was given to reconstruction of private earthquake resilient housing even though the effects of earthquake was felt on broader socioeconomic scale (NPC, 2015). Some of the challenging factors for making housing reconstruction difficult are the limited financial capacity of the home owners and their accessibility to modern construction materials, information, skills and technology (Bothara et al., 2016). Some other challenges include the complete dependency on agriculture and low cash flow in the area, with women led families who are already loaded by daily chores and agricultural work as major portion of male population have migrated overseas for jobs (Bothara et al., 2016). The affected area has the tremendous trend of foreign labor migration and rural urban linkage of labor, due to which working age population is less than actual and insufficient labor technician was in place (Manandhar, 2016). This shows the similar financial capacity of the community of affected areas physically, economically, demographically and geographically.

A tentative estimate that construction of even a two-room house, which is around 300sqft house constructed of stone in mud where stones are locally available would require at least NPR 400,000 (including the earthquake resilient elements kept in the technical inspection guidelines) (Bothara et al., 2016). Similarly, a study done by Housing Recovery and Reconstruction Platform (HRRP, 2017) including all type of building structures shows the median cost for construction of house in NPR 700,000. This shows the amount of the money provided by the government not sufficient and household head should arrange the remaining amount on themselves which will provide them with financial burden.

The government expected the additional resources will be complemented through the efforts of self-recovery. The resource would be pulled in a way that would keep the debt ratio within manageable level, and utilize grant assistance to the extent possible (NPC, 2015). The government also approved the interest subsidy on subsidized loan policy guideline 2075 circulated by Nepal Rastra Bank to bank and financial institutions with a loan period of between 5 to 10 years, with the condition that the bank and financial institutions should not exceed 2% in their base rate of the loan. The government will subsidize 5% of the total interest rate and the household will bear the remaining as a soft loan for housing reconstruction. However, the guideline was completely not materialized and more than half of the total beneficiaries have taken loans to reconstruct their home at an average interest rate of 23% p.a. (HRRP, 2017, 2019).

Further, local branches of private commercial banks did not accept the process of group guarantees or soft loans as they were not sure if central government will pay back the remaining percentage of the loan. It was doubted that earthquake-affected families will only receive the
first installment and use it for paying already existing debts and construct weak temporary shelters, or will spend it on their livelihood. These challenges put many earthquake victims, especially the economically and socially disadvantaged and unable to access bank loans or draw on other resources, at risk of debt traps especially if they borrow from informal lenders (The Asia Foundation, 2016).

The main aim of the article is to identify the financial burden of rural housing reconstruction exploring the household level financial management and debt situation during the housing reconstruction after the earthquake.

2. Methodology
The study has been conducted in two of the most earthquake affected districts Gorkha and Sindhupalchok of Nepal to document the housing reconstruction cost and the sources of construction cost in the household level and compare it with the preference of structure type of rural housing reconstruction along with gender and caste/ethnicity.

Emergency Housing Reconstruction Project (EHRP) database is main source of data for this research. The EHRP database has been surveyed, maintained and updated biweekly by the combined efforts of mobile masons, engineers and social mobilizers. Household heads were interviewed to collect the data. This database covers 95,117 beneficiaries in a total of 109 wards (91 in Sindhupalchok and 18 in Gorkha) where it has been providing technical services. For this research we will be focusing only on few parts of this database, especially the financial information like construction cost, loan and interest rates, in respect to aspects like structural type, caste/ethnicity, gender etc.

Figure 1 Study Area and Other Earthquake Affected Districts in Map of Nepal (NPC, 2015; Survey Department, 2020)
The research is conducted on the basis of descriptive and inferential analysis. The initial cleanup of database included looking at only those beneficiaries who have completed their house construction, removing the data with missing information and then inter quartile range rule with a resistant factors of 1.5, 3 (Hoaglin et al., 1986) and 2.2 (Hoaglin & Iglewicz, 1987) were used to remove the outlier data with very high construction cost in each structure types individually to ensure a more refined final database for this research. In this way a total of 79,874 sample were used to analyze the database as of April 2020 to compare structural preferences, caste, gender and total construction costs. Among 79,874 samples, 63,672 were of male headed house households and 16,198 were of female headed households while only 4 samples were of third gender headed households. In case of loan and interest analysis we used only those data with loan and interest information available i.e.44,822 and 48,062 respectively. Distance from market area has not been considered although cost of housing reconstruction is determined by accessibility. This study has not considered the sources and capacity of beneficiaries to pay back the loan.

We used the same categorization of caste and ethnicity as provided by the government of Nepal (CBS, 2014). We have five categories namely Bramhin-Chhetri with 24,808 samples, Dalit with 6,750 samples, Janajati with 36,940 samples, Newar-Thakali with 8,234 samples and Others with 3,142 samples. We have included Brahmin, Chhetri, Newar and Thakali as facilitated group. Others category includes all other caste/ethnicity groups which doesn’t belong to above mentioned categories or who did not want to mention their caste/ethnicity. Major lenders of loan are categorized as Bank, Cooperative, Relative, Neighbor and Others. The “Others” category represents sources like friends, village landlords, etc.

The type of houses used in the study is same as provided by the Ministry of Urban Development (DUDBC, 2015, 2017; NRA, 2017). The houses may be- i) SMM: Stone Masonry with Mud Mortar, ii) BMM- Brick Masonry with Mud Mortar, iii) SMC- Stone Masonry with Cement Mortar, iv) BMC - Brick Masonry with Cement Mortar, v) RCC – Reinforced Cement Concrete, vi) Hybrid – is a type of house that use two different techniques i.e. stone and brick, stone and wood etc., vii) Light frame steel structure, viii) Light frame timber structure and ix) Others – it includes other type of buildings which doesn’t fall in above mentioned categories.

The financial burden which occurred to households after the earthquake to construct new houses was seen as the extra amount which was required to build the house in top of government’s grant. We assumed that a household will use the government grant to build the house and if that amount is not enough, he/she would invest personal finances or take loan. The amount of loan taken by the households and interest rate was used to describe the debt situation.

3. Result
3.1.Total Construction Cost
The average total construction cost of house among 79,874 households was NPR 681,138.

a. Building type preference
SMM was the most preferred building type with 47.10% household building this type of house followed by BMC which was preferred by 32% households. BMM was the least preferred building type.

b. Total construction cost and building structure
A Games Howell’s Post Hoc test was performed between total construction cost and building structure as the Levene’s F test revealed that the homogeneity of variance assumption was not met ($p<0.001$) and also Welch’s F test, $F (8, 292.98) = 3539.86$, $p<0.001$, indicated that there was difference in the mean construction cost between the different structures. The data is normally distributed due to central limit theorem (N=79,874) (Ghasemi & Zahediasl, 2012). The one-way ANOVA test revealed that, RCC (M=NPR 1,520,501, SD=751,458) houses had a significantly higher construction cost than all the building structures. While SMM (M=NPR 475,402, SD=163,888) houses had significantly lower cost than BMC (M=NPR 635,833, SD=247,042), Hybrid (M=NPR 628,846, SD=258,155), Light Frame Timber (M=NPR 495,968, SD=186,424), Others (M=NPR 545,871, SD=228,840), RCC and SMC (M=NPR 596,471, SD=218,671). However even though the average cost of SMM was the lowest among the all, no significant result was found between mean construction cost of SMM and Light Frame Steel (M=NPR 494,444, SD=262,277) and BMM (M=NPR 526,667, SD=268,506) structures.

The average construction cost of all other building structures except RCC is below the total average. The data also consisted RCC houses that were built within the government grant of NPR 300,000. Few of these were found to be single room structures and there was no clear reason for the rest of them. Overall the number of this anomaly was pretty small to make any major differences to the average. Also the number of BMM structures was only 15, hence this type of structure, even though it costs less, is not preferred by the beneficiaries of Sindhupalchok and Gorkha.
Government grant of 300,000 was enough to build only 17% of the total surveyed houses. The remaining 83% households required additional investment of personal finances or loan or both to complete the construction of their houses creating financial burden for them. 44% household required both personal investment and loan to complete their houses on top of the Government supports (Figure 4). 1% of the surveyed houses did not use Government grant but only either through loan or personal finances or a combination of them which is shown as ‘Others’ in Figure 4.

Figure 3 Average construction cost per building type

Figure 4 Distribution of financial burden of construction
Among the houses constructed by using government grant only, SMM and BMC covered the major portion where (66.95%) were SMM and (21.81%) were BMC. Although Figure 5 shows that only 24.97% of total SMM houses and 11.97% of total BMC houses were built within government housing grant.

Figure 5 Percentage of households in each building type constructed using only government grant

c. Total construction cost and caste/ethnicity

A Games Howell’s Post Hoc test was performed between total construction cost and caste/ethnicity as the Levene’s F test revealed that the homogeneity of variance assumption was not met ($p<0.001$) and also Welch’s F test, $F(4, 14806.49) = 222.08$, $p<0.001$, indicated that there was difference in the mean construction cost between the different caste/ethnicity. The data is normally distributed due to central limit theorem (N=79,874) (Ghasemi & Zahediasl, 2012). The one-way ANOVA test revealed that, there was significant difference between mean construction cost of all the different caste/ethnic groups, with $p<0.001$, except the group Newar-Thakali (M=NPR 776,657, SD=625,371) and Others (M=NPR 746,865, SD=502,961). The average cost of house was significantly lowest for the group Dalit (M=NPR 581,341, SD=341,377). On the other hand, the average cost of house constructed by Newar-Thakali was significantly highest with NPR 776,657, with the exception of Others group as even though the mean construction cost is higher for Newar-Thakali but the result was not significant ($p=0.65$). Figure 6 shows similar average construction cost for Bramhin-Chhetri and Newar-Thakali while lower cost for Janajati and Dalits.
d. Total construction cost and gender
The average construction cost of male headed households (M=NPR 687,918, SD=491,104) is significantly higher than female headed households (M=NPR 654,519, SD=467,217), as revealed by one-way ANOVA Welch’s F test, $F(2, 8.01) = 30.93, p<0.001$.

3.2. Loan amount
The average loan amount taken by households in NPR 288,728. Out of the total surveyed households 56.11% (44,822) have taken loan to construct house.

a. Loan amount and structure
A Games Howell’s Post Hoc test was performed between average loan amount and structural typology as the Levene’s F test revealed that the homogeneity of variance assumption was not met ($p<0.001$) and also Welch’s F test, $F(8, 69.88) = 1449.68, p<0.001$, indicated that there was difference in the mean loan amount between the different structural typology. The data is normally distributed due to central limit theorem (N=44,822) (Ghasemi & Zahediasl, 2012). The one-way ANOVA test revealed that, the average loan amount for RCC (M=NPR 667,660, SD=451,229) is significantly highest among all the structures with $p<0.001$ for all and $p<0.05$ for BMM (M=NPR 200,000, SD=122,474). In case of BMC (M=NPR 236,015, SD=159,459), the average loan amount is significantly higher than that of SMM (M=NPR 162,861, SD=103,352) and Others (M=NPR 206,135, SD=147,143). Even though BMC had a higher average loan amount than BMM, Hybrid (M=NPR 233,482, SD=159,484), Light Frame Timber (M=NPR 228,070, SD=131,617) and SMC (M=NPR 224,768, SD=140,395) structures but the ANOVA test did not yield any significant result. On the other hand, the most preferred structure SMM (n=18326 ie. 41%) had significantly the least amount of average loan, at $p<.001$ for BMC, Hybrid, Others, RCC and SMC and at $p<.05$ for Light Frame Steel and Timber, except for BMM where the test was not significant even though the averages were lower. The average loan amounts all other building structures except RCC is below the total average.
b. Loan amount and caste/ethnicity

A Games Howell’s Post Hoc test was performed between average loan amount and caste/ethnicity as the Levene’s F test revealed that the homogeneity of variance assumption was not met ($p<0.001$) and also Welch’s F test, $F(4, 8355.58) = 159.78$, $p<0.001$, indicated that there was difference in the mean loan amount between the different caste/ethnicity. The data is normally distributed due to central limit theorem (N=44,822) (Ghasemi & Zahediasl, 2012). The ANOVA test revealed that the average loan taken by Newar-Thakali (M=NPR 380,201, SD=399,658) to construct their house was significantly higher than all other caste/ethnic group, as opposed to Dalit (M=NPR 325,768, SD=317,108) whose average loan amount was the lowest (Figure 8). This might be due to the higher average construction cost of Newar-Thakali and lower average construction cost of Dalit caste groups. Similarly, Brahmin-Chhetri (M=NPR 304,944, SD=316,045) had significantly higher average loan amount than Janjati (M=NPR 262,786, SD=261,016) but significantly lower average loan amount the Others (M=NPR 325,768, SD=317,108).

Figure 7 Average loan taken to build different structure

![Figure 7 Average loan taken to build different structure](image1)

Figure 8 Average loan taken by different caste/ethnic groups

![Figure 8 Average loan taken by different caste/ethnic groups](image2)
c. Loan amount and gender

The average loan taken by Male (M=NPR 291,737, SD=299,540) is significantly higher than that of Female (M=NPR 276,211, SD=294,237) as revealed by one-way ANOVA Welch’s F test, \( F(1, 13325.46) = 19.34, p<0.001 \). The Welch’s F test was chosen because Levene’s test of homogeneity of variance failed at \( p<0.05 \). The loan data was available for a total of 44,821 beneficiaries out of which 19.35% were female and 80.64% were male. The data was normally distributed due to central limit theorem.

3.3. Major Lender of Loan

A Games Howell’s Post Hoc test was performed between average loan amount and major lender of loan as the Levene’s F test revealed that the homogeneity of variance assumption was not met (\( p<0.001 \)) and also Welch’s F test, \( F (4, 13100.03) = 392.528, p<0.001 \), indicated that there was difference in the mean loan amount between the different major lenders. The data is normally distributed due to central limit theorem (N=44,745) (Ghasemi & Zahediasl, 2012). The ANOVA test revealed that no significant difference could be found between major lender groups, Neighbour (M=NPR 257,225, SD=251,565), Others (M=NPR 254,772, SD=257070) and Relatives (M=NPR 251,496, SD=243,766). However, it was found that Bank (M=NPR 618,197, SD=517,325) provided significantly highest average loan amount than any other group, while Cooperatives (M=NPR 300,692, SD=517,325) came in second highest, just behind Bank. Relatives are the major lender of loan with 33.90% of households receiving loan from them followed by neighbors with 24.70%. Although only 6.50% of households have received loan from bank but the average loan amount provided by banks is much higher than other lenders (Figure 9). Over 70% of households have obtained loan from informal sectors like relatives, neighbors and other sources like friends, local landlords.

![Figure 9 Average loan amount and number of households of lender](image)

3.4. Interest Rates
The average interest rate of loan received by households is 21.85%.

a. Interest rates and major lender
An ANOVA test was carried out between loan interest provided by different lender groups to determine whether there is any significant difference in the interest rates. The Levene’s F test revealed that the homogeneity of variance assumption was not met ($p<0.001$). So a robust Welch’s F test $[F(4, 14809.27) = 9295.20, p<0.001]$ confirmed that there is difference in the interest rates between different major lender groups. The data is normally distributed due to central limit theorem ($N=44,745$) (Ghasemi & Zahediasl, 2012). A Games Howell’s Post Hoc test revealed that the category Bank ($M=13.77\%, SD=2.39$) had significantly lowest interest rates while the interest from Others ($M=25.74\%, SD=7.29$) informal sector was significantly highest ($p<.001$). The Cooperative ($M=17.22\%, SD=2.66$) sector provided the second lowest interest rates than Neighbor ($M=24.55\%, SD=5.76$), Relative ($M=23.16\%, SD=7.40$) and Others (Figure 9). In this way the test revealed that the difference in interest rate between all lender groups was highly significant ($p<.001$). Relatives are the major lender at 33.9% while bank served the least amount at 6.5%. The second major lender group was Neighbor at 24.7% followed by Cooperatives at 22.9%. 11.9% beneficiaries took loan from informal sectors.

b. Interest rates and caste/ethnicity
A Games Howell’s Post Hoc test was performed, with average interest paid by different caste/ethnic groups, as the Levene’s F test revealed that the homogeneity of variance assumption was not met ($p<0.001$) and also Welch’s F test, $F(4, 9417.22) = 356.56, p<0.001$, indicated that there is a difference in interest rate paid by different ethnic groups. The data is normally distributed due to central limit theorem ($N=44,748$) (Ghasemi & Zahediasl, 2012). The ANOVA test revealed that Brahmin-Chhetri ($M=18.53\%, SD=7.87$) paid significantly lowest interest rates than all caste/ethnic groups. On the contrary, Janajati ($M=21.88\%, SD=9.52$) group was found to have paid highest interest in loan with significant $p<.001$. Finally, Dalit ($M=20.15\%, SD=8.27$) group have paid higher interest rates than Newar-Thakali($M=19.95\%, SD=7.47$) and Others ($M=19.31\%, SD=5.16$) group, however, significant result was found only for Others ($p<.001$). (Figure 10).
c. Interest rate and gender
The interest rates paid by Male were significantly higher than interest rates paid by female as revealed by a one way ANOVA test [$F(1, 48059) = 26.95$, $p<0.001$]. The test was carried out after confirming the Levene’s homogeneity of variance F test ($p=.137$) and the distribution for Interest rates in normal due to central limit theorem for large samples (N=48061).

4. Discussion
It was found that the average people invested almost more than two times the housing grant provided by the government which is similar to a results of previous study (HRRP, 2017). As housing reconstruction program was organized as an owner driven approach, the investment that has exceeded the grant has been managed by the people by themselves putting them on a financial burden.

Most of the surveyed people have constructed SMM structure as the cost of SMM structure is comparatively lower than other structures. Another popular structure in reconstruction is BMC which is also because of the cost factor. It seems like the people have determined the type of structure based on their investment capacity but BMM structure wasn’t preferred in our study area despite the cost being on the lower side. Even some of the people could construct the SMM and BMC houses, within the government grant. Smaller size of house, use of construction material from damaged buildings and self-labor may be the reason for these houses to be constructed within government grant. However, it was found that maximum people had to invest in addition to government grant to complete construction of house. These people either used their own financial resources or took loan from different sources like bank, relatives, neighbors and others. There are a countable percentage of population who have constructed RCC, which is comparatively expensive than other construction. Results suggest, people prefer the structure based on their financial ability and their network of receiving loans.
In terms of caste and ethnicity, Brahmin-Chhetri and Newar-Thakalis have invested more than the Dalits and Janajati. The social stratification shows the financial capacity of Brahmins, Chhetris, Newars and Thakalis is more than the Dalits and Janajatis (Bennett et al., 2008). The financial capacity has also been reflected in the investment for housing construction.

The number of male headed beneficiary is higher than female headed beneficiaries. The effect of gender showed significant difference in cost for housing reconstruction, as the average construction cost of the houses of Male headed households are higher than female headed households. This result shows, gender is associated with investment capacity in housing reconstruction.

The result shows, substantial number of beneficiaries took loan for construction of houses. The Inter Agency Common Feedback Project (CFP, 2018) predicted that 71% of beneficiaries who have completed construction will have taken loan. The average amount of loan taken by the beneficiaries is almost equal to the government grant. Average loan amount is highest for households with RCC houses and lowest for SMM houses. As the investment for RCC is higher and SMM is lower, the interpretation is that the beneficiaries with higher investment capacity tend to take more loan than the beneficiaries with lower investment capacity. The average loan amounts of all other building structures except RCC is below the total average because of the construction cost of these structures. The average loan taken by Newar-Thakali to construct their house was highest while it was lowest for Dalit. This might be due to the higher average construction cost of Newar-Thakali and lower average construction cost of Dalit caste groups.

Relatives are the major lender of loan followed by neighbors. This shows, relatives and neighbors are more reliable source of loan and lenders can trust based on relationship. Majority of households have obtained loan from informal sectors like relatives, neighbors and other sources like friends and landlords.

The lowest average interest rate is charged by banks followed by cooperatives. It was found that informal sector like neighbors, relatives and others sources charge more interest rates than formal sectors. Result shows, because of the long process of the loan in the banks and cooperatives and collateral management issues, although the interest rates in formal sector is low, more people take loan from informal sectors. Although the government approved interest subsidy loan it was not implemented properly partly because people weren’t appropriately made aware about this system. As informal sector is major lender of loan and also has the highest interest rate, the debt situation of most of the households with loan is likely to get worse. This situation will complicate their livelihood recovery and force them to take more loan putting them in vicious cycle of debt (CFP, 2018). There is substantial difference between average interest rates being paid by households of different caste/ethnicity groups. Janajati groups are paying the highest interest rates. Also, there is difference between the average interest rates paid by male headed households and female headed households, as the result shows that the male headed households tend to pay higher interest rates than female headed households.
5. Conclusion and Recommendations
This study was set out to examine the management level of the house owners in housing reconstruction in two earthquake affected districts of Nepal. The research has found that the involvement of the beneficiaries in the housing reconstruction project in an owner driven approach has played a significant role in certain percentage of the house owners into financial burden. As the average investment in each house was almost the double of the grant provided by the government, except few exceptions the grant was proved insufficient to complete the house with earthquake resilient features. This insufficiency dragged the beneficiaries to manage the financial resources by taking loan from the most accessible and reliable sources for completing the construction of their house.

The preference in the comparatively lower cost housing structure type relates that the beneficiaries have been pretty aware about their financial capacity. The results suggest the factor of the caste and ethnicity plays a role in investment level of the construction. Owner driven reconstruction approach with the limited access to the resources and minimum requirements to receive grant forced the house owners to take loans. The additional cost of the construction process has left the households no other option but to borrow money from the range of the lenders which is in the access of the rural population. There is a tendency that more the capacity of investment, more loan has been taken by the beneficiaries. This was either due to more accessibility of the sources of the loan or more reliable capacity of paying back the loan. More loan takers were preferred informal sources with higher interest rates because of the long process of formal sectors and the system of collateral. Most of the people’s land in rural area are not valuated much in the banks because of access roads. So the people are forced to take loans in higher rates. The situation shows the money received by the house owner is more from the informal sector then the formal sector which is likely to worsen the debt situation in future.

Through housing reconstruction program, government achieved a progress of establishing the bank accounts of each beneficiary but missed the part of the financial management through these sectors. Government announced the scheme of zero collateral loan and low interest loan scheme. However, there was almost a zero percent of the affected people who participated in the loan program as some are even waiting for the easy implementing mechanism of the loan. As a learning from the understanding of the investment level of the house owners and their current financial situation, the government must understand about the importance of developing implementable low interest housing loans. Along with these, it is suggested to the train the communities to have a short term and long term financial planning through the local level, especially after these kind of disasters so that resilient communities can be developed.

For further study, it would be interesting to analyze the perspective of the house owners, on which basis they were able to borrow a loan with such high interest. What was the experiences of the money lenders in the loan returning capacity of the house owners? This can also check, whether these loans have been taken just to complete the housing reconstruction within the deadline of the government and what shall be the further action from the government for making house owners more capable to return back their loan as soon as possible. Finally, it is
suggested to conduct studies about the source and capacity of beneficiaries to pay back the loan to understand actual impact financial burden.

In summary, a combination of limited access to the formal financial institutions, additional cost of the earthquake resilient features and the deadline of the government may have resulted in the increased debt situation of the beneficiaries. It can be suggested that the owner driven housing reconstruction program should take a holistic approach and include the socio-economic perspective in the policies and programs.

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Reference


