

Synergy For House Reconstruction of Post-Earthquake A Case Study of Java Post-Earthquake 2006

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ABSTRACT

The Java Earthquake event was occurred almost 5 years ago, but lesson learnt from Java especially dealing with shelter after disaster is still relevant share for the rest of the world which has been experiencing more earthquake in the last three decades. Reconstruction Post Earthquake is a phase of after disaster activities done after emergency and after relief or transitional phase. Housing reconstruction refers to build more permanent houses but it relates to the previous condition of temporary or transitional shelters. House reconstruction post earthquake is definitely a process. This process is not only considering the shelter/house which should be quickly available to survivors and safers in anticipating future earthquake, but the process is also influenced by how the community plays a role to manage the limited budget, resources and supports for house reconstruction post earthquake in Java became very important.

Keywords: Community Role, House reconstruction, Java Earthquake 2006, Supports/Donors

INTRODUCTION

The Principle of House Reconstruction Post Earthquake

Reconstruction is commonly used as the act of construction or building something again. In Architecture and other engineering building/infrastructure, the reconstruction is usually taken place when a valuable building or infrastructure is deteriorated, declined (by time), damaged, or destroyed (by human or disaster) and needed to be restored to an earlier state. It implies to understand how it happened. There is a need to understand the past strength and weakness of the building in the reconstruction. The past strength should be restored or replicated to an earlier state, so that it needs to know in detail how certain events took place, or appeared at a specific period of time. The past weakness should be improved in the reconstruction by introducing new materials, new detail, new construction, or new form into “the non-surviving” part of the earlier state.¹

The post disaster reconstruction is a set of activities aimed at achieving the medium and long term recovery of the components and structures that have been affected by a disaster or emergency. (helid.desastres.net/) The ultimate goal of post disaster reconstruction is to attain a standard of living that is even better than what existed before the disaster. (EPC & TCG, 2004: 6) The non-surviving component that makes a house/building/infrastructure vulnerable by disaster is often reconstructed or replaced with a new one. The “non-surviving” condition of existing buildings or houses in the event is mostly related to the “non-earthquake resistance” construction of them. Those of the “non-earthquake resistance” construction which caused the vulnerability of living, social, and economy of the victims should be improved in the reconstruction to anticipate the future earthquake vulnerability.

¹ The discussion on this paragraph was originally from various sources of web sites as follows: <http://www.dictionary.net/reconstruction>, wordnet.princeton.edu/perl/webwn, www.msnucleus.org/membership/html/k-6/rc/dictionary/redict.html, www.msnucleus.org/membership/html/k-6/rc/dictionary/redict.html, [en.wikipedia.org/wiki/Reconstruction \(architecture\)](http://en.wikipedia.org/wiki/Reconstruction_(architecture)), helid.desastres.net/, www.york.wa.gov.au/council_services/building_planning/heritage_precincts/glossary.html, wyoshpo.state.wy.us/Tax/Definitions.asp, en.wiktionary.org/wiki/reconstruction, dmla.clan.lib.nv.us/docs/shpo/poguide/guide6.htm

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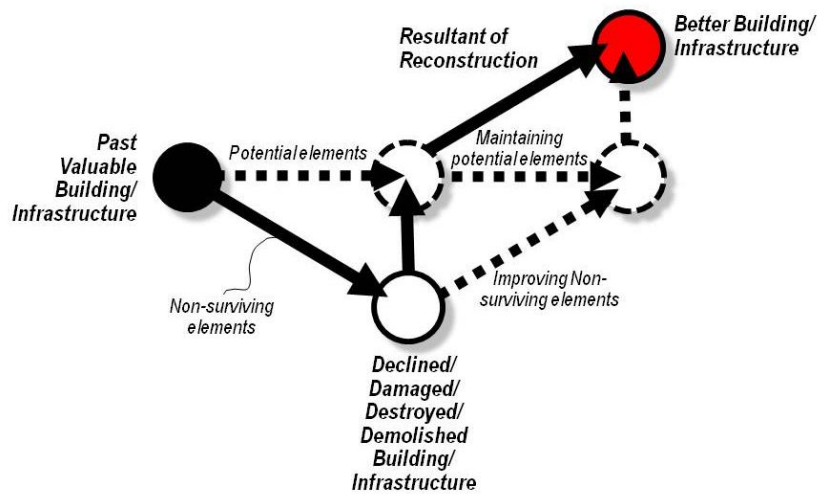


Figure 1. Reconstruction Concept

Reconstruction is a phase of post disaster activities done after emergency phase (efforts to reduce community suffering right after disaster), and after relief or transitional phase (efforts to return the community to normal life). (Pelling, 2003:14) Reconstruction refers to activities aimed at permanence and efforts to phase out temporary lifelines, temporary shelters, and temporary organizational arrangements. (Hass, et.al., 1977: xx-xxi)

Housing reconstruction refers to permanent post earthquake houses but it relates to the previous condition of temporary or transitional shelters. Post earthquake housing reconstruction is definitely a process. This process is affected by legal, bureaucratic, and social factors as well as by economic and technical factors. (Baradan, 2007:12) However, Baocai (1996: 231-232) reminds us that the reconstruction work should be done under the leadership of local government. Particularly at the severe earthquake effects and the heavy task of reconstruction, the government is able to appeal to the state for help or to the world for international aid.

Bolton (1996: 166) mentioned that the “good” housing reconstruction and recovery should meet the following criteria:

- be quickly available to survivors;
- be socially habitable, that is, be consistent in type and location with their social and cultural identity, and permit them to maintain prior social interaction patterns;
- be sustainable to them, in terms of costs to live in it and maintain in a habitable condition;
- be safer in future earthquakes.

The Bolton’s above criteria covered issues related to how fast the post disaster management should be developed (*quickly available*); to how sensitive the reconstruction activities considered the existing socio-cultural of the survivors (*socially habitable*); to how far the reconstruction approach allows the economic condition and other survivor’s owned efforts to sustain their house construction (*be sustainable*); and how well the reconstructed house could anticipate technically against the possible future earthquake (*be safer*). Many of the house reconstruction projects focused only on two speed and technical goals.

The Issue on Limited Supports for House Reconstruction

One of the basic problems of restoration and reconstruction post disaster including the house reconstruction is the source of fund. (Yaoxian, 1996: 59; Baocai, 1996: 233) The devastation caused by the Java Earthquake 2006, has exceeded the coping capacity of the local government of the Yogyakarta Special Province and Middle Java Province. In this situation, Paul (2006:212) stated that as many governments especially in developing countries, they need sources of outside supports to respond effectively both emergency and reconstruction stage post disaster. Today, there are many actors in disaster relief, both from international and domestic. The international disaster reliefs include donor countries/states, intergovernmental aid agencies, International Non-governmental organizations, the Federation of Red Cross and Red Crescent societies, militaries, etc., (Aeberhard, 2008: 19s) while the domestic disaster reliefs include national governments, domestic NGOs and others, including members of the community in which hazard victims live,

their neighbours, relatives and friends unaffected by the disaster, and professional, business and other organizations in unaffected areas (Paul, 1998, 2003). The possibility to combine sources or cross-subsidy among resources for funding house reconstruction is also important to the earthquake-stricken area. (Baocai, 1996: 233) The main challenge is coordinating all the actors on disaster relief sources as soon as possible once a disaster has occurred to prevent confusion and delay. (Aeberhard, 2008: 19s) The coordination which influences the speed of the reconstruction process requires the quality of leadership, planning and organization for the reconstruction. (Haas, et.al. 1977: xxviii) In short, the availability recovery resources should be managed for effective reconstruction process which requires better coordination and leadership to plan and implement.

The Yogyakarta provincial government was aware of the limitation of the support to reconstruct the complete earthquake resistance house. The Governor—the *Sultan* mentioned that Rp. 15 millions is only enough for the main structure—foundation, columns and beams, and roof main structure—of the house which should has an earthquake resistance construction. He also asked people to not reject other sources of funding other than government to complete their house or for building semi-permanent shelter while waiting for the government funding. (Kompas, 2006) This means that the local government from the beginning was welcomed all outside supports and funding sources as far as not “loan” to avoid the future local government “debt”. Those all related funding for shelter or house related supports from individuals, NGOs, and other donors became either complementary or subsidiary to the main support for the house reconstruction from the government. The house reconstruction funding from the government is known in Indonesian as “*danarekonstruksi*” (=Reconstruction fund). Other supports than government fund can go to earthquake survivors either before, same time, or after “*danarekonstruksi*”.

The Supports for House Reconstruction of Post Java earthquake 2006

Those above explanation reflected the macro level of funding sources, coordination models, and the clear government leadership and policy for house reconstruction. How is the actual situation in the field of the funding sources in the house reconstruction? A study case involving 100 families in various villages was done in July 2008 to ask source of funding/supports of respondent’s house reconstruction after earthquake. The result shows that government supports—*danarekonstruksi*—was dominated (52 %). (See Figure 2) The second largest supports (29 %) were coming from what so-called by people as from *donor/bantuan donor* (donor aid). When people mentioned as donor, it means non-government reconstruction fund. It can be from international donors such as IOM, IFRC/PMI, CRS, MDS, Habitat for Humanity, Caritas, etc. Although Java Reconstruction Fund (JRF) and P2KP’s supports are related to government, respondents usually mentioned as from *donor* separately from the government reconstruction fund. Donor’s supports can also come from domestic NGOs, company, or a community group outside the earthquake stricken area, such as Yakkum, LSM RumahBambu, Nokia, *SidoMuncul* (Traditional Medicine Company), Walubi, *HunianSementaraMuslimin* (Muslimin Temporary House). They sometimes simply told that the aid came from *gereja*(church) or from *rumahsakit* (hospital). The third support (15 %) was from their owned family sources. This 15 % indicates that family capacity to reconstruct their owned house is low. As we know that 80 % of the respondents are labors who earn income no more than US\$ 110/month. It means that without house reconstruction aid, they face difficulties to afford their house rebuilt. Last but not least, the respondents mentioned the role of their relative (4%) to support their house reconstruction.

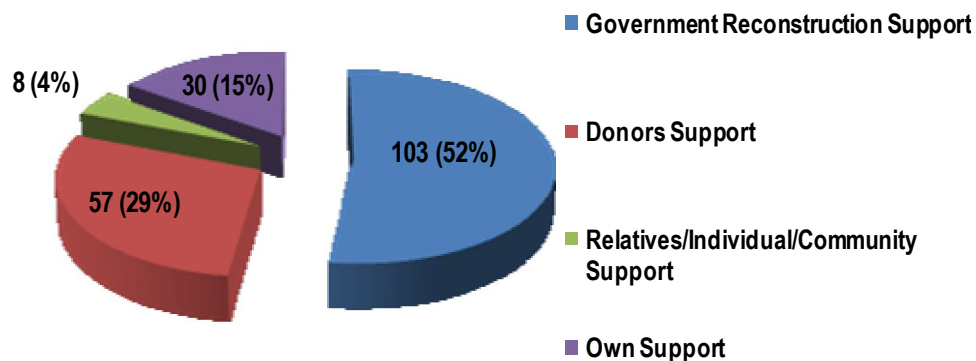


Figure2. The Proportion of Supports for House Reconstruction (Respondent’s View)

The Community Management for House Reconstruction's Supports

The correlation among the number of supports and the number of reconstructed house for a family will prove to us the existence of local wisdom of the community to manage various supports for the house reconstruction Post Java Earthquake 2006.

a. Number of Fund/Support for A Family's House Reconstruction

Many of families have reconstructed their house before, during, or after receiving government fund. They got support from their own money, relatives, donors, NGOs or even from bank loan. Survivor's families were still eligible and could also get the government reconstruction fund if the house they reconstructed by other donors fulfilled the earthquake resistant construction's requirement. (Sunyoto, 2006) The government reconstruction supports system is relatively flexible and encouraged the community initiatives. The government welcomes other support to add or compliment the government fund and asks the community to decide the proper mechanism to gain other supports.

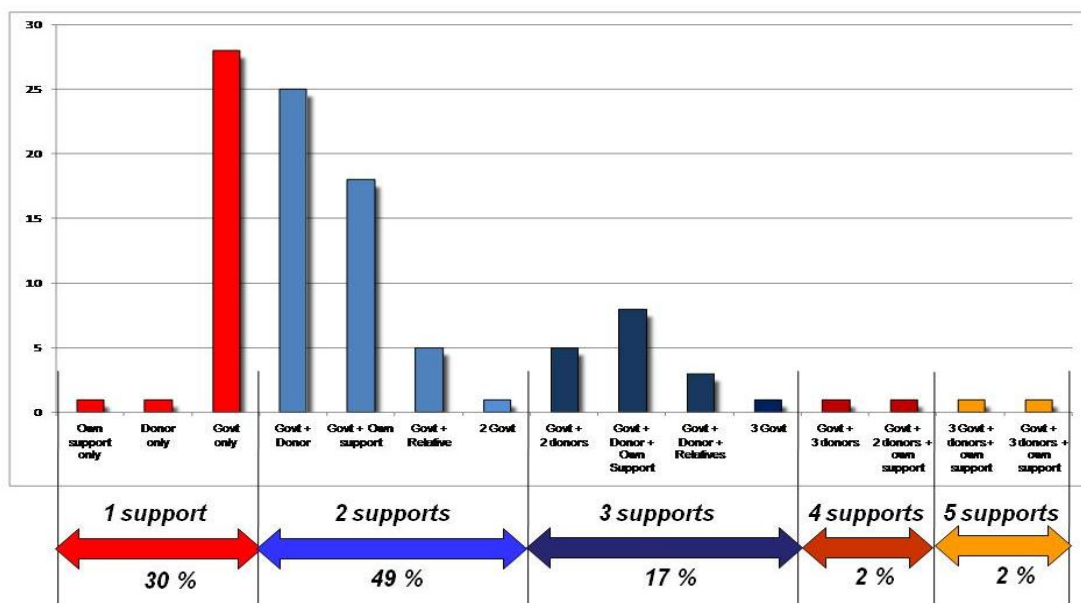


Figure 3. Family Supports for House Reconstruction

From the interview of 100 families in various villages in Bantul District, the earthquake devastated area, it found that one family possible got more than one supports. Most of them received support from one (30%) or two sources (49%). Some of them had three supports (17%). Few of them were able to gain 4 or 5 sources of supports. (See figure 3.) Almost all families got supports from the government except two families which retrofitted their houses by the support of non-government donor or of their owned money. These families suffered no-severe damage house at the earthquake events. In contrast, there were families who gained more than one government supports. One family can have one or two reconstruction fund for heavily damage house and one for the medium/minor damage one. The variety of supports received by each family reflects a dynamic distribution system in the community level. There should be a pattern that shows how the community does decision and tolerate others who get different supports for house reconstruction. However, at least we can understand there is a well involvement of many actors—donors, community, relatives, survivors—to supports the reconstruction so that it filled the gap of the government's funding limitation.

b. Number of Reconstructed House for A family

How the family managed to reconstruct their house with various support's sources? How many houses could they construct? What kind of house did they reconstruct? A field survey was conducted combining an interview method and respondent's hand sketches to draw house (s) they built in accordance to donors. A serial photograph of each

family house (s) was taken to support the analyses of the field survey. The survey was done in June to July 2008 the time when most of the survivors finished the house reconstruction and occupied it. From the field study, we found that one family was able to have one to four houses. (See figure 4.) The house (s) they constructed could be permanent house in combination with semi-permanent house or temporary house. Many of them have managed various supports to construct two houses or at least one permanent house. For family who had two houses they got either two permanent houses, combination of permanent and T-shelter, or and rarely case two semi permanent houses. Although it was not much, families who received supports from 3-5 sources were mostly able to build two or three permanent houses plus one or two semi permanent house/T-shelter.

Family who had more number of supports did not automatically build houses as many as the supports they got. Many families especially who got 2 or 3 supports usually built only one permanent houses. It means that one house might be built by supports of 2-3 donors. It was related to the amount of the supports that should be complimented each other and the time of the supports being received. People, if given an option, tend to choose building materials and techniques that are familiar to them, to provide better house particularly related to the devastating experience by the earthquake. (Barenstein, 2006: 5) The different number and type of house among families can be understood as positive indication that in Yogyakarta this “community based reconstruction” allows people to reconstruct their houses according to their own preferences especially to decide the number and type suitable for each family.

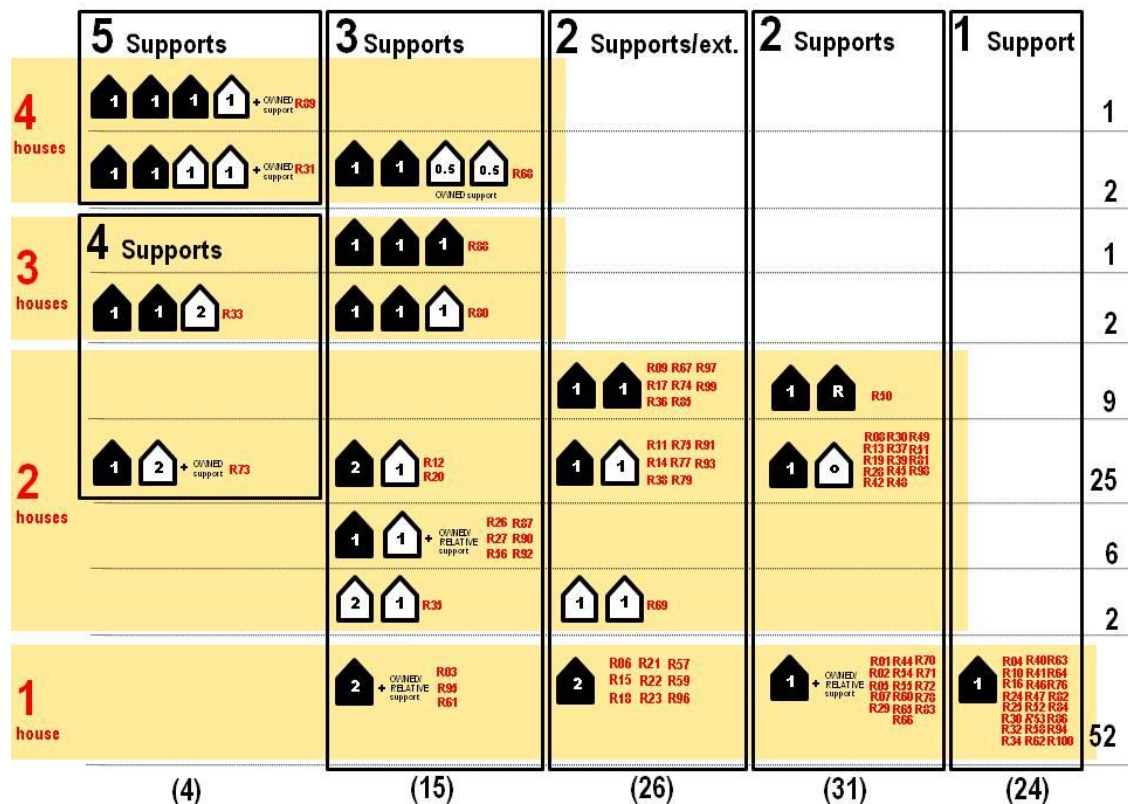


Figure 4. Number of Reconstructed House for A family

The figure of reconstructed house for a family indicated that the government fund was utilized successfully to support to build permanent house for family survivors. The figure did not only show that most of family has built the permanent house but also prove to us that T-shelter or semi permanent house was very important along the process of house reconstruction. The construction of T-shelter can be from donors, relatives, or their family owned pocket. It has variety in the T-shelter architecture and construction quality. The T-shelter aid program from donors which is often still kept used by the family was distributed regardless the family type (i.e. core family, extended family). It was needed by every family and built before the permanent house was finished construction. The existence of T-shelter was functioned as a transition between living in an emergency shelter and waiting for a permanent house reconstruction as a result of “one step policy” or government direct reconstruction program to permanent house. The way the “non-danarekonstruksi” from NGOs, Shelter Cluster, and family owned money filled the gap between the

emergency shelter and permanent house proved to us that there is a good coordination and synergy among the government and other shelter program. It is believed that the synergy could be done through the community level management, especially via the smallest neighborhood unit of the government—RT & RW.



Figure 9. T-Shelter & Permanent House

Lesson Learnt

The fact that the Post Earthquake House Reconstruction in Java as one of the fastest and well manage reconstruction can be judged by its achievement on the number of housing reconstructed within less than one year. The Yogyakarta's one year achievements of the permanent house reconstruction shows that the community based reconstruction in the region fulfilled the Bolton's criteria (1996) of "quickly available and habitable" for survivors in providing the house after earthquake. Other Bolton's criteria, "be sustainable to them, in terms of costs, and be safer in future earthquakes," also became major concerns of the house reconstruction post Java earthquake. The majority government reconstruction fund and many more non-government donors were in synergetic supports to make survivors manage to build the affordable house for their families.

The budget limitation and the "trust" of the government to do best reconstruction made the policy fit to the Yogyakarta's context with its social capital. In addition, the non-government donors or supports were managed in the synergistic way to fill the gap that government fund were not covered especially the T-Shelter Program. The role of community is really important to confirm and verify the real beneficiaries especially when the limited relief compensation is going to be distributed. It improves the trust and accountability of both community and government as well.

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