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# Resource capability for local government in mainstreaming gender into disaster risk reduction: evidence from Indonesia

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## Abstract

Understanding how local government responds to gender vulnerability and gender capacity is important to make cities safer both for women and for men. However, little is known on how local government is empowered in terms of provision of capacity, resources and abilities to mainstreaming gender into disaster risk reduction and community resilience. The case of Indonesia pinpoints district government capability is vital to promote gender equality within local disaster risk reduction and resilience. The district government capability means the ability of local government to organise resources, competence and knowledge to meet the needs and concerns of women and men within disaster risk reduction process. This capability has been transformed into their ability in institutional and human resources policy and for providing financial, technical and leadership capabilities to promote gender equality into local disaster risk reduction and resilience. Experience of Bantul earthquake reconstruction shows a significant achievement has been made by this district in terms of local capability in mainstreaming gender. Among the most important factors related to district capability are women leadership, support from non-government organisations, women participation, financial resources and capacity of local gender institutions.

**Keywords:** Resource capability, local government, gender mainstreaming, disaster risk reduction, Indonesia

## 1 Introduction

Gender and built environment studies highlight that gender mainstreaming is one of important aspects that should be considered to create effective disaster risk reduction and community resilience (Delaney & Shrader, 2000; Ariyabandu & Wickramasinghe, 2003). Ariyabandu and Wickramasinghe (2003) explain that disasters affect women and men differently due to the differences in their capacities, needs and vulnerabilities. Although disaster management efforts are designed to benefit both men and women, in real practice a larger share of benefits and resources goes to men, and women continue to remain marginalized. Enarson and Chakrabarti (2009) show how women across India, Bangladesh, Pakistan, Sri Lanka and Indonesia face greater destabilization following the Indian Ocean Tsunami. Accordingly, Yonder *et al.* (2005) found that when women are empowered, they have the capacity and the inner will to improve their situation and gain control over their own lives and families. This capacity can lead to an equal share in economic and political decision making, and control of economic resources which reduces their vulnerability in disaster situations. Hence, promoting gender mainstreaming into disaster risk reduction and community resilience is vital.

Increasing decentralisation across developing countries during the last three decades has transformed local government into the central actor in local development (World Bank, 2008). They have now been given many responsibilities, provided with increased resources, and allowed greater autonomy to decide local policies and services at promoting sustainable development (Bardhan, 2006; World Bank, 2008). Hence, the capability of local government in managing disaster risk reduction and building local disaster resilience including integrating gender mainstreaming strategy into local disaster risk reduction and resilience is vital (UNISDR, 2012). However, it is less understood how local government responds to gender vulnerability and gender capacity to make their cities safer both for women and for men. Little is known on how local government is empowered in terms of provision of capacity, resources and abilities to mainstreaming gender into disaster risk reduction and resilience.

This paper aims to flesh out the capability requirement of local government institution in mainstreaming gender that can act as a useful guide for policy makers and implementers in integrating gender mainstreaming into local disaster risk reduction strategy and building resilience. In doing so, it explores drivers of mainstreaming gender within local level disaster risk reduction and resilience. The enabling environment for mainstreaming gender within local disaster risk reduction and resilience, and include issues such as leadership, financing, mandate, capacity, local risk patterns or social demand from citizens (Eisenhardt & Martin, 2000; Paton & Jackson, 2002; Barney & Clark, 2007; Moser & Moser, 2005). It addresses gender mainstreaming issues within earthquake regions in Indonesia, in particular in Bantul district of Yogyakarta province.

The rest of this paper is structured as follow: section two presents research methodology and data used in this study. Section three reports key findings from interview and survey. Section four and five discuss and conclude.

## 2 Research design

The research is an exploratory and intrinsic case study. Primary data was collected through in-depth interviews of policy makers and beneficiaries who dealt with and had knowledge about the 2006 Bantul earthquake. Besides, the representatives of international and local NGOs whose programmes were related to the 2006 Bantul earthquake were also interviewed. In addition to in-depth interview, a set of questionnaire measuring local government capability in mainstreaming gender was distributed to 68 key policy makers, implementers and community leaders both from government and from NGOs involve at disaster policy and management in Bantul district. The questionnaire was administered in June 2013 and completed January 2014. Yogyakarta provincial government and Bantul district government both participate in UNISDR “making cities resilient campaign programme”.

Qualitative data were analysed using qualitative content analysis in particular to explore how local government response to earthquake disaster. It requires in-depth enquiry about respondent’s

attitudes and opinions about these issues (Remenyi et al., 1998). Meanwhile, quantitative data were analysed using factor analysis and *t*-statistics in particular to identify key determinants of local resources capability for mainstreaming gender into disaster risk reduction and resilience (Child, 2006).

### **3 Findings**

The findings are described as follow: firstly, we present the impacts of 2006 Yogyakarta earthquake on women livelihood. Secondly, Bantul district government responses for mainstreaming gender into disaster risk reduction and resilience are described next. Thirdly, it presents the benefits of mainstreaming gender into sustainability of post-earthquake reconstruction. Lastly, key factors of local capability for mainstreaming gender into disaster risk reduction and resilience in Bantul district are identified and elaborated.

#### **3.1 Learning from the 2006 Yogyakarta Earthquake**

Earthquake is one of most hazardous disaster in Indonesia. The 2006 Yogyakarta earthquake for example destroyed severely most of districts in this province. In less than a minute, the tremor with measuring 5.9 on the Richter scale, killed thousands of inhabitants, destroyed many houses and public infrastructures. Bantul district that located in the centre of Yogyakarta province was the most destroyed area. The powerful earthquake in Bantul left 4,659 people died and around 50,000 injured. The total amount of damage and loss was estimated at US\$3.1 billion. Small and medium scale enterprises, especially in the area’s important handicrafts sector, were severely affected. Many of these were home-based industries, and hence the damage to houses had a corresponding impact on economic livelihoods. An estimated 1.3 million workers who are majority women were employed in sectors affected by the earthquake, particularly in the ceramics, furniture, textiles and weaving, silver and leather manufacturing, and food processing industries.

Women are places at the most vulnerable group during Bantul earthquake. They were overrepresented among the 2,456 killed and 35,000 injured (60% of total victims). Limited knowledge about disaster management in the Bantul district contributed to the large number of victims. However, not only did the government lack skills and expertise when dealing with the crisis, the community itself had to face the unexpected and worst situation because they did not know what to do in an emergency. In the 2006 earthquake, the survival rate would have increased if there had been knowledge about required actions and facilities for evacuating people especially vulnerable women, elder people, and children trapped in their houses. Evacuation drills should have been implemented and adequate evacuation areas provided, such as evacuation buildings, man-made hills and exit pathways. The lessons learnt by the district government are that providing public educational program for disaster risk reduction such as disseminating hazard information, building escape structures, warning systems and wave-resistant structures are important factors for safety against future earthquakes. Given the high number of women died and injured, the district government should build an effective community warning and evacuation system that ensure women, children and elderly safety and security.

The vulnerability of women was increased soon following the damage of houses and many public infrastructures. The housing sector suffered the most severe damage and loss of any sectors. In total, 77,917 houses were destroyed with badly damaged 71,372 houses and light damaged 6,545 houses. In addition to the damage and loss in the housing sector, the impact in public and private infrastructure was estimated at 397 billion and 153.8 billion rupiah respectively (Bantul Bureau of Statistics, 2006). Large-scale damage to houses and public infrastructures is associated with a lack of adherence to safe building standards and basic earthquake resistant construction methods. Most of the private homes used low-quality building materials, lacked essential structural frames and reinforcing pillars, and collapsed easily because of lateral shaking movements. The poor are the least able to afford building safe houses and many of their homes were damaged. Many public buildings also collapsed due to poor building standards, in particular schools and hospitals. Without proper

houses and limited access to public services, women’s survival was threatened. Statistics show that women and children mortality rate in Bantul district one year after disaster was increased by 11 per cent (Bantul Bureau of Statistics, 2006). Limited ability to enforce building codes and zoning area were result in the high number of deaths. The phrase ‘*earthquakes don’t kill people, buildings do*’ represents the real conditions in the community in Bantul at that time.

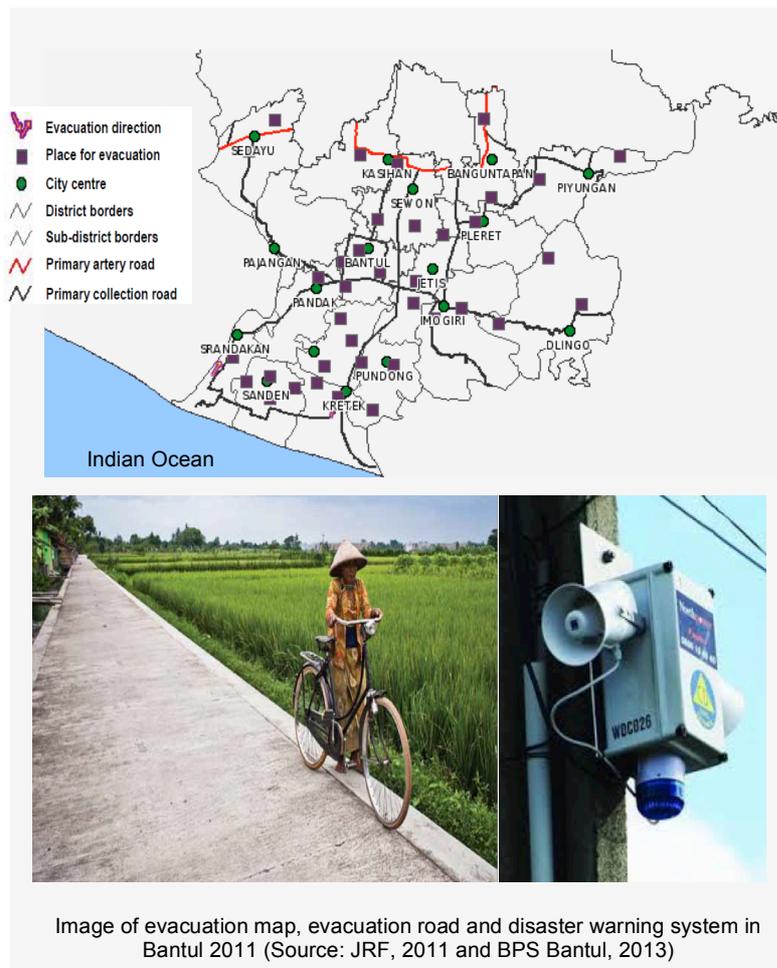


The collapsed of economic sectors were further suffering women condition. After the earthquake struck, Bantul’s economy was decreased sharply by 23 per cent compared to pre-earthquake economy (Bantul Agency for Planning and Development, 2008). The local economic slump resulted in the loss of a large number of jobs. In Bantul, close to 30 per cent of workers employed in licensed establishments were occupied in the handicraft and related industry sector and the employment losses in this sector contributed a large share of manufacturing job losses due to the earthquake. Bantul has about 31,306 such small and medium scale industries; however, it was estimated that the earthquake has directly affected about 30,000 small and medium scale industries, while about one third of 1.3 million workers are women were directly affected by the temporary or permanent loss of earnings. It is reported women unemployment rate increased sharply from 19 per cent before earthquake to 87 per cent six months after earthquake. This lead to high number of women poverty in by 67 per cent in 2007 (Bantul Bureau of Statistics, 2006). Amongst the worst affected victims were those already vulnerable because of poverty. The particularly vulnerable included single women-headed households, children, the elderly, and women with a large number of family members left seriously injured or disabled by the earthquake. Because the adverse effects of the earthquake were widespread across a greater geographical range and with greater effect on local economy performance, employment, the fiscal system and livelihoods, the economic costs associated with Bantul earthquake increased and unfortunately poor women are those most victimized by the tremor. Hence, district government should prioritise to protect them from further vulnerability and to help them strengthen their coping strategies.

### **3.2 Building back better: protecting gender vulnerability through better disaster risk reduction strategy**

Bantul recovery and reconstruction was started soon after earthquake. The process of recovery and reconstruction in Bantul has achieved impressive results not only in terms of time and in terms of quantity of houses and public infrastructures but also in terms of community development and resilience (JRF, 2010; World Bank, 2012). Between 2006 and 2008, the district government and communities have completed the reconstruction of 15,000 of permanent houses, hundreds of critical community infrastructures and over 265 community settlement planning. The livelihood programs not

only successfully rebuilt business, but also enhanced the recovery of livelihoods by promoting the growth of new micro and small enterprises, particularly among women. Support provided by district government and International donors included access to loans, asset replacement and technical assistance in the field of business development and marketing. In 2012, the economic condition of Bantul improves substantially by 35 per cent. Job opportunities also grow particularly in handicraft industries that employ more than 670,000 women. Women poverty also decreases sharply from 67 per cent in 2006 to 21 per cent in 2012 (Bantul Bureau of Statistics, 2013).



Bantul's reconstruction also results in more secure and safe communities (World Bank, 2012). More than 300 villages built disaster-mitigating infrastructure such as retaining walls and evacuation routes. District government and communities also built specific evacuation mechanism for vulnerable women, elderly and children including providing community protection unit, mass transportation, emergency unit, communication, and healthcare services. Good cooperation between government, NGOs and communities is a key to success in developing and implementing disaster risk reduction plans. NGOs provide financial support and technical assistance. District government provide district risk reduction plan. Communities learned how to review those plans and develop new ones with appropriate facilities that would lead to safer communities. With such cooperation, district government has improved their capability in formulating and implementing disaster risk reduction planning.

Women grassroots include women voluntary labour organisations, women credit and saving associations, and women family welfare groups have actively involved since reconstruction planning process. District government has encouraged such women groups across villages to participate from recording deaths and injured, house and public facilities damages to mapping community needs. Hence, decentralised planning and development system adopted in Indonesia since 2001 bring opportunities for Bantul's government to implement fully participatory community development by involving all community members including women groups in the district development processes. During reconstruction planning for example, one of the factors that make Bantul's reconstruction unique is that beneficiaries are in charge of reconstruction of their homes. The reconstruction does not use a “cookie cutter” approach where everyone ends up with exactly the same house. With this unique mechanism, women have a voice and a choice to design their home. As reported by an informant: *“We had choice.....we could design the house ourselves, add to it if we wanted to and had the money. Rebuilding the house was like rebuilding our lives. The houses were better, they were stronger, and we were strong”* (Interview with beneficiaries in women's focus group discussion).

There are, of course, minimum requirements that include earthquake resistance and other quality standards that must be met. Not all villagers had the technical skills to build a house. In this case, district government through facilitators helped fill the knowledge gap. With the support and assistance of housing facilitators, beneficiaries with little or no knowledge of construction were able to actively lead the reconstruction of their homes and their communities. Facilitators ensured that seismic-resistant standards were met and that disaster risk reduction measures were included in community infrastructure. In the process, beneficiaries learned quality reconstruction methods and how to build better houses so that they would be safer should another disaster occur. Future disaster anticipation was strongly considered in the process of rebuilding communities. For example, the community development plan always integrated with disaster risk reduction facilities, such as evacuation route, centre of evacuation, and emergency communication system. As reported by one of community members: *“Now we all know the evacuation route, so when there is danger we know where to run. Also, with the ‘walkie talkies’ provided, we can communicate which areas are dangerous and in which directions we should run in case of disaster”* (Interview with women community member). University experts from Gadjah Mada University in Yogyakarta were commissioned by the district government to inspect every house built under the project and provided certification that 96 percent of the houses met the standards for earthquake resistance. The district government’s commitment to building safer communities helped to reduce vulnerability and spread awareness and skills in earthquake resistant construction methods to reduce the impact of similar disasters in the future.

Women have also actively involved in monitoring and evaluating reconstruction. Bantul’s reconstruction has a different approach in terms of the ways of housing contracting out in which every single household head are a contractor for their own home. As Bantul’s policy maker explains the following: *“Bantul’s reconstruction is a community driven approach and differs from approaches in which contractors are hired to do the rebuilding. For example, say we were building 15,000 houses. One option would be to get 15 contractors and for each of them to build 1,000 houses. In that case, there would be 15 contractors as active participants of reconstruction and 15,000 passive beneficiaries. In our approach that is not the way to do it. The best thing is to have 15,000 people, each one of them working on their own home.”* (Interview with policy maker). With this approach, women and men in the communities were equally involved in procurement and quality control as well as supervision of the construction. Beneficiary satisfaction with the approach is high since they could provide inputs and make changes in the design of the house.

Women groups working together with community members, district government and International donors during implementation. The Javanese cultural tradition of *gotong royong* - working collectively for the common good of the community - provided fertile ground for Bantul’s community-driven approach. In times of need, people readily help each other and lend a hand in the spirit of cooperation. Neighbours work together and neighbouring villages and communities come to each other’s assistance in rebuilding their home and business. Vulnerable women, children and elderly people are always prioritised first during program implementation. The spirit of *gotong royong* is well suited to a community-based approach; it helped communities in Bantul work together and pick up the pieces after the disaster. The survivors showed great resilience and community spirit. In the aftermath of the disasters, communities across Bantul’s village supported each other in rebuilding their lives and their communities to be more secure and safer.

The spirit of *gotong royong* is inspired the economic livelihood recovery program that aims to ensure a sustainable revitalization of micro, small and medium enterprises through enhancing their access to working capital and sustainable income generating opportunities. Micro, small and medium enterprises affected by the earthquake are assisted through access to finance combined with technical assistance. Gender inclusiveness is strongly embedded in this program. As reported, 57 percent of borrowers and 44 percent of beneficiaries receiving technical assistance are women, exceeding the target of at least 30 percent participation of women. Targets under the access to finance component have been achieved with 10,056 loans disbursed to micro, small and medium enterprises by 2011. Loans amounting to US 5 million have been disbursed to 26 microfinance institutions with majority were managed by women grassroots organisation. The project scaled up rapidly once institutional arrangements were in place and exceeded its target of 8,800 micro, small and medium enterprises receiving financial assistance (JRF,

2011). This is achieved through four components, which focus on: (1) access to finance linked to technical assistance for micro, small and medium enterprises, (2) defaulting loan work out strategies for viable enterprises, (3) restoring full capacity and creating opportunities for improving competitiveness of medium enterprises, and (4) project management, monitoring and evaluation for efficient implementation of the project.

### **3.3 Maintaining sustainability of post-earthquake reconstruction**

Integrating gender within post-disaster reconstruction management is important to achieve sustainable reconstruction. Enarson and Chakrabarti (2009) points out that when women are empowered, they have the capacity and the inner will to improve their situation and gain control over their own lives and families. Hence, women are not only vulnerable to natural disaster but they are also effective actors or agents of change in relation to both mitigation and adaptation (Delaney & Shrader, 2000). Women often have indigenous skills, knowledge and expertise that can be used to create community resilience and sustainable post disaster reconstruction strategies. Furthermore, women’s responsibilities in households and communities, as stewards of natural and household resources, positions them well to contribute to livelihood strategies adapted to changing environmental realities.

Mainstreaming gender into post-earthquake reconstruction in Bantul shows that women grassroots have insight, information, experience, networks and resources vital to ensure sustainability of reconstruction outcomes. None of the three dimensions of sustainable development can be achieved without long-term investments in economic, social and environmental capital. In Bantul, reconstruction of housing, water and sanitation were not only creating healthy environments of affected communities but also protect land and its ecosystem from disasters in the future. Women grassroots include women voluntary labour organisations, women credit and saving associations, and women family welfare groups have vital roles in achieving sustainable post-disaster reconstruction through their capacity in improving environmental, social and economic sustainability (Figure 1).

Women grassroots organisation have involved in various activities to maintain environment. For example, they have promoted to use organic farming and food production rather than modern farming using pesticide. Organic agricultural products (i.e. organic rice, fruits, and vegetables) have become an iconic product of Bantul district since reconstruction. Women roles in creating friendly housing environment were shown across villages. Women grassroots mobilise themselves to plant green trees along villages roads and garden. They established *TOGA (Tanaman obat keluarga)* groups, which is purposed to protect and to plan indigenous herbs and medical plantation around the houses. Debris and savage management were another issue in which women groups involved to solve it through creative waste recycle contribution (i.e. rubbish bank arcade, vertical garden from soda bootless, and handicrafts). Women were also actively involved within village voluntary labor or *kerja bakti* and *kampung* improvement program, which aims to create and to maintain healthy and clean community environment across villages.

Women roles in creating social sustainability in Bantul were shown from their activities in creating community safety and security, strengthening community social capital, enlarging access to public services, and improving village decision making. As a women activist explains the following: *“women groups across villages have engaged to maintain community security...for example they mobilise themselves to patrol and to monitor around communities in the morning when their husband going to works...”* (Interview with a women activist). Moreover, women across the village were involved within *Posyandu*, a community based vehicle to improve child and mother survival and development. *Posyandu* addresses basic maternal and child health problems such as family planning, antenatal care, immunization, simple diarrhoea intervention and nutritional problems, which are identified and tackled at the community unit level. Through this group, women and children can get cheap and free access to health services provided by the government.

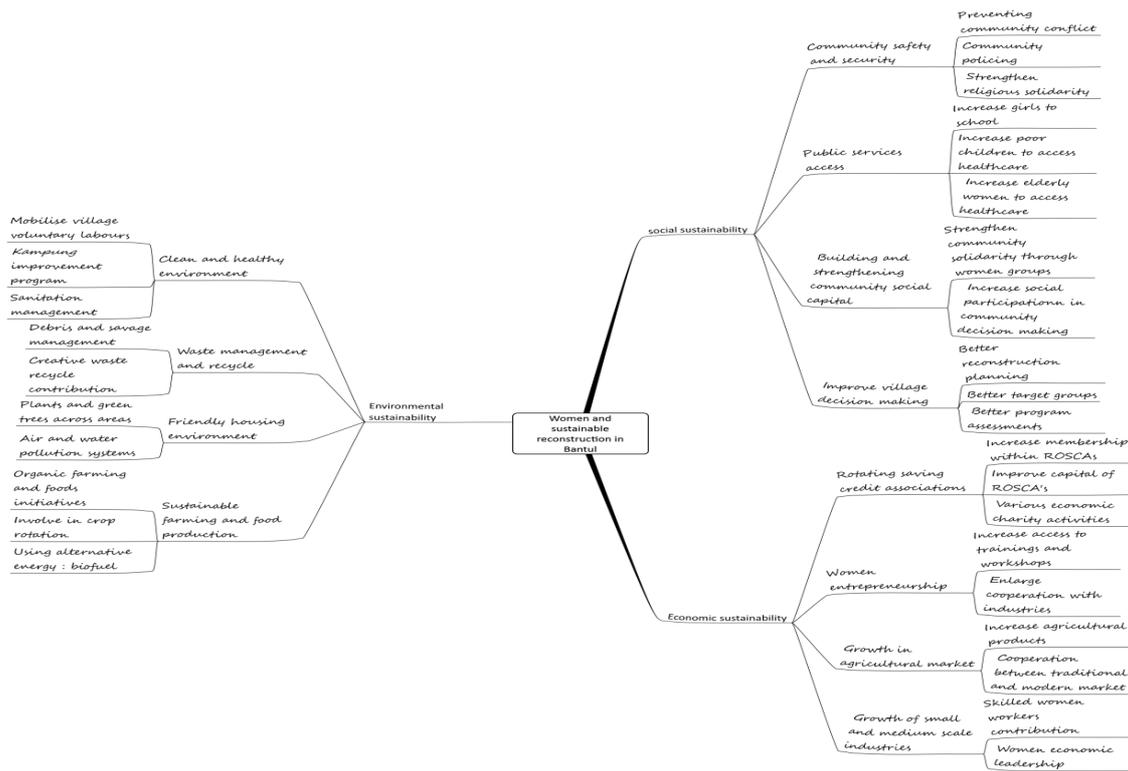


Figure 1: Cognitive mapping of women capacity in sustainable post disaster reconstruction in Bantul

With regard to economic sustainability, women role at improving well-being is vital given the increasing of women poverty following earthquake. Generating income to support their families was a priority for most of the women in Bantul. However, to start their own business most of them did not have enough funding. Therefore, women grassroots organisation initiates to build Rotating and Saving Credit Association (ROSCAs) where each member can access funding. In some villages ROSCAs have enlarge their activities as an income generator. As a women activist explains the following: *“Not only do we save money by circulating low-interest loans but also we have started making and selling products such foods and drinks with the money that we have saved. The profits from the sales go back to our savings group. So it gives us both an income and great empowerment (Interview with a women activist).* Many ROSCAs work together with local government to facilitate loan from government and technical assistantship to rebuild business and to promote the growth of new micro and small enterprises. Gender inclusiveness is strongly embedded in promoting local economic program to ensure sustainability.

### 3.4 Resource capability of mainstreaming gender into local disaster risk reduction

The effectiveness of gender mainstreaming in Bantul’s local government cannot be separated from a good cooperation with communities and NGOs during re-building communities. Table 1 shows results of resource local capability assessment conducted among policy makers, implementers and community leaders involved during reconstruction process. The term capability in this study means the ability of government and communities to organise assets, competence and knowledge to protect gender vulnerability and improve their resilience from a disaster’s potential effects and how it has been transformed into local ability in institutional and human resources policy for effective implementation and providing financial, technical and leadership capabilities which are specifically relevant to the situational contingencies of a given community disaster.

**Table 1 Resource local capability assessment of mainstreaming gender into disaster risk reduction and resilience as perceived by different stakeholders at Bantul district**

	mean	factor analysis		t-statistics		rank
		proportion	variances	t	sd	
Strong women leadership	4.821	0.985	0.520	58.932***	0.561	1
Strong support from NGOs for promoting gendered risk reduction	4.801	0.983	0.630	58.562***	0.553	2
High women groups’ participation	4.798	0.962	0.600	58.834***	0.552	3
Adequate financial resources supporting gender mainstreaming program	4.781	0.961	0.511	58.435***	0.571	4
Capacity of local gender institution	4.751	0.953	0.530	56.632***	0.543	5
Policy and program design linked disaster risk reduction and resilience	4.731	0.941	0.529	56.631***	0.541	6
Appropriate tools for gender mainstreaming	4.721	0.850	0.511	56.673***	0.551	7
Political will of government	4.701	0.862	0.521	57.672***	0.562	8
Gender sensitive budgeting	4.696	0.852	0.521	57.321***	0.582	9
Availability of gender vulnerability assessment	4.695	0.842	0.640	56.532***	0.542	10
Availability of gender capacity assessment	4.690	0.822	0.662	53.762***	0.601	11
Availability of gender training	4.640	0.814	0.611	55.432***	0.554	12
Availability of gender sensitive monitoring and evaluation mechanism	4.632	0.811	0.521	46.363***	0.525	13
Conducive organisation culture	4.622	0.810	0.690	46.672***	0.598	14
Adequate gender expertise	4.611	0.809	0.661	47.762***	0.578	15
Clear gender target	4.590	0.801	0.700	53.622***	0.501	16
Adequate gender sensitive accountability	3.584	0.780	0.701	54.682***	0.702	17
Number of women in decision making	3.567	0.779	0.682	47.621***	0.671	18
Number of women grassroots organisation	3.546	0.776	0.562	46.342***	0.567	19
Design flexibility	3.534	0.752	0.551	38.762***	0.542	20
Good communication and coordination	3.529	0.742	0.670	38.762***	0.762	21
Support from religious leaders	3.511	0.732	0.780	39.268***	0.842	22
Support from community leaders	3.501	0.710	0.672	38.672***	0.652	23
Support from national government	3.499	0.709	0.680	38.672***	0.652	24
Support from provincial government	3.492	0.698	0.760	38.621***	0.878	25
Availability of disaggregate data	3.490	0.688	0.709	37.213***	0.748	26
Incentive for supporting gender mainstreaming	3.488	0.674	0.700	37.321***	0.765	27
Access to affected community	3.482	0.665	0.800	37.781***	0.854	28
Conducive economic environment	3.390	0.662	0.790	43.210***	0.862	29
Conducive social environment	3.389	0.654	0.798	43.101***	0.868	30

\*\*\* p < 0.001

Source: Survey, 2013

The assessment of local capability in mainstreaming gender into disaster risk reduction shows that strong women leadership, support from NGOs, high women groups participation, adequate financial resources and capacity of local gender institution are among the most important factors for effective mainstreaming gender in Bantul district. Strong women leadership and high women groups participation represents the important of integrating gender capacities within disaster risk reduction. Hence, gender capacities reflect skills, relationships and knowledge gained particularly through women’s life experience. In hazardous environments, women’s capacities are frequently credited though women leadership at the grassroots level and women group networks and skills that are vital survival and recovery resources in risky environments. Such gendered capacities are essential to increase the capacity of communities to adapt to identify and mitigate known hazards, adapt to change and recover from disaster in ways that reduce future vulnerability to hazards and disasters. In Bantul for example, women grassroots organisation have insight, information, experience, networks, and resources vital within disaster relief and reconstruction as it is increasing resilience and sustainability of reconstruction outcomes. Meanwhile, support from non-government organisations particularly International donors are related to adequacy financial support for rebuilding communities. In the case of Bantul’s reconstruction, abundance support from International and national donor helps communities not only in providing financial resources but also in providing gender expertise. Existing gender expertise is useful to enhance the effectiveness of gender mainstreaming in reconstruction

process. Capacity of local gender institution focuses on ability of district institutions especially women empowerment agency in promoting gender equality within each process of reconstruction. Effectiveness of local women empowerment agency is vital since they have responsibility to ensure gender inclusiveness after reconstruction finished and all international donors leave Bantul.

## 4 Discussion

Mainstreaming gender into disaster risk reduction and resilience requires not only standard planning practices but also the capability to manage it because the key characteristics of disaster that unequal to women (Fothergill, 1996). Gender mainstreaming disaster reduction is the process of assessing the implications for women and men of any planned action to reduce hazards, prevent, and mitigate the effects of disasters. It is a strategy for making women's as well as men's concerns and experiences an integral dimension in the design, implementation, monitoring and evaluation of policies and programs such that inequalities between men and women are not perpetuated through the process of disaster management (Enarson and Chakrabarti, 2009).

Increasing decentralisation across developing countries during the last three decades has transformed local government into the central actor in local development (World Bank, 2008). Hence, local government capability in mainstreaming gender determines the effectiveness of disaster risk reduction and resilience. Local government capability encompasses the ability to use and access needed resources beyond actual resource availability. It is often rooted in resources which are endogenous to the community and which rely on traditional knowledge, indigenous skills and solidarity networks. The ways in which capabilities are mobilised in times of crisis reflect coping strategies. Coping strategies refer to the manner in which people and institutions use existing resources to achieve various beneficial ends during unusual, abnormal and adverse conditions of a disaster process (UNISDR, 2002).

Lesson learn from Bantul's case it is identified some essential local capability for mainstreaming gender into the process of disaster risk reduction and resilience. Some of them confirm Moser and Moser (2005) findings. This essential gender mainstreaming capability includes: (1) strong leadership and political will of government for mainstreaming gender equality; (2) ability of gender institution to ensure gender representation; (3) availability of gender analysis using gender disaggregate data; (4) adequate gender expertise who understand gender policy design in the contexts of disaster management; and (5) existing policy and program design which is linked to all aspect of disaster risk reduction and resilience.

Moreover, increasing gender vulnerability and neglecting gender capacity are two main gender inequality issues within disaster reconstruction, which challenges to achieve sustainability of reconstruction. Lesson from Bantul local government shows that gender mainstreaming strategies within sustainable reconstruction should not only incorporate strategies for protecting women vulnerability but also strategies for promoting women capacity. Both strategies are needed to create gender equality and women empowerment, which both are fundamental for sustainable reconstruction. Table 2 show a summary of research findings that identify types of gender vulnerability and capability requirements within each stage of disaster risk reduction. Following Coppola (2008), disaster risk reduction can be divided five stages: mitigating, preparing, responding and recovering. Within mitigation stage types of gender vulnerability, which often reveals is lack of women access in promoting hazard mitigation process. In this stage, institutional and human resources, policy for effective implementation and financial, technical, and leadership-related capabilities must address evaluation, monitoring and dissemination in order to produce a gendered sensitive warning system and gendered sensitive risk and disaster assessment. In preparedness stage, women often have lack access to disaster risk education and dissemination. Hence, all related capabilities must tackle planning, exercising, training and having logistic management expertise with sensitive to the gender needs and concerns. In response stage, women limited access to emergency and relief service often challenges for effective disaster response. The capabilities are required to address the importance of gendered sensitive need assessment, networking and communication, and

logistics management. The purpose of this stage is to achieve a gendered sensitive emergency and relief system. In recovery stage, one of major gender issues is that a shortage of women leadership and voices in recovery and reconstruction. The capabilities needed to restore women well-being and improve their coping strategies and resilience for possibilities of future disaster.

Table 2 Gendered related capability requirement within disaster risk reduction and resilience

Stage	Types of gender vulnerability	process	capability requirement	output
Mitigating	Lack of women access and voices in hazard mitigation	Identify and analyse risks associated gender	Evaluation, monitoring and dissemination	A gendered sensitive warning system and gendered risk and disaster assessment
Preparing	Lack of women access and voices in disaster risk education and dissemination  Lack of women access to gendered disaster training and exercise	Educate and disseminate gender sensitive disaster risk reduction	Planning, exercise, training, and logistics management expertise	Gendered sensitive education program on disaster risk reduction
Responding	Lack of women access to emergency and relief services	Emergency and relief services meet gender needs and concerns	Need assessment coordination, information exchange and logistic expertise	Gendered sensitive emergency and relief system
Recovering	Shortage of women voices and leadership within recovery and reconstruction process	Restore women well-being and improve their disaster coping strategies and resilience	Disaster recovery and reconstruction assistance skill	Gendered sensitive recovery and reconstruction

Therefore, it is important for local governments to recognise and aware each types of gender vulnerability and capability that required for formulating disaster risk reduction and resilience policy and plan. Gender disaster vulnerabilities arise from barriers to resilience and a root cause of increased risk for community resilience. Gendered vulnerabilities reduce the capacity of families and communities to anticipate, survive, resist and recover from disasters. In the long term, gender vulnerabilities may result in unsustainable reconstruction and community development. Effective gender mainstreaming strategies should tackle both issues of vulnerability and capacity in the same time.

## 5 Conclusions

The importance of integrating gender-mainstreaming strategy within local disaster risk reduction and resilience has become a new concern in disaster management discourse, because it emphasizes broader issues of long term of development. Women are not only vulnerable within disaster but also have important roles to ensure sustainability of local development. Local governments have an important role to protect vulnerable women and to strengthen community coping strategies since they hold responsibility and they know better their citizens. Experience of Bantul earthquake reconstruction shows a significant achievement in addressing women needs and concerns into disaster risk reduction and community resilience through gender strategies that protect gender vulnerability and

promote gender capacity. Among the most important factors related to local government capability are women leadership, women participation, financial resources, support from NGOs, and capacity of local gender institutions. Such factors reflect synergy between district government, community, and International donors in managing reconstruction process. With the establishment of such capability requirement, it is expected that key stakeholders in post-disaster reconstruction to be informed of these key factors and ensure that these key factors are monitored in every efforts of mainstreaming gender into disaster risk reduction and to maintain sustainability of post-disaster reconstruction.

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