

Chapter 2

Post-Disaster Reconstruction and Institutional Mechanisms for Risk Reduction: A Comparative Study of Three Disasters in India

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Abstract This study examines the institutional mechanisms employed in post-disaster reconstruction programs in India after three major disasters occurring between 1993 and 2004 in three provinces—Gujarat, Maharashtra and Tamil Nadu. Extra-Ordinary Mechanisms (EOM) are usually set up in the aftermath of disasters to coordinate and speed up reconstruction process. There are many examples of EOMs that played a key role in successful reconstruction. But, only a few of them have survived as successful institutions for long-term disaster risk reduction. Several factors such as political will, availability of resources, requirements of international financial institutions, nature of bureaucratic and political leadership determine the nature and mandate of the EOMs. Based on the Indian experience, this study analyzes the challenges of sustaining the institutional arrangements for disaster management and makes an attempt to postulate the key elements needed for their effectiveness.

Keywords Extra-ordinary mechanisms • Gujarat earthquake • Institutional mechanisms • Maharashtra earthquake • Post-disaster reconstruction • Tamil Nadu tsunami

2.1 Introduction

This study, based on three major reconstruction programs undertaken in India, examines the compulsions and challenges of setting up proper institutional mechanisms not only for post-disaster reconstruction but also for long-term risk reduction. The three reconstruction programs namely, Maharashtra earthquake reconstruction after 1993 earthquake, Gujarat reconstruction program following the 2001

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earthquake and Post-tsunami reconstruction in Tamil Nadu in the aftermath of Asian Tsunami in 2004 provide an ideal setting for the study. There are several reasons for the choice of these programs. These three were among the worst disasters in terms of death toll and destruction in post-independent India. They represent a new policy driven progression from recovery to an extensive post-disaster reconstruction effort. All the three reconstruction programs in varying degrees aimed at improvements over the pre-disaster situation to bring about better quality of life and safety standards and also use the window of opportunity created by the disaster. These programs spread over a decade also provide an opportunity to understand the evolution of the concept and formation of Extra-ordinary Mechanisms (EOM) in the aftermath of major disasters.

EOMs were set up in all three cases under investigation. While Maharashtra and Tamil Nadu set up Project Management Units (PMU), Gujarat created Gujarat State Disaster Management Authority, an agency with greater autonomy and powers than a PMU. It is instructive to examine the purpose, scope and contribution of the EOMs in the three programs. While discussions in disaster research are usually limited to the perspective of efficient and speedy reconstruction, this study examines the EOMs from a long-term perspective of efficient disaster management going beyond recovery.

To understand the institutional mechanisms set up for reconstruction, the drivers of the policy decision, and the perceptions of multiple stakeholders were examined. Primarily, qualitative methods were used for this. The data gathering included field visits to the affected villages of Maharashtra, Gujarat and Tamil Nadu for first hand verification of the ground realities. In order to understand the roles, perceptions, views and experiences of multiple stakeholders involved in the program, a careful selection of the respondents was made across different sections. Respondents were chosen across cross-sections of the society keeping in mind the social, economic, technical and political aspects of policy making and implementation processes. To enable a better understanding of the political processes, a range of political actors including Ministers, Members of Legislative Assemblies, Members of Parliament both from ruling and opposition parties, *taluka* (administrative units comprising of many villages) and village level elected representatives were interviewed.

To understand policy and implementation aspects, members of the bureaucracy at multiple levels were interviewed. In order to examine the role played by the institutional mechanisms and their effectiveness and efficiency other stakeholders such as Civil Society Organizations, professionals, financial institutions, journalists and members of the media and academics were interviewed.

2.2 Institutional Needs

Though catastrophic disasters cause large-scale death and destruction, their impact is varied on different communities, regions and nations. Not only do the impacts of the disasters differ across these but also the ability to recover. As Diamond (2005)

argues, recovery is a choice made by each society driven by a number of factors. While some act decisively to reduce future losses, the others just return to *status quo ante* (National Research Council 2006). In many cases the affected areas fail to recover even to the pre-impact level. There is an increasing realization that post-disaster reconstruction should not recreate the pre-disaster vulnerabilities but aim to utilize the opportunity to build resilient communities. There are many examples of realized and missed opportunities. Reconstruction of Lisbon after the earthquake, fire and tsunami in 1755 by Marquis do Pombal is an example of realization of some of the post-disaster opportunities not only for development and future disaster mitigation (Alexander 2004) but also for political and economic consolidation (Dynes 2000, 2005). But the potential to bring about a transformation is not always realized. Reconstruction programs failing to build back better, despite aiming to do so, as in the case of 1976 Guatemalan earthquake (Bates 1982), Hurricane Mitch (Wisner 2004; Ensor 2009; Ensor et al. 2009; Telford et al. 2004) and Great Kanto earthquake in 1923 (Schencking 2006; Hein 2005) prove this point.

Many scholars have pointed out that reconstruction is essentially a major challenge for governance. “Policy makers in representative democracies are pressured to respond quickly and effectively” (Smart 2012, p. 3) and hence massive development and reconstruction need to be compressed in time and space (Olshansky et al. 2012). Reconstruction brings in a variety of stakeholders ranging from local NGOs to International Funding Agencies and hence coordination also becomes a major challenge. Hence ensuring better cooperation and collaboration among various stakeholders (Asgary et al. 2006) is one of the major governance issues in the aftermath of a disaster. The next challenge is to strike a balance between speed and quality, and consultative process and quick decision making in a compressed time frame (Olshansky et al. 2012). In addition, there is also the challenge of mobilizing and managing the flow of funds, coupled with transparency and accountability. The ultimate challenge of any incumbent government is the creation of appropriate institutional mechanisms for facing the above challenges.

The utilization of opportunities presented by the disaster depends greatly on a number of factors related to governance. Quality of leadership, planning and organization for reconstruction are considered as the major factors according to Haas et al. (1977). Rubin et al. (1985), based on the comparative study of 14 reconstruction programs argues that leadership, the ability to act and knowledge of available resources, capacity of the local officials determine the success or failure of a reconstruction program. Lack of people’s participation and neglect of people’s needs are cited as reasons for failures in housing recovery (Oliver-Smith 1991; Salazar and Jigyasu 2010; Barakat 2003; Barenstein 2008; Bates 1982; Jigyasu 2001; Arslan and Unlu 2006; Asgary et al. 2006). Lack of interest and coordination, lack of expertise and conflicting interest of the stakeholders (Asgary et al. 2006), and physical reconstruction becoming the main focus (Vatsa 2005) also become a hurdle for building back better.

The success or failure of a reconstruction largely depends on the ability of the State to tackle the governance issues in reconstruction (Harvey 2009), as testified by the study of post disaster reconstruction programs in different countries. States

which were pro-active towards tackling governance issues through appropriate mechanisms could build back better and the others missed the window of opportunity provided by the disaster (Foley 2007; Wong 2008; Price and Bhatt 2009; Cochrane 2008; Elhawary and Castillo 2008; Fagen 2008; Willitts-King 2009). The approach towards institutional mechanisms differs, ranging from setting up stand-alone new structures to utilizing the existing structures. While India, Pakistan and Indonesia preferred setting up of new EOM (Price and Bhatt 2009; Cochrane 2008; Willitts-King 2009), El Salvador relied more on existing institutions for reconstruction (Fagen 2008).

Haas et al. (1977), in their classic study, identify the need for changing the public policy making process as the most basic governance issue among the several key issues to be addressed before disaster reconstruction is undertaken:

The first issue is fundamental: Should normal, as contrasted to extraordinary, decision-making mechanism be used in deciding how, when, and where to rebuild the heavily damaged city? At the very minimum, the question will be raised as to whether there are an adequate number of experts of the various types needed within the regular units of government? If not, shall there be one or more special task forces composed of experts, administrators, and citizens? (Haas et al. 1977, pp. 44–45).

While early debates on relevance of EOM were centered on reconstruction, the contemporary discourse goes beyond and focuses on the role of EOM in long-term risk reduction using the window of opportunity created by the disaster (Christoplos 2006). The choice of the institutional mechanism depends on a large number of factors. There are three options: (a) creating a totally new organization, (b) creating a dedicated organization drawn from existing line ministries and (c) managing the reconstruction through existing government organizations (Jha et al. 2010). Each of these has their advantages and disadvantages. The existing organizations normally have well laid out procedures, experienced manpower, horizontal and vertical linkages, and may be conversant with the problems and issues of the affected area. But the flip side is delay in decision making due to lengthy bureaucratic norms, lack of flexibility, lack of expertise, multiplicity of organizations resulting in lack of coordination (Schneider 1995; Jha et al. 2010; Olshansky et al. 2012; Neal and Phillips 1995). In addition the question remains whether normal institutional mechanisms designed for incremental change capable of coping with the situation of recreating an entire city, or region in a short time.

The next key issue is the question of coordination. Simultaneous creation of housing and all public as well as social infrastructures need more horizontal coordination among the various government agencies. There is also the need for a single window for external players to interact. As Jha et al. (2010) point out, managing international appeals for support; arranging large credits and grants from donors and IFIs; and managing procurement, disbursement, monitoring, and evaluation also present huge challenges in the aftermath of large-scale disasters. These functions alone may require a new institutional arrangement. Creation of an EOM also sends a political message to the people that the political masters are serious about reconstruction. But, creating new institutions from a scratch and making them efficient may be time consuming (Inam 2005). As time is the essence and the “fast pace

is unforgiving of mistakes and does not allow for test cases or pilot studies,” adapting existing organizations and procedures and improving upon them is considered as a better option by Olshansky et al. (2012, p. 177).

There is an increasing tendency to opt for standalone EOMs in the recent past (Harvey 2009) to overcome the time consuming “bureaucratic norms” of policy making (Schneider 1995, 6). The EOMs set up after Guatemalan earthquake 1976, Orissa Super cyclone 1999, Bam Earthquake 1993, Jammu & Kashmir earthquake 1995, Haiti earthquake 2010, Tōhoku earthquake and tsunami and Fukushima Daiichi nuclear disaster in 2012, to name a few, reflect such a preference. All the governments, as explicitly stated by the Guatemalan government after 1976 earthquake (Bates 1982, p. 147), feel the need for a powerful centralized Institution with flexible speedy mechanisms to initiate, control and coordinate the rehabilitation and reconstruction. Thus EOMs are becoming more of a norm than exception due to the desire to speed up reconstruction, the insistence of the funding agencies like the World Bank, the political compulsions to display the seriousness of the government and lessons learnt from the previous disasters.

In the context of South Asia, particularly India, which is highly disaster prone, no in-depth study has been conducted on the institutional mechanisms. Many large reconstruction programs have been undertaken in India after independence. Reconstruction after cyclones in Andhra Pradesh (1977), Kandla (1998), Orissa (1999); Machhu dam breach (1979); earthquakes in Uttarkashi (1991), Maharashtra (1993), Chamoli (1999), Gujarat (2001), Jammu & Kashmir (2005); tsunami in Tamil Nadu (2004); floods in Bihar (2008), and Karnataka (2009) were all very large programs. These programs were implemented through a variety of institutional mechanisms ranging from using the existing institutions to setting up new mechanisms.

Most studies on post-disaster reconstruction are either overtly technical (Nikolic-Brzev et al. 1999; Murty et al. 2005; Jain et al. 1994; Jain et al. 1997) or sharply focused on the housing and built environment (Jigyasu 2001; Salazar 2002; Salazar and Jigyasu 2010; Barenstein 2006, 2008, 2010; Samaddar and Okada 2006; Arslan and Unlu 2006; Barakat 2003). There are also some studies on equity and gender issues in reconstruction (Winchester 2000; Krishnadas 2007; Swain et al. 2006; Pincha 2008). The research by Economic and Political Weekly Research Foundation (EPWRF 1998, 1999) provides an exhaustive documentation of the reconstruction program following the Maharashtra earthquake (1993) without making any comparative study. A detailed study by Srinivasan et al. (2005), conducted within a year of the tsunami focuses on short-term outcomes. In the Indian context comparative studies are lacking. Despite these numerous studies, research has not focused on examining the merits of these institutional arrangements vis-à-vis the success and failure of the programs.

There are several issues and challenges associated with creating an EOM for reconstruction. First is its nature and structure. Second important issue is whether the EOM set up for reconstruction should be purely temporary or be converted into a permanent one. If a permanent agency is envisaged for carrying out long term risk reduction along with post-disaster reconstruction, what powers, functions and

financial arrangements are required to make it effective beyond the reconstruction period? Thirdly once a permanent body is created, can it continue to retain the extraordinary nature in the long run and be as effective as it was initially? In this empirical study I will attempt to examine the three cases from the point of view of the above challenges and questions.

2.3 Characteristics of the Three Disasters

India is among the world's ten most disaster prone countries. It is vulnerable, in varying degrees, to a large number of natural as well as man-made disasters. India's vast geography, population, geo-climatic and socio-economic conditions make it prone to various disasters (GOI 2011). Nearly 59 % of landmass is at risk of earthquakes of moderate to very high intensity. Over 12 % of the land is prone to floods and erosion. Almost 76 % of the 7,516 km long coastline is likely to experience cyclones and tsunamis. Approximately 68 % of the cultivable area experiences frequent droughts. Besides, there is the likelihood of severe industrial, chemical, biological, radiological and nuclear disasters (GOI 2009). During the last 30 years, the country has been hit by about 430 major disasters killing nearly 143,000 and affecting 1,500 million people to varying degrees. The estimated property loss due to these disasters is around US\$48,000 million. The economic losses arising out of disasters has been climbing steadily from US\$10,285.7 million in the period 1990–1995 to US\$19,724.8 million in 2000–2005, amounting to nearly 2 % of the national GDP (GOI 2011). All the three disasters chosen for the study occurred in India, but in three different provinces or states. The political map of India (Fig. 2.1) shows the three states in which the disaster occurred.

2.3.1 *Maharashtra Earthquake (1993)*

An earthquake of magnitude 6.4 on the Richter scale struck the Marathwada region of the western Indian state of Maharashtra at 3.56 a.m. on September 30, 1993 (Fig. 2.2). The epicentre of the earthquake was near the village of Killari in Latur District located at a distance of about 500 km south east of Mumbai.¹ This earthquake killed 7,928, injured over 16,000 and turned out to be the worst natural disaster in the state since 1947. The disaster completely destroyed 67 villages in the districts of Latur and Osmanabad and affected nearly 2,500 villages in other districts. In total, 27,000 houses were completely destroyed and around 200,000 were partially damaged. Public buildings, roads, schools, water towers and other infrastructure were severely damaged. The total estimated damage was about US\$330 million (GoM n.d.).

¹Mumbai was formerly known as Bombay. The official name Mumbai is used in contemporary contexts and the old name Bombay is retained in historical allusions.



Fig. 2.1 Political map of India

2.3.2 Gujarat Earthquake (2001)

On 26th January 2001, at 8.46 a.m. on the morning of the 52nd Republic Day, one of the most destructive earthquakes to strike India occurred in Kachchh District of Gujarat (Fig. 2.3). The earthquake measuring 7.7 Mw affected about 7,600 villages, 14 towns and the mega city of Ahmedabad. Thirteen thousand and eight hundred and five people lost their lives and 167,000 were injured. About 1.2 million houses were damaged either partially or completely. The affected population was about 28 million. Six districts were severely affected and the district of Kachchh, which was



Fig. 2.2 Map of Maharashtra showing earthquake affected areas

the epicentre, was worst hit by the disaster (Mishra 2004, pp. 51–56). Out of 181 *talukas*² affected, 42 were declared severely affected. Around 220,000 houses fully collapsed and 917,000 were partially damaged (GSDMA 2008). The state's largest city—Ahmedabad—located 300 km from the epicentre, had the second largest death toll (752) next only to Kachchh District (12,221). In Ahmedabad more than 70 multi-storey buildings collapsed. People witnessed Reinforced Cement Concrete (RCC) buildings collapsing like a pack of cards.

Social and public infrastructure and industries also sustained severe damage. Over 50,000 school rooms and 1,500 health clinics and hospitals were damaged. The earthquake also had a severe impact on livelihoods. More than 10,000 small and medium industrial units went out of production and the livelihoods of more than 50,000 artisans were affected due to loss of workshops and tools. Kachchh District in which the epicenter of the earthquake was located was the worst affected with 12,221 people killed. One hundred and twenty four thousand houses totally

²The number of *Talukas* (or blocks) is 226 after reorganization.

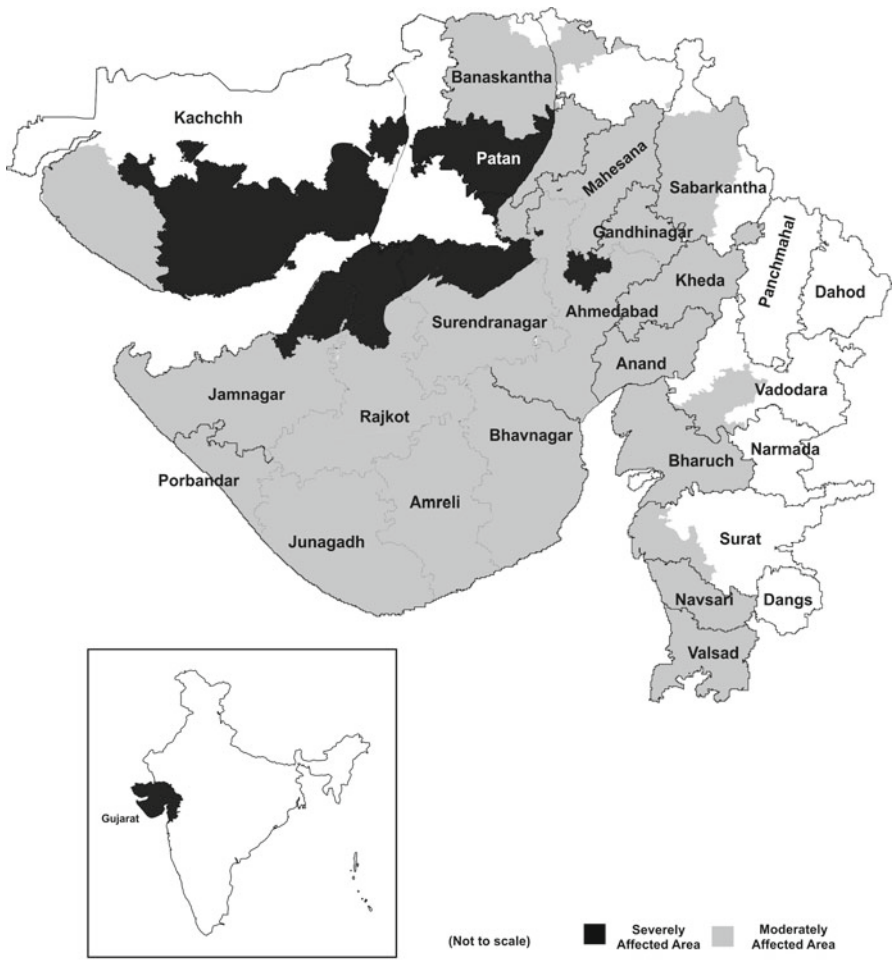


Fig. 2.3 Map of Gujarat showing earthquake affected areas

collapsed, while 210,000 were partially damaged. Four major towns of the district³ suffered near total devastation (Mishra 2004; GSDMA 2008). The estimated total losses were about US\$6 billion (World Bank and ADB 2001).

2.3.3 Tamil Nadu Tsunami (2004)

The state of Tamil Nadu was the worst affected in India when the Indian Ocean tsunami struck the east coast of India on 26th December 2004 (Fig. 2.4). It affected 238 fishing villages and 418 hamlets in the state leaving 7,997 dead and 3,625

³Towns are: Anjar, Bhuj, Bhachau, and Rapar.

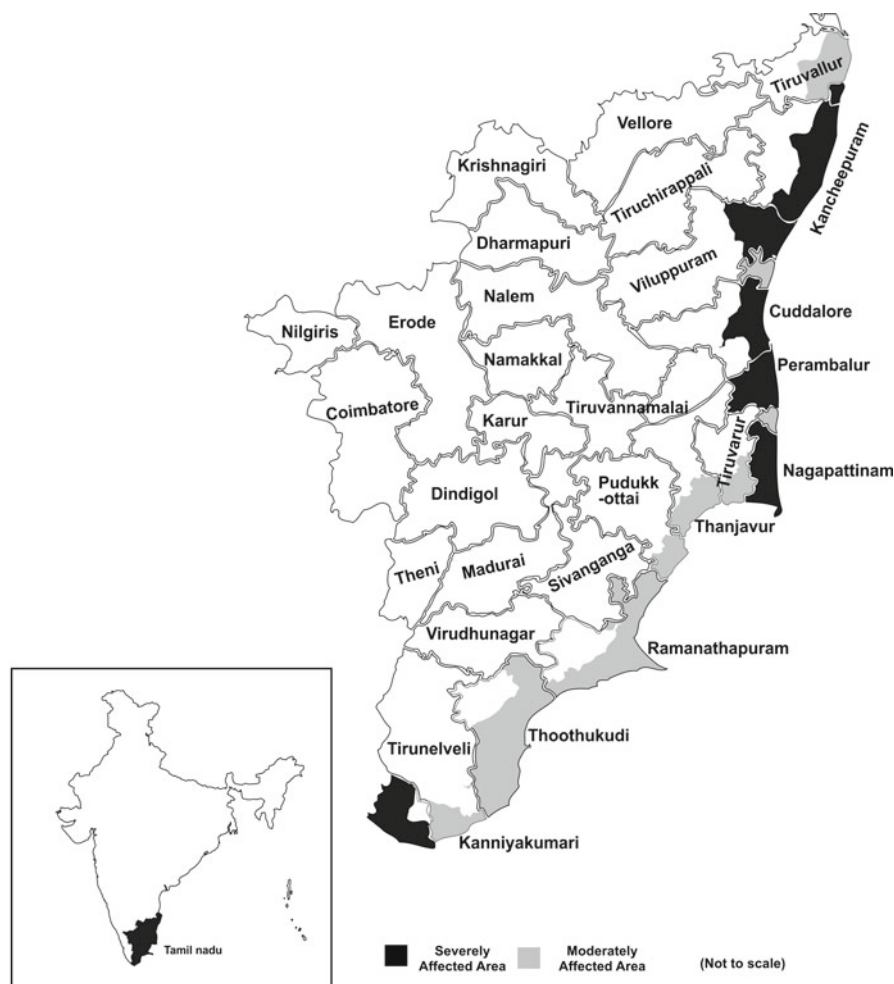


Fig. 2.4 Map of Tamil Nadu showing tsunami affected area

injured. All the 13 coastal districts were affected; but Nagapattinam with a death toll of 6,065 was the worst hit. Kanniyakumari and Cuddalore where 799 and 610 people died respectively also suffered severely. The disaster caused extensive damage to housing and livelihood assets. 53,290 houses collapsed and 11,694 were partially damaged.⁴ In the fisheries sector, 51,078 fishing vessels were either lost or damaged.

⁴The accurate figures of the total number of houses damaged are not available. The reported details differ in various documents published by the Government of Tamil Nadu. The data is taken from Government of Tamil Nadu publication that gives the number of houses damaged along with breakup of fully collapsed and partially damaged (GoTN 2008).

This is one of the few disasters where the loss to income generating assets was higher than the loss to the built environment. Roads, water supply, electrical installations, minor ports, beach resorts and hotels on the beach were also affected. The preliminary loss estimate according to the joint mission of World Bank, ADB and UNDP was about US\$880 million (GoTN 2005b, 2008).

2.4 Institutional Mechanisms in the Three Programs

While comparing the institutional mechanisms in three cases, it is pertinent to also keep in mind the damage profile of the three disasters. The scale of damage and destruction was much more in Gujarat when compared with the other two states (Table 2.1). Gujarat earthquake was more widespread in terms of the geographical impact and affected more population when compared with the other two. In Tamil Nadu only houses and livelihood were affected but in Maharashtra and Gujarat there was large scale damage to infrastructure. Coastal areas were affected in Tamil Nadu, and rural areas in Maharashtra. But in Gujarat both urban and rural areas were affected.

In Maharashtra, a three tier EOM was set up for reconstruction at the state level. At the first tier was the cabinet sub-committee comprising of six senior ministers for policy making, the second was Central Implementation Review Group (CIRG) for review and monitoring and the third was Project Management Unit (PMU) for implementation. The sub-committee headed by the Chief Minister was empowered to take policy decisions. A role of the high power implementation group headed by the Chief Secretary was to sort out technical problems, review and monitor. Besides these tasks, it was responsible for distributing work among various departments and to change the procedures if necessary. The policy provided for a strong and effective

Table 2.1 Comparison of the damages and losses in the three disasters

SN	Aspect	Maharashtra (1993)	Gujarat (2001)	Tamil Nadu (2004)
1	Deaths	7,928	13,805	7,997
2	Injuries	16,000	167,000	3,625
3	Population affected (million)	9.85	28.04	1.07
4	Houses—totally damaged	27,000	220,000	53,290
5	Houses—partially damaged	165,000	917,000	11,694
6	Villages affected	2,567	7,633	238
7	Towns affected	0	57	0
8	Municipal corporations	0	5	0
9	Asset losses in million US\$	333	2,100	880
10	Asset loss as proportion of State Domestic Product (SDP)	0.8 %	8.9 %	2.2 %

Source: Mishra 2004; GoTN 2005c; GoTN 2008; GSDMA 2008; ADB et al. 2005; GoM n.d.; DPH 1995; World Bank and ADB 2001

PMU having adequate structure to implement the program (GoM 1994). Accordingly, a PMU headed by the Secretary and Special Commissioner, Earthquake Rehabilitation was created and sufficient powers delegated to it for project implementation (Nikolic-Brzev et al. 1999). In many aspects of implementation the PMU had the powers of the cabinet vested in it (World Bank 1999).

The creation of a PMU with full powers for implementation is considered one of the important factors that contributed to the success of the program (Nikolic-Brzev et al. 1999). The sole mandate of reconstruction given to the PMU made the difference. As one former Deputy Secretary who was in charge of the post-disaster reconstruction program in Maharashtra acknowledges, the normal mechanism would have been woefully inadequate for the task:

In Maharashtra at that time, a PMU was very much required. The department of relief and rehabilitation did not have the capacity. And, even if we had tried to create that, the department would not have been able to focus on earthquake reconstruction in an uninterrupted way. Secondly, the simplified procedures and direct implementation galvanized a large number of staff. They could implement the program directly.

It is not just the creation of an EOM, but the support extended by the government that is crucial in making it effective. According to the then Chief Minister, it would not have been possible to meet the challenges of reconstruction without such a body:

It was a major calamity and, in such a situation you need an exclusive set up with full authority. Unfortunately in government set up what happens is that after the bureaucracy takes some decisions in an emergency, an audit will find some fault later. He (the officer concerned) will have to then face the music for a life time. I was eager to see that such a situation is avoided. You see, ultimately members of bureaucracy are also citizens committed to the nation and society. Why not motivate them and give them authority? In a rehabilitation program, for good administration we must select right people and give them the authority. There may be a mistake here and there; but overall they get good results.

The short-term mandate given to the PMU, though highly effective in the context of reconstruction, did not help for long-term disaster management. The set up was created for reconstruction and was wound up after completion of their mandate. No permanent body was set up after the 1993 earthquake for long-term disaster management. The Mumbai floods in 2005, the next big natural disaster after the earthquake in the state, exposed the inadequacy of response capability in terms of infrastructure and institutional mechanisms (D'Souza 2005; Revi 2005). Though the need for institutional mechanisms in the form of permanent administrative structures were identified in the reconstruction program (Nikolic-Brzev et al. 1999, p. 75), they were not implemented until the state was criticised severely for mishandling the floods in 2005. The Maharashtra State Disaster Management Authority was formed in 2007 on the lines of Gujarat State Disaster Management Authority only after persistent demand from various quarters including experts (Revi 2005) and opposition parties (The Hindu 2005). Thus, the Maharashtra case highlights the need to look at EOMs in the aftermath of disasters both from short-term as well as long-term perspective.

Gujarat set up a single EOM for policy making as well as implementation. GSDMA headed by the Chief Minister was set up, within 2 weeks,⁵ as a nodal agency. Besides making policy decisions, it implemented the massive reconstruction and rehabilitation program. Though a Central Implementation Group, as in the case of Maharashtra, was set up to review and monitor the progress, GSDMA had the overarching authority with regard to reconstruction. In addition, it had the mandate for long-term disaster management and risk reduction in the state. Thus in Gujarat, instead of multiple authorities there was one unified agency headed by the Chief Minister with Ministers and Secretaries of key departments as members.

GSDMA was created as a single window to deal with reconstruction activity, with rules of business different from government to facilitate quick decision making and faster implementation of the program avoiding bureaucratic hurdles and delays. GSDMA was accorded the powers of the cabinet and the decisions taken by GSDMA were implemented as if they were the decisions of the cabinet. The funds received from the World Bank and ADB were placed with GSDMA to avoid diversion of the funds for purposes other than reconstruction and rehabilitation. GSDMA, which was initially registered as an autonomous society, was subsequently converted into a permanent statutory body through the Gujarat State Disaster Management Act 2003. The act made GSDMA the apex body for disaster management in the state.

GSDMA differs considerably from the PMU set up in Maharashtra in terms of its structure. While the senior officers manning the organization were top ranking bureaucrats drawn from within state government on deputation, the junior officers, staff and experts were hired on contract basis from outside the government. In addition, it availed the services of experts and specialists by appointing them in the role of advisors and consultants. This arrangement provided for utilizing the knowledge and skills of the existing administrative machinery and at the same time to make use of expertise which does not lie in the government domain. A combination of officers well conversant with the rules business of the government and outside experts avoids the pitfalls of an entirely new agency which may commit mistakes, about which Olshansky et al. (2012) warns. The other noteworthy difference is that GSDMA has been made a very flexible organization in terms of the structure, by making it expandable and collapsible based on the situation and need. This flexibility provides for increasing or decreasing the man power and drawing on external resources at the time of crisis.

Almost all the stakeholders interviewed in the study acknowledged the important role played by GSDMA and considered it as one of the key factors for the success of the Gujarat reconstruction program. GSDMA's role as a single window mechanism enabled quick decision making, transparency, and openness. It was able to receive feedback and make mid-course corrections, and this was believed to have been one of the main reasons for better policy making and implementation. In the words of one Principal Secretary to the government, "GSDMA took to itself strong

⁵Gujarat earthquake occurred on 26th January 2001 and GSDMA was formed on 8th February 2001.

financial and managerial powers which allowed centralized planning and integration of all the various pieces of reconstruction. If we had kept it in the departments this integration would not have taken place.” One of the members of the of the World Bank team associated with the program explained to me the important role played by GSDMA in Gujarat:

I think in Gujarat’s case it was necessary. It was effective in making quick decisions going outside government norms, perhaps due to the easy access to political bosses. All these are important. As a single window system, it was able to manage the whole thing in an integral fashion. It integrated various aspects like social impact and environment assessments. Otherwise, it would have resulted in departments running to each other.

The setting up of GSDMA as a two-in-one mechanism for reconstruction and disaster management is considered an innovation that set an example for other states. For many Gujarat reconstruction was special mainly due to this, as articulated by an NGO leader:

Definitely high in my list as to why Gujarat was special, is the formation of GSDMA. I think its role was very central. It played a huge and positive role. It was an interesting innovative institutional arrangement. In my view, it performed very well.

The structure of GSDMA enabled it to achieve what other EOMs could not. Unlike the OSDMA which was constituted in Orissa after the Orissa Super Cyclone in 1999, which was headed by the Chief Secretary, the GSDMA was headed by the Chief Minister. It provided a platform to think, brainstorm and take policy decisions, thus cutting short the endless movement of files from one line department to another. The present Chief Minister and head of GSDMA, explained:

GSDMA was not commanding other departments. That was its beauty. It became an umbrella under which frank discussions could be conducted. It also served as a forum to discuss various problems and possible alternatives freely. It provided a platform for arriving at better solutions. Due to this democratic process of decision making, there was a sense of collective responsibility to address the problems and ownership of the solutions.

The mandate given to the GSDMA for long-term disaster management is the main reason why it undertook many initiatives which were not carried out elsewhere. To sum up, setting up of the GSDMA helped post-disaster reconstruction as well as post-reconstruction activities. The Gujarat case demonstrates that the EOM created in the aftermath of disasters could be institutionalized to address long-term issues related to disaster management as well as avoid the formation of such ad-hoc bodies in future.

Unlike other states where disaster management initiatives ended with the reconstruction project, GSDMA continues with disaster management activities with budgetary support from government. The Gujarat State Disaster Management Act 2003, keeping the special purpose nature of GSDMA, mandates it to focus on long-term disaster management, capacity building and risk reduction while the routine functions of rescue and relief continue to vest with the office of the Relief Commissioner. Even today, many of the Disaster Management Authorities in other states including Maharashtra and Tamil Nadu, set up as per the mandatory requirement of the

Disaster Management Act of Government of India, remain on paper. In contrast GSDMA is a full-fledged functional organization. Continued allocation of funds to GSDMA even after the World Bank funding is over, is an example of the political interest in disaster management. This is despite the fact that development and routine administration are now being given importance over disaster management. According to many stakeholders, as articulated well by one of the former Additional Chief Secretaries to Government of Gujarat, in Gujarat long-term vision guided the reconstruction process even though it was not politically beneficial.

Institutionalizing EOMs and changing its nature and scope of work may result in dilution of its authority and make it function like any other institution in government. Many observed that, GSDMA, which has become a permanent body, now functions like any other bureaucratic arm of the government. Its business is carried out in a routine manner. The routine activities of government departments such as preparation of response plans, responding to disasters and conduct of drills are being transferred to GSDMA, thus diffusing the role of the EOM.

Tamil Nadu also set up an EOM in the aftermath of the tsunami to facilitate reconstruction. An advisory committee headed by a cabinet minister consisting of members from political and bureaucratic wings was set up to advice on finances, procurement, mobilization of human resources, to ensure inter-departmental coordination and strategic decisions (GoTN 2005c). It was created 8 months after the occurrence of the disaster and many important policy decisions were made before that. An empowered committee consisting of officers headed by the Chief Secretary was set up to provide approvals for the sub-projects, procurement and staff related matters as well as for periodic monitoring (World Bank 2005). The reconstruction was carried out through the office of the Commissioner of the Revenue Administration who is also the ex-officio State Relief Commissioner. A PMU, headed by a Project Director, was set up in the office of the State Relief Commissioner to monitor and coordinate the line departments/agencies implementing the project (GoTN 2005a).

The problems with a multiple-agency approach in Tamil Nadu shows that a unified agency approach is better than multiple agencies dealing with different aspects of reconstruction. The PMU had a limited mandate of implementation of reconstruction. While the policies were framed by the government, the procurement was approved by the empowered committee. According to one of the officials of the ADB who was heading the mission office in Chennai, the policy decisions were taken through routine procedures by the respective line departments without any sense of urgency, which many consider as the main reason for delays. Later, the state government set up a State Disaster Management Authority, as an entity separate from the PMU. This arrangement can hinder integration of disaster management with reconstruction. Separate agencies dealing with diverse aspects of disaster management, one that has a temporary mandate of reconstruction, the other with the long-term mandate of disaster management, may result in loss of institutional learning from the process of reconstruction. Above all, the EOMs in Tamil Nadu did not address the basic issue of change in policy making process which is the main purpose of choosing an EOM.

2.5 Extra-ordinary Mechanisms: An Analytical Comparison

The experience of the three states throws light on the need for extraordinary mechanisms and the will to put aside bureaucratic norms. But the mandate, scope and powers vested differed across the states. While in Maharashtra the policy decisions remained with the political executives, implementation including procurement was delegated to the PMU consisting of officers. In Tamil Nadu the powers for policy decisions were retained at the level of government and a two-tier mechanism was created that separated procurement from implementation. In Gujarat, not only were all the three powers vested in one agency (GSDMA), but that agency also brought together political executives and bureaucrats on the same platform. This coalescing of the political and bureaucratic wings within one authority enabled informed policy formulation that combined grassroots realities, the wisdom and experience of the political leaders and administrative requirements.

As discussed earlier, setting up of institutional mechanisms like GSDMA, reflected long-term perspective rather than short-term considerations. The fact that GSDMA in particular which was made a statutory authority for long-term disaster management with huge budget provisions even after the completion of reconstruction needs to be contrasted with the PMUs set up in Maharashtra and Tamil Nadu for reconstruction. Another issue with setting up EOMs is the time delay in setting up new organization (Olshansky et al. 2012). The case of GSDMA which was set up within 2 weeks of the occurrence of the disaster proves that if there is political and bureaucratic will such an organization can be set up without time delay.

Though the emergent norms following disasters warrant creation of EOMs, the mandate, scope, structure, and powers vested are often driven by factors other than the disaster. Tamil Nadu preferred to have a three-tiered set up at the state level, despite the knowledge of the success of GSDMA set up in Gujarat available to them is a case in point. Setting up EOM and delegation of powers is a political decision. The permanent mandate, powers and funds provided to GSDMA, helped in continuation of disaster management activities even after the reconstruction program was completed. This did not happen in Maharashtra and Tamil Nadu.

To sum up, the three cases examined provide answers to two important challenges in the post-disaster context: (a) when an EOM is necessary and (b) what are the desirable features for the structure and nature of the EOM. The three cases compared show that establishing an EOM does contribute to the success of the program. With regard to the structure of the EOMs, the Gujarat model based on a combination of some officers drawn from the existing bureaucracy and others from outside appear to be ideally suited to avoid pitfalls of other alternatives. This model is also more accountable while simultaneously having the requisite flexibility in approach and incorporating expertise. The strengths and weakness of the three EOMs are summarized in Table 2.2.

Learning from the EOMs constituted in the three cases, the characteristics of an effective model of EOM can be attempted. An ideal EOM should have autonomy to function freely and should have adequate powers and financial resources through budgetary support. A permanent EOM should be scalable as per the situation to

Table 2.2 Extra-ordinary mechanisms—a comparison of the strengths and weaknesses of the three programs

Program	Strengths	Weakness
Maharashtra	Special agency for reconstruction Full powers for implementation Single window for external stakeholders Could incorporate external expertise by hiring experts	PMU set up as agency set up through administrative orders Different agencies for policy making and implementation Short-term mandate of reconstruction Temporary and wound up after reconstruction
Gujarat	Autonomous agency mandated by legislation One unified agency for policy making and implementation Single window for external stakeholders Permanent body with long-term mandate of disaster management Adequate budget support from Government Could avail external expertise through hiring of experts and consultancies	Loss of importance post-reconstruction Bureaucratic power struggles and disputes over jurisdiction with regard matters related to disaster management Shifting of routine activities by other departments to the EOM Development priorities overriding long-term disaster management.
Tamil Nadu	Special agency for reconstruction Single window for external actors to interact Could incorporate external expertise by hiring experts	PMU set up as agency set up through administrative orders Different agencies for policy making, procurement and implementation Short-term mandate of reconstruction Temporary in nature and wound up after reconstruction

discharge its duties as per the mandate. It should have a high powered governing body constituted drawing the top political executives and bureaucracy to have commitment of the elected and bureaucratic wings of the government. The secretariat of the EOM should have a proper mix of manpower drawn from within and outside government to provide continuity, accountability and expertise. In order to maintain the focus of EOM on long-term risk reduction, existing functions of other agencies related to response should continue with them rather than transferring them to the new organization.

The EOM will play different roles before, during and after the occurrence of disasters. While preparedness through capacity building, training, information, education and communication and mitigation will be the major activities during normal times, coordination with external agencies, donors, lending institutions, and policy and planning for reconstruction will be the dominant activities during the time of the disaster, and reconstruction will be the main activity during post-disaster reconstruction period. The role of the EOM during the various phases of the disaster is given below (Fig. 2.5).

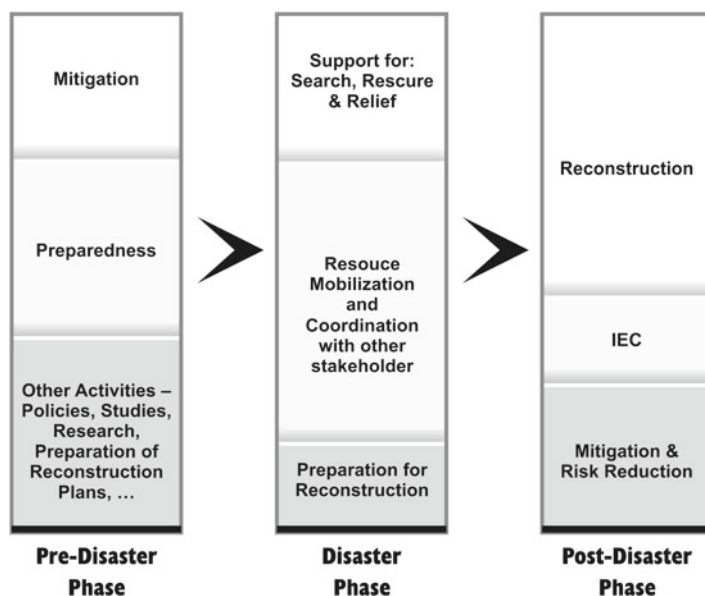


Fig. 2.5 Schematic view of functions of an EOM during before, during and after disaster

2.6 Conclusion

Creation of an extra-ordinary mechanism may have several advantages over the normal decision making process in governments. It can bring together various agencies and departments for collective decision making. It may cut down the red tape and speed up the decision making process. As the process is participatory, individual departments and agencies may own the process instead of seeing it as something thrust upon them from the above. EOMs may work as a single window for donors and lenders which will reduce their burden of having to interact with multiple government agencies. But all these depend on the nature and structure of the EOM.

The creation of an EOM may aim at overcoming the inefficiencies of a normal system, but it need not necessarily help in betterment of reconstruction. Mismatch between the routine and emergent procedures (Quarantelli 1989, pp. 10–11), lack of co-ordination, inter-departmental rivalry and fractured politics (Schencking 2006) may lead to failure of the EOMs as in the case of Japan after 1923 Kanto earthquake (Schencking 2006) or Guatemala after the 1976 earthquake (Bates 1982). A new organization created with overriding powers may not sit very well with the existing organizations. National Reconstruction Committee (NRC) created after the 1976 Guatemalan earthquake is a case in point. This EOM with special powers caused “jealousy” among other government officers. Bureaucrats and political leaders saw the emergence of NRC as a threat to their powers and tried to undercut the policies of NRC (Bates 1982). Another example is the failure of the “super reconstruction

agency” in the form of a special reconstruction ministry set up in the aftermath of Great Kanto Earthquake in Japan due to political and inter-departmental rivalry (Schencking 2006). Such problems are not uncommon, hence the dilemma.

Setting up of EOMs does not guarantee better policy making or quick implementation unless, of course, they are sufficiently empowered. Failure of FEMA to respond to hurricanes Katrina and Rita due to its downgrading and dilution of authority is a case in point (Perrow 2005). GSDMA, unlike the PMUs set up in the other two states had sufficient authority and operational freedom vested with it. Besides, as emphasized by Topping (1998) in the case study of Oakland wildfire, California, GSDMA brought together representatives from relevant agencies and organizations. The success of GSDMA in integrating and coordinating diverse wings of the administration can be contrasted with the debilitating inter-departmental rivalries that ensued from the setting up of an EOM after Kanto earthquake (Schencking 2006). The success of Victorian Bushfire Reconstruction and Recovery Authority (VBRRA) set up in Australia for reconstruction after Victorian Bushfires (2009), Queensland Reconstruction Authority (QldRA) created in the aftermath of Queensland Floods (2010–2011), and formation of Canterbury Earthquake Recovery Commission (CERC) in New Zealand following Canterbury Earthquakes (2010–2012) show that if the new institutions have the capacity, coordinate with all stakeholders, engage the community and communicate with the stakeholders they can be highly successful (Smart 2012).

The structure and powers may help the EOM but its mandate is also a key factor for realizing the post-disaster opportunities. As Birkland (1997, p. 68) emphasizes, any “focusing event needs to find an advocate who will continue to press the issue on the agenda even after the immediate attention to the problem has diminished.” Thus to press the issue of long-term risk reduction beyond reconstruction period a permanent agency mandated for the same may help.

Setting up new institutions or conversion of an EOM into a permanent institution to respond to disasters, as in the case of Gujarat, is not without problems. Foremost are the consequences of conversion of EOM into a permanent body. Converting an EOM into a permanent agency for long-term disaster risk reduction and using it for routine activities may result in taking away the importance of an EOM as a special purpose vehicle to respond to the disasters. It may not get the attention it got in the aftermath of disasters. The authority wielded by it is partly due to the urgency and immensity of the task and funds they had at their disposal. When both are absent, the organization loses its direction and well-defined tasks. Further, when the purpose and focus becomes broad-based, it becomes yet another agency without any special status. It is doubtful whether a permanent institution can respond as effectively in the aftermath of a catastrophic disaster, as a goal-driven EOM, as it did when it was created. While some of the EOMs were transformed into regular disaster response agencies filling in a gap, the very process of mainstreaming tends to strip it off its “special” capabilities.

Once an EOM has been transformed into a regular agency, does it make all EOMs redundant in future or would a conflict of interest arise? Given the special powers vested in some of these newly created regular agencies, it is likely that they

may not be willing to recognize the requirement for EOMs, when the need arises. Several full time agencies with extra-ordinary powers to respond to disasters, including undertaking reconstruction and rehabilitation has been established in many countries including India in the last one decade or so. High powered national and regional level disaster management authorities have been set up in many countries in the aftermath of 2004, Indian Ocean Tsunami. These organizations may suffer all the perils of other institutions of government, which warrant the setting up of an EOM to respond effectively to disasters. They may resist and block the creation of an EOM if situation warrants the same. These institutions may develop vested interests and may kill the flexibility needed in the aftermath of disasters which a newly created EOM may provide in terms of openness to expert advice and formulation of procedures for speedy and effective reconstruction. The effectiveness of these institutions will be tested only when another major disaster of the similar magnitude that led to the creation of these institutions occurs again.

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