

# Choosing Appropriate Audit and Management Strategies for Disasters Case Study on the Management of Aceh Disaster

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## INTRODUCTION

Indonesia is an archipelagic nation that occupies a highly strategic geographical position, both economically and politically. The country is located between the two tectonic plates of Asia and Australia. Indonesia also straddles three other plates, namely, the Eurasian plate, the Indo-Australian plate and the Pacific plate. This means that the country is highly susceptible to geological movements, tsunamis, volcanic eruptions and landslides. Major disasters, such as floods, storms, earthquakes, landslides and tsunamis, regularly cause significant damage, both to the economic sector and the social environment (Sanny, 2006).

The Aceh region (Tanah Endato) has been granted special autonomy to apply Islamic law. Historically, the “Aceh conflict” started when Teungku M. Daud Beureuh joined Darul Islam, which was led by Kartosuwiryo and based in Pasundan, West Java, on 21 September 1953. With the declaration of Acehnese independence and the Free Aceh Movement (GAM) on 4 December 1976, Aceh became mired in a period of internal conflict. Access to most parts of Aceh was off-limits to both civilians and the military. Investors shunned the province and it became closed to the outside world. This situation hampered economic development in Aceh, which found itself left far behind other parts of the country (Markijar, 2016).

An earthquake measuring 9.3 on the Richter Scale generated devastating tsunamis that smashed into the coasts of Indonesia, Thailand, Myanmar, India, Malaysia, Sri Lanka, Maldives, Somalia, Kenya and Tanzania at speeds of up to 800 km per hour. The earthquake and tsunami in Aceh and Nias claimed 167,000 lives, with 129,498 dead and 37,066 people missing and presumed dead, including around 16% of the population of Banda Aceh (Aceh Province BNPB Emergency Response Team Report). The victims included 5,266 civil servants. The disaster significantly damaged the region’s housing stock (permanent houses: 43,529 totally destroyed, 53,520 damaged, non-permanent houses: 42,275 totally destroyed and 89,969 damaged). Public infrastructure was also severely damaged, including provincial-, county-, district- and village-government buildings, communications networks, roads, airports, sea ports and ferry ports, mains water installations, and electricity infrastructure. The earthquake and tsunami were so devastating that they even shifted administrative boundaries in some cases.

The overwhelming destruction resulted in an outpouring of support from foreign countries and donors. Thousands of foreign soldiers came to Aceh on a humanitarian mission that involved some 44 countries, according to Indonesian Military (TNI) records. Apart from military

assistance, aid was provided by international NGOs and other organizations, such as the International Red Cross (ICRC), Red Crescent, CARE, CARDI, Catholic Relief Services, Mercy Corps, Oxfam, Save the Children, and World Vision. The World Bank (2004) estimates that the total losses suffered as a result of the Aceh tsunami disaster amounted to USD 4.45 billion, or about 97% of Gross Domestic Product (GDP). Of this figure, 66% (or USD 2.92 billion) consisted of the damage inflicted directly by the disaster, while the remaining 34% (USD 1.53 billion) comprised the financial losses that resulted from the almost total collapse of the local economy.

Based on the Master Plan, recovery would cost around USD 7.1 billion (Rp 64 trillion) (World Bank assessment at the end of 2007, as reported in the BRR NAD-Nias Performance Report, 2007), of which Rp. 32.28 trillion would be funded out of the central government budget (APBN) and the remaining Rp. 31.76 trillion funded from other sources. The Indonesian government was only capable of covering half of the rebuilding costs, with the rest expected to be financed by external sources. Actual total spending on rehabilitation and reconstruction work during in 2005-2008 amounted to Rp. 52.59 trillion (USD 5.45 billion), while the budgetary funding provided to BRR NAD-Nias only amounted to Rp 24.54 trillion. The remaining Rp. 28.04 trillion was consisted of off-budget funding (2008 BRR NAD-Nias Report).

BPK RI has the authority to conduct audits on the use of state funds that are managed by three levels of government, namely, central government, provincial government, and county / city government (Article 2 Point h of Law Number 15 of 2004). BPK RI also has authority to audit the use of off-budget funds managed by state agencies, government or state officials, and state funds used by organizations other than state agencies (off-treasury funds). This authority is exercised through three different types of audit, namely, financial audits, performance audits and special-purpose audits (Law Number 15 of 2004). In the case of off-budget and off-treasury funds, such as funds managed by non-governmental organizations (CSOs, and funds from foreign governments and multilateral organizations), BPK RI does not have an audit mandate. So, in the case of disaster- and disaster-related aid management in Aceh, BPK RI only had authority to audit disaster-related aid and disaster-related aid that was managed by the government through the state budget (APBN) mechanism. Consequently, BPK RI had no authority to audit off-budget and off-treasury funds.

## **RESEARCH METHODOLOGY**

The approach employed by the researchers is that of an illustrative study on a case that they were directly involved in (Sigglekow, 2007 as quoted in Rodon et al., 2011, 370), which focuses on the selection of appropriate disaster-management audit strategies, covering both the emergency response period and the rehabilitation and reconstruction period. Singlekow (2007) states that illustrative discussions of disaster management operations are very valuable as they place the theory in an empirical context. The researchers chose the case-discussion approach for the Aceh tsunami disaster as it was the largest disaster in history, involving an enormous number of victims and a wide variety of organizations and other parties, including social institutions, government agencies, private institutions and individuals, domestic and international organizations, and national and international military forces. In addition, the researchers are able to frame the discussion in terms of their first-hand experience as they were directly involved in the conducting

of disaster-management audits. Thus, they have direct knowledge of important data and information on both disaster-management operations and the selection of the audit strategies that were applied in the field.

### **Soft Systems Methodology (SSM)**

In order to identify appropriate disaster-management and audit strategies, an in-depth study was carried out in the field in 2004-2011 on the management of the tsunami disaster in Aceh and neighboring regions, and the management of the disaster that occurred in Nias, North Sumatra. In conducting the study, the researchers employed soft-systems methodology (SSM) to analyze and explore the disasters, and the responses to the 2 disasters, their management, and the audits subsequently conducted on their management. SSM is an approach that is generally qualitative and descriptive, while a quantitative, mathematical approach is also employed to provide a stronger and better structured basis for formulating issues and contributing significantly to the finding of solutions (Hersh, 2002; 201). SSM is based on the established-system notion, which was developed as a way of using the notion of a system within an organization (social) so as to intervene and gain an understanding of the organization's work. The essence of SSM lies in the application of hard and soft system thinking patterns, seeing the world as an interconnected system that can be re-engineered and improved, and also as a complex and sometimes confusing entity that can be explored through a systemic and organized process as a system that can be studied (Sgourou et al., 2012; 186). SSM is an action research method that uses modeling to seek possible solutions to conflicting goals, objectives, needs, interests and values. SSM assumes that every complex set of actions has unique characteristics in terms of importance and urgency (Mehregan et al, 2012; 427). It allows analysts and readers to understand different aspects of the situations and problems faced in the field by using models based on various conditions (Mehregan et al., 2012; 427).

SSM consists of 7 different stages, which in turn cover two different types of activities, namely, real world activities and systemic thinking activities (Mehregan et al, 2012). The 7 stages are (1) Enter the situation considered problematical and enrich it, (2) Describe the problem situation, using interviews with, and the perspectives of, the personal involved, (3) Formulate the roots of the problem to define an ideal system, (4) Build conceptual models to identify key-focus activities, (5) Compare models using gap analysis, (6) Define changes that are both systemically and culturally possible, and (7) Take action to improve the problem situation by implementing the changes proposed in stage 6.

The authors conducted a gap analysis by comparing the desired quality of management with what actually happened on the ground (Ball, 2018), and the conditions that should prevail with those that actually prevailed (Orendorff, 2017). According to Lucidchart (2018), gap analysis theory can be used to gain an in-depth understanding of situation so as to arrive at proposed solutions as a basis for decision making through the application of gap analysis process tools, such as SWOT (strengths, weaknesses, opportunities, and threats), the McKinsey 7s Framework, and the Nadler-Tushman Model. For the purposes of this study, the authors used a SWOT analysis considering that this is the most commonly used tool and the fact that it is more in line with the conditions faced during the disaster- management process in Aceh.

A gap analysis is appropriate given that the Indonesian government at the time faced a number of constraints on its disaster-management efforts. To overcome these, various new policies were adopted. While, on the one hand, these policies offered opportunities to both disaster victims and those involved in disaster management, they also had negative consequences due to the various risks and threats that they posed compared with the level of benefit that they could provide. The article also conducts testing of the standards governing these mechanisms.

### **Data Collection and Analysis**

The researchers obtained their data on disaster management and the implementation of audit strategies from the various audit reports that were prepared during the emergency response phase (2004 - 2005) and the rehabilitation and reconstruction phase (2005 - 2008), as well as reports on asset transfers to relevant agencies and regional / local governments during the exit strategy phase in 2008-2012. The researchers also obtained data and information at various domestic and international seminars, including seminars organized by the International Organization of Supreme Audit Institutions (INTOSAI) and by BPK RI. In addition, data and information was obtained from various reports and writings published by BRR NAD-Nias, including interviews and clarifications with relevant individuals.

The main focus of the authors' analysis is on the disaster-management measures implemented by government and the audit strategies and steps applied by BPK RI during both the emergency response period and the rehabilitation and reconstruction period. The analysis of the data and information involved several stages. First, the authors focus on gaining an in-depth understanding of the circumstances surrounding the disaster, the disaster-management efforts carried out by local government, regional government and central government, especially in responding to the needs of the victims, including both physical needs (human and material) and non-physical needs (psychological and social), and the management of disaster-related aid received from various sources. The field work undertaken by the authors at the time provides them with a unique understanding of the conditions that prevailed back then, especially as regards matters where improvements were needed, such as the rational and theoretical principles related to the feasibility of the actions taken by government in responding to the disaster and managing disaster-related aid, including the accuracy of the audit strategies applied by BPK RI. Second, the authors identify various problems that occurred in the field, both as reported in BPK RI audit reports and other documents that directly impacted on the lives of the people affected by the disaster. Third, the authors classify the disaster management efforts and describe the inherent conflicts in each policy adopted by government in terms of the policy's advantages and disadvantages, having regard to the relevant theoretical formulations or rules. Finally, the authors propose a number of solutions and recommendations that are based both on the findings of the audits that were carried out and the results of the gap analyses as to what should have happened and what actually happened. The authors also propose a clear separation in the definitions of the two different types of disaster management, namely, disaster management itself and disaster-related aid management. These new definitions need to specify the limits and scope of responsibilities for the two types of management as these will have an impact on the authority of the institutions responsible for management, including the authority of the institution that must

account for its management and the audit institution that is authorized to conduct audits on such management. To date, the prevailing standards do not clearly define these two aspects.

## **RESULT AND DISCUSSION**

### **RESULT**

Rodon et al. (2011, 366) explain that the management of disaster- and disaster-related aid management is highly complex and places great pressure on the agencies that are tasked with channeling the funds to find appropriate, effective, and efficient methods of doing so (HPG, 2005; Roh et al., 2008; EU, 2009). Rodon et al. further explain that the international humanitarian sector, including various organizations established by the United Nations and the World Bank, together with non-governmental organizations, have started to take the initiative to improve the quality of disaster-aid provision by encouraging increased accountability from relevant institutions and communities with a view to improving the effectiveness of aid funds. Such initiatives are usually demonstrated by the setting of agreed, generally applicable and cross-sectoral standards in the form of best practices. Therefore, all humanitarian relief organizations and agencies need to adapt their programs so as to comply with these standards.

Siriwardana et al. (2017, 1095) highlight how the Sendai Framework stresses the need for strong disaster prevention efforts, especially efforts designed to protect society from disasters and threats to health, cultural patrimony, the environment, and property. The Sendai Framework further explains that in order to effectively overcome disasters, it is necessary to establish an appropriate emergency-response organization. Recovery through rehabilitation and reconstruction of infrastructure and housing should be integrated with disaster-risk reduction so as to reduce the risk of subsequent disasters. In addition, disaster-risk reduction should be incorporated in the management of disaster-related aid and the risks that pertain to the transferring of infrastructure assets developed during the rehabilitation and reconstruction period.

### **Disaster and Disaster Management**

A disaster refers to an event that causes serious damage to the functioning of a community or a society, including loss of life, damage to property, and economic and/or environmental damage that exceeds the capacity and strengths developed by society to overcome it (as stated by ISSAI 5510, 7; ISSAI 5520, 6; and as defined by UNISDR, 2009). A disaster may be a sudden or progressive natural event or an event that is the result of human action which causes damage that affects people's lives and is accompanied by certain extraordinary actions (ADB in Carter, 2008, 18). Disasters can occur suddenly due to systemic natural imbalances, such as in the case of earthquakes, tsunamis, floods and volcanic eruptions. Disasters can also occur as a consequence of misconceived human actions, such as constructing buildings in flood-prone areas and in areas susceptible to earthquakes, non-compliance with construction standards, and nuclear accidents. A disaster may also be due to a combination of natural and human causes (ISSAI 5520). When a disaster strikes a particular place or country, region, or city, individuals, communities, governments, and institutions, whether at home or abroad, will generally be sympathetic and promptly provide assistance.

All forms of assistance flow into a disaster-affected area, whether directly to disaster victims or through local governments. In principle, the priority for the distribution of humanitarian aid has to be focused on saving lives, reducing suffering and hunger, and ensuring the survival of victims.

Disaster management is a dynamic process that describes the management of planning, organizing, staffing, leading, and controlling as part of a systematic analysis and tracking process so as to facilitate collaboration in order to prevent, mitigate, prepare for, respond to, and recover from the impacts of a disaster (Carter, 2008, Introductory notes xix; Virtual University for Small States of the Commonwealth [VUSSC] Disaster Management Version 1.0; ISSAI 5510, as defined by IFRC). Its management is oriented towards various disciplines, types of knowledge and cultural and practice contexts, and is not only intended to respond to the needs of disaster victims and disaster zones but should also holistically evaluate and seeks solutions in order to reduce the risk of disasters happening ( Bhandari et al., 2010, 22).

### **Responsibility for Disaster Management**

Disaster management is basically the responsibility of the government affected by the disaster or the government within whose territory the disaster occurred. The response framework should be well defined by central government, regional government and local government (ISSAI 5510) and should cover the nature of the accountability that must be rendered by each level of government in accordance with its respective authority, the division of authority and responsibilities, lines of command, control mechanisms, the flow of information, and interagency coordination. Government as a whole is responsible for all of the activities involved in disaster management, such as the preparation of early warning systems, evacuation plans, disaster emergency management, and designing and communicating the conditions and requirements necessary for achieving post-disaster-response goals. It is responsible for disaster identification, disaster assessment, monitoring risks related to disaster response, and developing disaster-response models that involve all relevant parties, including civil society, volunteers, the private sector and academia. Designing a disaster-management structure, model or mechanism in an effective and efficient manner can make a considerable contribution to the success of the overall disaster response, bearing in mind the number and variety of the organizations that play important roles in disaster-management operations.

### **Disaster-related Aid and Accountability**

Disaster-related aid is financial and other forms of assistance that is provided with the aim of assisting governments, communities and individuals affected by a disaster, or provided to reduce the potential risks and impacts of disasters in the future (ISSAI 5500, 4; ISSAI 5530, 11; OECD, 2010 in Rodon et al., 2011, 367). Disaster-related aid is provided to people affected by natural disasters or conflicts to ensure that their basic needs and rights are fulfilled (UN, as stated in ISSAI 5520, Global Humanitarian Assistance, 2007). Such funds may be provided by individuals, communities, organizations and governments in the form of money or other forms of financial assistance, or in kind, or as a combination of both (ISSAI 5520). Disaster-related aid is generally provided for humanitarian reasons so as to save lives, reduce suffering and help people survive. It may also be provided for other reasons, such as environmental or biological conservation and

protection. Disaster-related aid is mobilized specifically for disaster emergencies and is intended to be used solely for disaster-response efforts.

The concept of accountability in the management of disaster-related aid is not simple or straightforward, given that the organizations that have an interest in managing such funds may be widely dispersed geographically, including domestic and foreign individuals, communities, institutions, organizations, local governments, provincial governments, and central government, as well as international organizations (ISSAI 5500). Aid providers generally do not really care about the allocation and distribution of disaster aid funds, and rarely question how they are used. Consequently, the management of disaster-related aid frequently poses a significant risk of fraud, corruption, manipulation and embezzlement. In addition, government often lacks the power to fully control, supervise and monitor all direct and indirect distribution channels for disaster-related aid.

### **Agency Responsible for Auditing Disaster- and Disaster-related Aid Management**

In disaster management, there are two focuses for auditors, namely, disaster-related aid management and disaster management. The management framework should be well defined at the central government, regional government and local government levels, and should cover such aspects as the nature of the accountability that must be rendered by each level of government in accordance with its respective authority, the division of authority and responsibilities, lines of command, control mechanisms, the flow of information, and inter-agency coordination (Vlaicu & Whitley, 2015, 2; Moultrie et al., 2007; Bhatti & Awan, 2004). Government as a whole is responsible for all of the activities related to disaster management, such as the preparation of early warning systems, evacuation plans, disaster emergency management, and designing and communicating the conditions and requirements necessary for achieving post-disaster management goals (Thamrongwong, 2007, quoted by Siriporananon & Visuthismajarn, 2016, 2). Designing a disaster-management structure, model or mechanism in an effective and efficient manner can make a considerable contribution to the success of the overall disaster response, considering the number and variety of the organizations that play important roles in disaster-management operations.

An audit may be seen as a management tool that allows stakeholders to see whether good management principles have been adhered to or not, whether organizational goals have been met or not, and whether operating standards and procedures have been put in place and adhered to (Sarens & de Beelde, 2006). An audit is, therefore, an appropriate tool for assessing the level of performance of the organization in achieving its objectives in accordance with agreed management principles. This definition is appropriate for use as the basis for conducting performance audits of an organization's programs, program components or projects, or of the level of achievement of the organization's goals (Moultrie et al., 2007; Bhatti & Cloud, 2004). There is important practical and academic value in identifying and describing the principal risks that affect the audit steps that must be taken so as to reduce audit risks and increase the efficiency and effectiveness of audit implementation so that the audit's objectives may be achieved (Cao et al., 2015, 317).

Accountability and transparency are fundamental foundations for the legitimacy of the state and the sustainability of the state's political system (INTOSAI's Inter-Agency Standing Committee Transformative Agenda). A state audit institution (SAI) plays a strategic role in upholding government accountability in general and accountability in the use of disaster-aid funds management in particular by generating reports for submission to representative institutions and the public. An SAI should be aware that the success of disaster management is very much dependent on the disaster management framework that has been adopted and the effectiveness of disaster management operations. This emphasizes the importance of strong government disaster-management programs and parliamentary support, and tight SAI supervision and control of disaster management.

The scope and objectives of audits that are planned and carried out by an SAI will largely depend on its constitutional mandate (ISSAI 5520). ISSAI 5520 also points out that some SAIs are authorized to conduct financial audits and provide opinions on the financial statements of organizations while other SAIs lack such authority. Likewise, some SAIs have authority to audit off-budget disaster-related aid while others do not. ISSAI 5520 paragraph 10.3 points out that a number of SAIs consider it necessary to have the power to conduct inspections and physical examinations in the field, and to assign auditors to participate in rescue efforts so as to directly gather important information and documents.

Previous research conducted by van Wassenhove (2006) shows that cultural differences can affect the effectiveness of aid distribution and result in a lack of synchronization (van Wassenhove, 2006; Pettit & Beresford, 2009; Balcik et al., 2010; Dowty & Wallace, 2010). Kovacs and Spens (2007), as quoted in Rodon et al. (2011; 367), conducted a study that focused on humanitarian response and interaction between humanitarian aid organizations and disaster victims during the immediate response stage. They found that further research was needed on humanitarian logistics to support the effective planning and implementation of important operations during the disaster-relief process.

## **DISCUSSION**

SSM is applied to the discussion of the cases that occurred during the tsunami-disaster management process in Banda Aceh, including the audits on the government's management of the disaster, covering the planning phase, disaster management during both the emergency response period and the rehabilitation and reconstruction period, and the exit strategy and transfer-of-assets phase. The following is an overview of how SSM was applied to the management of the tsunami disaster in Aceh. The SSM process involved five stages, except for stage seven on the implementation of proposed recommendations. The said stages are as follows:

### **Phase 1 and 2: Description of the problems involved in managing the tsunami disaster in Aceh and different perspectives on these problems**

The tsunami disaster in Banda Aceh was different from other disasters that had occurred in living memory. It was an event that brought the world together to provide assistance, despite a general lack of knowledge about the affected areas in the outside world. Apart from military assistance, foreign aid was provided by international NGOs and other organizations, such as the Red Cross, Red Crescent, CARE, CARDI, Catholic Relief Services, Mercy Corps, Oxfam, Save the Children,



and World Vision. In the interests of humanity and to help save lives and minimize the impact of the disaster, the government overlooked the cultural and social situation in Aceh, whose people were determined to introduce Islamic Sharia law. The government had to make a difficult choice to prioritize the people's safety and survival at the expense of good financial management and accountability. Even the security issue had to be placed on the back burner.

### **BPK RI Audit Results on Disaster Management by Government**

The results of the audits on the disaster management in the emergency response period that was carried out by the Central Government (Bakornas PBP) and the Aceh Provincial Government (LHP BPK RI Number 01 / S / XIV / 03/2006, dated 29 March 2006) contained quite significant findings that required government attention, including the following:

1. The Government of Indonesia lacked basic regulations and technical guidelines on disaster management, and financial management and accountability in disaster situations. There were no accounting systems and procedures in place for the generating of financial accountability reports for disaster management and disaster-related aid management. In addition, there were no international standards or guidelines available for the conducting of audits on these processes, which made it difficult to establish audit criteria, other than financial management best practices.
2. The Government of Indonesia's disaster-response agency, Bakornas PBP, did not have adequate capacity to control disaster management, financial management and the management of relief aid for disaster victims (both from domestic and overseas sources) that was provided on such a massive scale in the immediate aftermath of the disaster. Many transactions were not accompanied by sufficient supporting evidence, there were communication and coordination difficulties as the government collection centers were located in parts of Aceh and North Sumatra that were far removed from the worst-hit areas, there was poor document administration, and there were communication difficulties as a result of people and staff being transferred to other duties or working in temporary units that were subsequently dissolved.

The findings of the audits on recovery and reconditioning operations during the rehabilitation and reconstruction period also indicated significant matters that required government attention, including the following.

1. During the rehabilitation and reconstruction stage, funds were channeled through various mechanisms, both on-budget and off-budget. With regard to on-budget funds, the Government of Indonesia could control things relatively well based on the Rehabilitation and Reconstruction Master Plan. However, in the case of off-budget funds, the Government of Indonesia faced difficulties in exerting control. BRR NAD-Nias, the agency charged with management of the disaster in Aceh and Nias, did not have the authority to exercise control over such funds and was unable to provide full information on all rehabilitation and reconstruction operations.
2. The Rehabilitation and Reconstruction Master Plan, which was conceived as a "grand design," failed to pay adequate attention to the local spatial planning concepts formulated by each

- regional government, despite the fact that it was the regional governments that would be the end users of various rehabilitation and reconstruction projects. This resulted in the plan failing to get the full support of regional governments. In fact, it even faced resistance in some cases.
3. Construction work was delayed by protracted land issues that significantly hampered rehabilitation and reconstruction operations. Internal obstacles in the land resolution process planted time bombs that had the potential to explode from time to time, thereby making already complex problems even more complex.
  4. Houses were often built without regard to detailed data on victims and the damage to houses caused by the disaster. This resulted in the irregular construction and distribution of house buildings, with the consequence that the infrastructure rebuilding concept was incomparable and misleading. This shows that an adequate damage identification strategy is a basic requirement in developing a rehabilitation and reconstruction plan.
  5. BRR NAD-Nias faced difficulties in identifying assets generated by rehabilitation and reconstruction activities that were conducted outside the scope of its authority. Consequently, close coordination and information exchange is essential, especially with the donor countries and institutions that contribute to rehabilitation and reconstruction work.
  6. The construction of assets as part of the rehabilitation and reconstruction work failed to take into account the financial capacity of regional governments to subsequently manage the assets after their handover. Thus, a development concept will be rendered ineffectual if it fails to consider how assets will be subsequently managed and maintained.

### **Stage 3: Formulate the roots of the problem so as to define an ideal system**

#### **Responsibilities for Disaster Management**

Disaster events in a particular region will always involve government structures. In Indonesia, this starts at the lowest structures, namely, the sub-district, district and county (regency) levels, and continues up through the provincial government level to central government, including the ministries and state agencies that have roles to play in responding to particular types of disaster. The very fact that the disaster has occurred will, in practice, require the involvement of a large number of entities and organizations, which makes its management even more complex and convoluted. It is this that requires the central government to be at the forefront of synchronizing and integrating the mechanisms for managing various forms of assistance, while simultaneously managing the disaster relief effort in a controlled and integrated manner.

No society or government could be adequately prepared to face a disaster as big as the one in Aceh and Nias. At the time, the government focused primarily on saving the lives of hundreds of thousands of people and mitigating the devastating fallout from the disaster. To do so, it sought to mobilize all available state resources, both national and regional, in order to overcome the destruction and permit the restoration of government functions and public services. The government adopted an open policy in view of the limited capacity and resources at its disposal and the fact that regional government in NAD had been rendered ineffectual by the prolonged conflict,

With the open policy, the government invited all who were able to help to do so, including foreign governments, militaries, organizations and NGOs – they were allowed to focus on the victims,

locations, communities and sectors that they themselves wished to help. While the policy was hugely helpful, it also carried many risks and was prone to abuses. The facts on the ground showed that the involvement of so many participants, both national and international, without an adequate design and planning, bequeathed a large burden of expenditure to the Indonesian government, besides potentially endangering the security of property, funds and volunteers, given that Aceh was a conflict zone at the time.

### **Disaster Management and Disaster-related Aid Management**

In ISSAI 5500, the Working Group (WG) differentiated between 2 different types of disaster management, namely, disaster-related aid management and disaster management per se. These two activities constitute very different, albeit related, things. The focus of disaster-related aid management is aid that is received in monetary form or in some other form that can be quantified in monetary terms and which is distributed and channeled to disaster victims for response, rehabilitation and reconstruction operations, and for subsequent prevention of disasters in the future. Such aid may be managed by individuals, groups, institutions, foundations, incorporated and non-incorporated entities (governmental or non-governmental, domestic or international). Not all SAIs have direct authority to audit the management of disaster-related aid that does not involve government.

Meanwhile, disaster management refers to the organization or management of resources and responsibilities related to all aspects of humanitarian emergencies that result from disasters, especially in terms of preparedness, response and recovery in order to save disaster victims and minimize the impact of a disaster (ISSAI 5520). The focus of disaster management is the anticipation and prevention of disasters, and post-disaster management efforts, including the recovery and restoration of conditions in a disaster area. All disaster-management activities are generally the responsibility of government at the local, regional, and central levels, and are financed by local government, regional government and/or central government, as well as by aid funds from third parties. Assistance and support from non-governmental third parties is normally provided based on humanitarian considerations.

### **Transfer of Ownership of Work and Assets (Exit Strategy and Transfer of Assets)**

Another aspect that requires serious attention in disaster management is the sustainability of disaster management operations / projects and the process of transferring assets that have been developed and managed by central government or an agency established by central government. Government of Indonesia failed to pay sufficient attention to the process of transferring projects that had yet to be completed and to the monitoring of follow-up activities. The exit strategy marked the culmination of the disaster management effort conducted by the central government through BRR NAD-Nias. Likewise, the government failed to pay sufficient attention to the transfer of assets and the continuity of asset development in the disaster-affected areas. In reality, the asset transfer process should constitute an integral part of any exit strategy. However, the facts on the ground reveal that many projects carried out by BRR NAD-Nias were unsustainable, or became stalled, and were not subsequently pursued by regional or central government due to a lack of clarity as regards the exit strategy itself, the transfer of the assets, and the delegation of

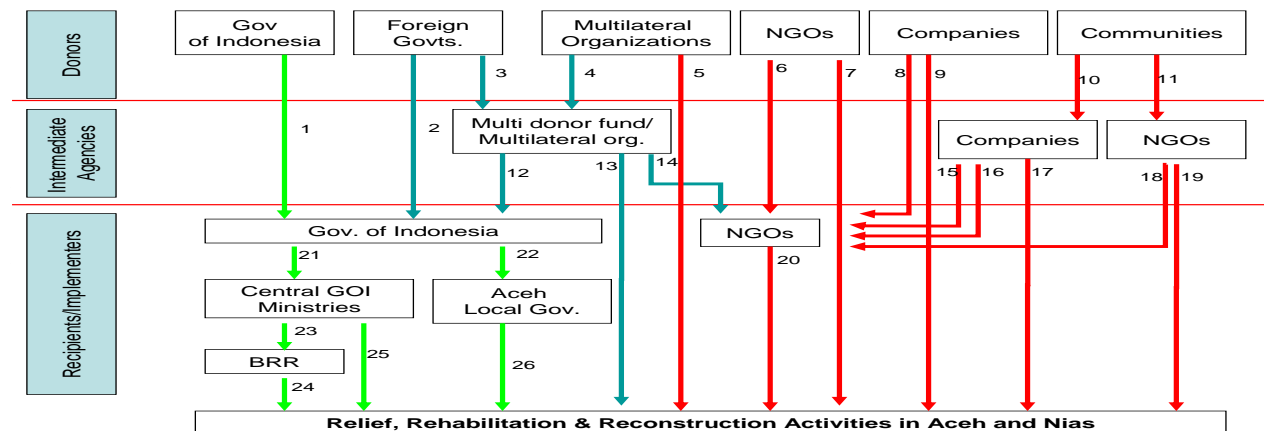
authority to continue construction or development work. As a consequence, the money that was spent on such projects was wasted.

### Responsibility for Auditing Disaster Management and Disaster Related Aid Management

ISSAI 5500 states that the disaster management cycle is divided into two phases, namely, the pre-disaster phase and the post-disaster phase. The pre-disaster phase focuses on activities that are intended to reduce disaster risk, that is to say, disaster mitigation activities that are intended to reduce the risk of a disaster occurring (Law Number 24 of 2007), and disaster preparedness activities, namely, activities intended to anticipate and reduce the impact of disasters (according to the International Red Cross / IFRC's definition). Disaster management by definition and logic indicates two management focuses, namely, disaster-related aid management (ISSAI 5520) and disaster management per se (ISSAI 5500).

In the case of disaster-related aid management, aid funds flowed into Indonesia in general, and the Aceh and Nias regions in particular, from various institutions and organizations. These funds originated from both within Indonesia and from abroad, and were provided using various channels and mechanisms. The aid was distributed either directly in the form of money and goods or indirectly through the development of infrastructure such as houses and buildings (schools, mosques, and other public facilities). The distribution of aid continued throughout the recovery period, both during the emergency response phase and during the rehabilitation and reconstruction phase. Not all SAIs have authority to directly audit disaster-related aid that is not managed by government (paragraph 5 of point 8 ISSAI 5500). Disaster-related aid is usually provided after a disaster and is very rarely provided for pre-disaster activities. It is managed for the most part by domestic and foreign non-governmental organizations whose activities lie beyond the authority and control of government and which therefore do not automatically come within the mandate of BPK RI, or most other SAIs. BPK RI or the relevant SAI will only become involved when the aid funds, whether originating from individuals, groups, or domestic or foreign institutions (formal or informal), are channeled through institutions that come under the auspices of government. If the aid funds are channeled individually or through institutions that are outside the government's remit, the BPK RI or relevant SAI will not be involved. The management of disaster-related aid after the 2004 Aceh tsunami shows that the Government of Indonesia was only able to control and supervise aid funds that were channeled through the state budget (APBN) or regional government budgets (ABPD). The flow of aid funds into Indonesia is described in Flow Chart 1 below.

**Flow of Tsunami-related Aid in Indonesia**



and Nias, the President of Indonesia established the NAD-Nias Rehabilitation and Reconstruction Agency (BRR NAD-Nias) on an ad hoc basis on 19 April 2005, with a mandate that would run for 4 years (Emergency Law / Perppu Number 2 of 2005 ). Since then, the government has established a permanent disaster management agency known as the National Disaster

Flow Chart 1:

Sumber: *Country Report INTOSAI Task Force, September 2007*

Disaster management is generally the responsibility of government. Prior to the tsunami disaster in Aceh on 26 December 2004, disaster management was the responsibility of government at the central, regional and local levels, depending on the magnitude of the disaster and its impact. Disaster management agencies, whether at the central, regional or local levels, can be ad hoc or permanent in nature. The central government, together with related regional and local governments, needed to design and plan a program for the recovery of affected areas. For the purpose of formulating a master plan for the rehabilitation and reconstruction process in Aceh and Nias, the President of Indonesia established the NAD-Nias Rehabilitation and Reconstruction Agency (BRR NAD-Nias) on an ad hoc basis on 19 April 2005, with a mandate that would run for 4 years (Emergency Law / Perppu Number 2 of 2005 ). Since then, the government has established a permanent disaster management agency known as Management Agency or BNPB (Presidential Regulation Number 8 of 2008). BRR NAD-Nias, as the agency charged by the government to coordinate and monitor the distribution of aid funds, faced many difficulties and obstacles in obtaining information on the distribution of aid funds distributed and the activities carried out by non-governmental parties as this aid was provided on a voluntary basis. As of the end of its mandate, BRR NAD-Nias still did not have accurate data on the amount of aid funds that had been distributed directly by donors. In fact, it did not even have comprehensive data on the number of donors involved.

The Indonesian Constitution provides both a mandate and independence to BPK RI to audit state finances at three levels of government, namely, at the central government, provincial government, and district / city government levels. In accordance with Law Number 15 of 2004, BPK RI has the authority to conduct audits on both state funds managed by non-governmental bodies / non-state agencies (off-treasury funds) and funds originating from outside state or government institutions that are managed by state ministries / agencies or officials on an off-budget basis. However, for funds originating from outside the government (such as funds provided by members of the public, NGOs, foreign governments and multilateral organizations) that are managed by non-governmental bodies (off-budget and off-treasury), the BPK RI does not have a mandate to conduct audits.

The total funds provided by the Government of Indonesia and donor agencies for the management of the Aceh and Nias disasters amounted to Rp 52.59 trillion or the equivalent of USD 5.45 billion (at an exchange rate of USD 1 = Rp 9,650.00). This compares with a figure of Rp 64 trillion (USD 7.1 billion) proposed by Bappenas and The World Bank to finance the recovery plan. Government of Indonesia funds managed by BRR NAD-Nias through the state budget (APBN) mechanism amounted to Rp 24.54 trillion (USD 2.54 billion), while the remaining Rp 28.04 trillion (USD 2.9 billion) was provided by other non-governmental parties on an off-budget basis (2008 BRR NAD-Nias Report). Regarding the management of these off-budget funds, neither Government of

Indonesia nor BRR NAD-Nias had adequate or accurate information on the amount of funds received and distributed during both the emergency response period and during the rehabilitation and reconstruction period.

Given that the devastation caused by the disaster led to an outpouring of support from abroad, BPK RI was acutely aware that the international community expected the assistance provided to be accounted for, whether such assistance was provided on a bilateral or multilateral basis, or through financial organizations such as The World Bank and ADB, or via international NGOs. To meet these expectations, BPK RI worked hard to access donor operations by forging collaboration with SAIs from a number of other countries. However, the facts on the ground showed that such collaboration only related to a small part of the work carried out by donor countries (the work involved was also of low value). The SAIs included Australia's ANAO and France's Cour des Comptes. The overall figure for the aid provided by the international community to Aceh cannot now be stated with certainty, except for aid that was channeled through Government of Indonesia on an on-budget basis, as well as aid provided for activities that were reported by executing NGOs grouped in RAND (Reconstruction of Aceh-Nias Database). Apart from this data, neither BPK RI nor Government of Indonesia had any way of finding out how much aid was distributed.

#### **Stage 4: Build conceptual models to identify key-focus activities**

##### **The Right Strategy for Disaster Management**

BPK RI needed to design better audit strategies and steps in order to anticipate various scenarios related to disaster and disaster-related aid management, including as regards the following aspects:

- 1) The risk of overlapping of work carried out by Government of Indonesia, donor agencies, and donor countries.
- 2) The risk that donor countries and agencies would include costs components that should not be included, thus inflating the value of grants and donations.
- 3) The risk of duplication of work carried out by personnel or institutions / companies appointed by donor countries and agencies.
- 4) The risk of corruption in financial and project management.

As Indonesia's highest audit institution, the scope of BPK RI's audit mandate covers the public funds channeled to tsunami-affected areas in Aceh and Nias. During the emergency response phase, BPK RI's audits focused on accountability and transparency in financial management and procurement, and the use of domestic and international aid funds that were distributed either directly or indirectly through various institutions/agencies and reported in the central government's financial statements. In the rehabilitation and reconstruction phase, BPK RI focused on upholding accountability and transparency in the use of funds allocated for rehabilitation and reconstruction work by conducting financial, performance and special-purpose audits. The audit methodology involved the application of various types of testing in sectors that were the focus of public attention, such as infrastructure, housing, land, education, health and business. The objectives and goals of each audit were formulated based on the activities planned by BRR NAD-Nias as part of the rehabilitation and reconstruction work. The audits used a

regional and sectoral approach having regard to the level of organizational risk, given that the organization with overall responsibility for managing the disaster was ad hoc in character.

Audit strategies were formulated based on the obstacles, management risks, and audit risks faced in the field (attachment, table 1).

### **Stage 5: Compare models using gap analysis**

The devastation caused by the disaster and the ongoing conflict in Aceh at the time were significant factors that affected Government of Indonesia's management of the disaster. At the time when the tsunami struck, the government bureaucracy in Aceh was practically paralyzed, while human resources were in short supply. Thus, it was difficult to establish new organizations. The significant obstacles and contradictions in the field included the following:

#### **a. Contradiction Between Implementation Audit Strategies in Disaster Zone Versus Legal Mandate**

BPK RI conducted audits on the disaster management carried out by the Government of Indonesia and BRR NAD-Nias during the 2004-2005 emergency response period and the rehabilitation and reconstruction period in 2005-2008. To monitor disaster management operations and the rehabilitation and reconstruction work carried out by Government of Indonesia and BRR NAD-Nias, BPK RI conducted audits based on the types of audits specified in Law Number 15 of 2004, namely, financial audits, performance audits, and specific purpose audits. The audit strategies that were designed and implemented by BPK RI in Aceh-Nias included the following:

- 1) Focus on worst affected areas. While the scope of the audits covered all of the areas targeted for rehabilitation and reconstruction in Aceh and Nias, the focus was on those areas where significant operations were carried out, both in terms of spending and projects, and the areas that were worst affected by the disaster. More specifically, BPK RI focused on 3 disaster areas that were particularly badly affected, excluding the Nias and Simeulue Islands, which had their own disaster characteristics and were of special concern to the international community and the central government. This approach proved to be quite effective having regard to the allocation of audit funding based on risks related to efficiency in the use of disaster-related aid and the formulation of general conclusions on disaster management activities.
- 2) Designing an Audit Strategy Using GIS (Geographical Information System). GIS is a computer system that is capable of translating, storing, manipulating, and displaying regional maps using spatial data. Thus, GIS is a very useful tool for planning and decision making. The disaster was so extensive and destructive that it prompted BPK RI to avail of GIS for the first time. A systems consultant was hired to develop the use of GIS by BPK RI. BPK RI also entered into a partnership with LAPAN to decipher the data obtained from GIS. The use of GIS proved very effective, especially for sampling and inspection work, which can be carried out extensively and directly using GIS.
- 3) Audits with an Environmental, Social, Cultural, and/or Religious Perspective. Particularly in the case of performance audits, BPK RI included environmental criteria in its integrated audit program. For example, the performance audit on housing was designed to ensure that houses had not been built in tsunami-prone areas and that new housing developments had adequate

environmental carrying capacity. BPK RI also carried out an audit of the planning and implementation of a coastal forest rehabilitation program, which involved the development of green belts and natural buffers against destructive waves at high tide.

**b. Contradiction between Expectations of Global Community versus Audit Mandate and Available Resources**

Given the adoption of the Open Policy by the Government of Indonesia, BPK RI was aware that the international community was eager for accurate information on the total amount of assistance provided to Aceh, whether on a bilateral or multilateral basis, or through financial organizations such as The World Bank and ADB, or international NGOs.. However, due to its limited mandate, BPK RI was unable to conduct audits on international and local NGOs. This resulted in a lack of data on the assistance received and distributed by NGOs and the quality of the aid work carried out by NGOs. Consequently, the Open Policy has had both positive and negative outcomes for the Government of Indonesia and BPK RI. These are as described in the following SWOT analysis:

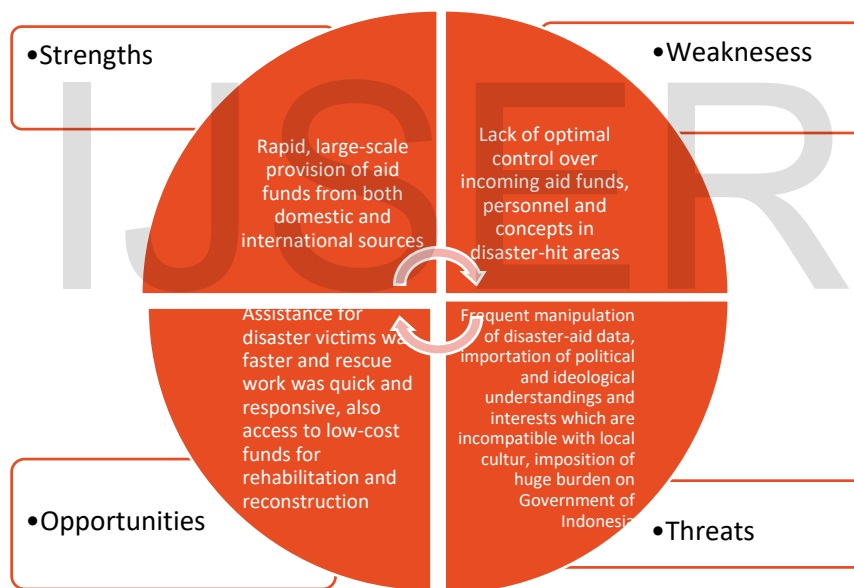


FIGURE 1: SWOT Analysis of Open Policy  
 Source: 2020 research

**c. Contradiction Between Legal Compliance versus Disaster and Conflict Conditions**

At the time of the disaster, the Government of Indonesia lacked standard procedures for the management of disasters and disaster-related aid (money, goods and activities). Thus, it was difficult for BPK RI to determine the criteria to be used as the basis for assessing the success of disaster and disaster-related aid management. The government apparently did not realize just



how big the flows of money and goods managed by non-governmental bodies would be (whether in cash or in kind) following the disaster. In reality, it turned out that the off-budget funds involved were greater than on-budget funds managed directly by government. However, these off-budget funds could not be controlled as there was no line of control from the government as the funds had been provided for humanitarian relief purposes. Thus, they did not come under the audit authority of BPK RI with the result that BPK RI was unable to audit their management.

In addition, the diverse composition of the personnel involved (recruited from among central and local government bureaucrats, professionals, community leaders, and various institutions) made it difficult to ensure consistency and consolidation during program implementation in the field. Strong vested interests, a low level of participation by local government, and a very low level of community support all served as obstacles that needed to be addressed by the adoption of special policies, which further obstructed work in the field. The high level of tolerance that was needed in the light of the then ongoing conflict, and the overriding focus on saving lives, also affected the level of compliance and the amount of irregularities that occurred in disaster- and disaster-related aid management. The various contradictions related to compliance are shown in the following SWOT analysis below :

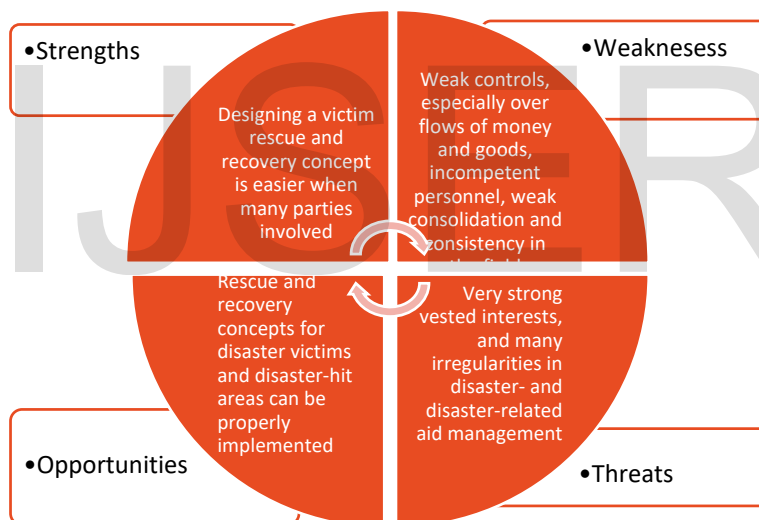


Figure 2: SWOT Analysis of Compliance Contradictions in Disaster Management  
Source: 2020 research

#### **d. Lack of Synchronization in Planning as Between Central, Regional and Local Government**

The central government generally emphasized the development of infrastructure and supporting facilities based on the “village planning” concept, which focuses on village territorial development. This meant that there was a lack of focus on regional development and local spatial planning. Based on the facts encountered on the ground, the central government tended to use its own spatial plans without considering the spatial plans developed by regional and local governments. As a consequence, the rehabilitation and reconstruction work was conducted in a partial manner

and was not synchronized with regional and local government spatial plans and layouts. The various contradictions that arose as a result are described in the following SWOT analysis:

**Figure 5: SWOT Analysis of Synchronization of Central and Regional/Local Government Planning**

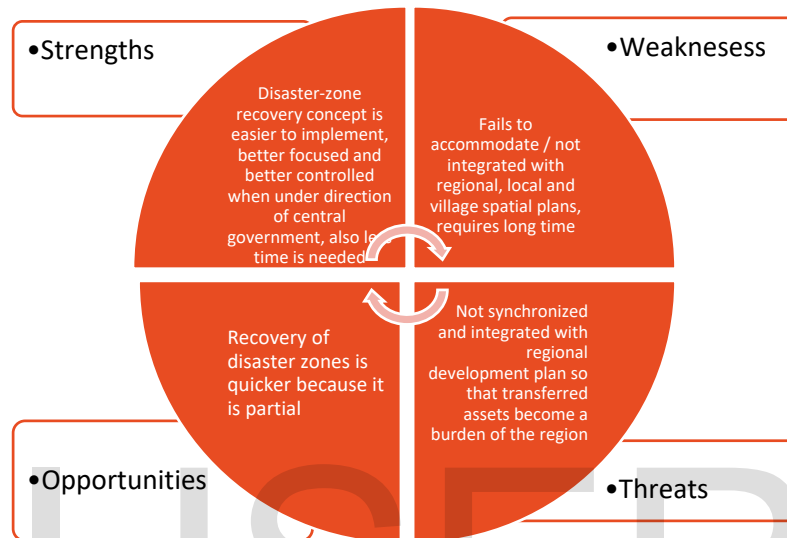


Figure 3: SWOT Analysis of Synchronization of Central and Regional/Local Government Planning

Source: 2020 research.

#### **e. Synchronization between Disaster Management Bodies, Asset Maintenance Bodies, and Asset Transferee Bodies (Exit Strategy, Transfer of Assets and Project-Continuity Policies)**

As regards the exit strategy pursued by BRR NAD-Nias, Government of Indonesia did not pay sufficient attention to the transfer of ongoing projects and the monitoring of follow-up activities. In addition, the relevant procedures were not clearly spelled out in the various regulations, including as regards the authority of BPK RI (whether responsibility lay with BPK RI Head Office in Jakarta or the local BPK RI Representative Office). This exit strategy marked the end of the rehabilitation and reconstruction process undertaken by BRR NAD-Nias. In reality, there were many activities that had been carried out by BRR NAD-Nias that were unsustainable, became stalled, or were abandoned by regional or central government due to a lack of clarity over the exit-strategy process and the delegation of authority to continue project development. As a result, the money spent on these projects was wasted.

#### **Stage 6: Define changes that are both systemically and culturally possible**

Based on our analysis of disaster management, disaster zones and audit strategies, the matters that needed serious attention from the Government of Indonesia in disaster- and disaster-related aid management in NAD-Nias were as follows:

- 1) The government's policy of prioritizing the saving of lives by adopting the Open Policy was very helpful and fully in line with the INTOSAI motto, "learning from each other." However, such a policy also carries risks and is prone to abuse. Thus, it must be accompanied by adequate control. In addition, there must be clear and adequate financial accountability mechanisms, including auditing by an independent body so that the public can find out how aid funds are spent.
- 2) The involvement of too many organizations, both national and international, without an adequate overall plan bequeathed a heavy expenditure burden to Government of Indonesia. In addition, it gave rise to serious security issues in terms of property, funds and the safety of volunteers in Aceh, which was mired in a long-running conflict at the time.
- 3) During the rehabilitation and reconstruction phase, Government of Indonesia suffered from a lack of legal authority to control the use of off-budget funds. Consequently, Government of Indonesia needs a legal framework to remedy this situation, including the legal power to closely coordinate and exchange information with the countries concerned.
- 4) The end-users of the various rehabilitation and reconstruction assets and projects were the local governments and other institutions to which assets and projects were transferred. Consequently, the master plan for the rehabilitation and reconstruction work should have referred to the spatial plans of the relevant administrations and entities, as well as their respective financial capacities.
- 5) Government of Indonesia and ISSAI need to better define the limits of authority and responsibility in disaster management-and disaster-related aid management so that the two processes are clearly delineated and can be managed by a competent agency. If such a competent agency has been established in accordance with the legislation, the mandate for auditing it can be designed either by the government's audit agency or by another audit agency.

## **CONCLUSIONS**

Based the facts and circumstances of the Aceh-Nias tsunami disaster and the subsequent efforts to overcome it, as described in this article, Government of Indonesia has garnered various lessons that should provide invaluable help when the next major disaster happens. These lessons are also relevant to other countries that are vulnerable to disasters.

The destruction that resulted from the tsunami was so great that it attracted large numbers of donors and an enormous amount of aid from other countries. The sheer volume of the assistance came as a shock to the Government of Indonesia, which was unprepared to receive it in terms of management systems, operating standards, procedures and organizational structures. Further, the Government of Indonesia was unaware that disaster management consists of two different aspects, namely, disaster management and disaster-related aid management.

During the rehabilitation and reconstruction period, the funds provided to Indonesia were utilized using various mechanisms, both on-budget and off-budget. For on-budget funds, Government of Indonesia was able to control and direct spending in line with the requirements of the rehabilitation and reconstruction master plan. However, in the case of off-budget funds, Government of Indonesia had very little control. In such circumstances, it is very important to be able to coordinate closely and regularly exchange information with the countries concerned.

The sustainability of assets that are to be developed during rehabilitation and reconstruction work needs to be assessed having regard to the technical and financial capacity of the relevant regional/local governments to manage them. If not, then the money spent on developing the assets will be wasted. In this regard, it is essential that a comprehensive exit strategy be developed and implemented by government so as to ensure the success of the transferal of assets from the relevant central government agencies (whether permanent or ad hoc). The success and sustainability of the asset transfer process will have an important bearing on the success of the overall rehabilitation and reconstruction process.

The Indonesian Constitution provides a mandate and independence to BPK RI to audit state finances at the three levels of government. In accordance with its statutory authority, BPK RI may conduct audits on off-budget state funds that are managed by government institutions and state agencies. However, in line with the Indonesian constitution and in common with many other SAIs, BPK RI does not have authority to audit off-treasury funds. Consequently, government is unable to supervise and exert control over the use of such funds.

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