The Audit Boart of the Republic of Indonesia

Turkish Court of Accounts

Accounting Chamber of Ukraine

PARALLEL AUDIT REPORT ON DISASTER REHABILITATION AND RECONSTRUCTION PHASE

2013

Foreword

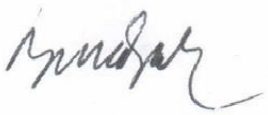
When auditing disaster relief operations, Supreme Audit Institutions (SAIs) have a mandate to uphold transparency and accountability by ensuring that disaster-related aid has been used as intended and managed effectively, efficiently, and economically.

In accordance with Task 6 of the INTOSAI WG AADA 2011 – 2013 Work Programme, Audit Board of the Republic of Indonesia (BPK) has developed draft ISSAI 5520: Audit of Disaster-related Aid. This guidance is intended to be used in the auditing of both the emergency response, and rehabilitation and reconstruction phases by applying an audit design matrix to help auditors with their audit preparations and by benefitting from the experiences of other SAIs.

In developing this comprehensive audit guidance document, BPK has addressed Task 7 by organizing and coordinating a parallel audit on rehabilitation and reconstruction operations. BPK will also provide guidance and assistance, and eventually feedback, to the Working Group concerning the findings of the parallel audit and their implications for the draft ISSAI.

In conducting this parallel audit, the participating SAIs - Audit Board of the Republic of Indonesia, Turkish Court of Accounts, Accounting Chamber of Ukraine –were supported by draft ISSAI 5520 and their respective internal regulations.

We are pleased to present the joint results of our audit works and summary of national audits in this report. Accordingly, the joint audit report covers all audit processes, from the planning up to the reporting phase. The report also includes lessons learned to illustrate the experiences of the respective SAIs in conducting this parallel audit and the BPK in coordinating it. We believe that this joint audit report will provide sound information about the sufficiency of current situation and the deficiencies in this field to international community and all concerns.

Audit Board of the Republic of	**Turkish Court of Accounts**	**Accounting Chamber of Ukraine**
		
Dr. Rizal Djalil Chairman	**Recai Akyel, Ph.D** President	**Roman Maguta** Chairman

Executive Summary

When a disaster strikes, prompt responses, often bypassing the normal channels, are necessary to help the victims. In such situations, government needs to take the initiatives needed to ensure that disaster relief efforts (including aid distribution) are conducted in a timely manner and that assistance reaches the disaster victims.

In a large-scale disaster, a wide range of institutions and organizations will be involved in the relief efforts. This increases the complexity of disaster-related aid flows, and raises issues such as transparency and accountability in aid flows. In terms of ensuring sound financial management of disaster relief efforts, SAIs, as external government auditors, have the authority to help governments uphold transparency and accountability in disaster management.

As one of the INTOSAI WGAADA's objectives is to develop guidance and disseminate good practices in the auditing of disaster-related aid, the BPK has assumed the responsibility of organizing and coordinating a parallel audit on disaster-related aid. SAI Turkey and SAI Ukraine also participated in this project. The objective of the parallel audit is to test out the draft ISSAI 5520. Therefore, it is expected to provide a list of feedback to enhance the draft ISSAI 5520 on Audit of Disaster-related Aid: Guidance for Supreme Audit Institutions.

Based on their experiences during the parallel audit program, the participating SAIs found that the following matters might need to be considered so as to help improve ISSAI 5520:

a. Risk evaluation associated with disaster management and disaster-related aid management. ***Post-disaster management, as described in ISSAI 5520, may need to include planning and housing recovery activities***.

b. An audit process should be divided into three main activities, namely, planning, execution, and reporting. Furthermore, the details and expected output of each activity should be explained.

c. An audit design matrix is a very useful audit tool and serves as a platform for the conducting of audit work in the field. It can be applied to both performance and compliance audits.

d. Audit case studies should be updated to include more disaster-related audits.

The parallel audit on disaster management is expected to help improve disaster management in general and disaster-related aid management in particular through the implementation of its recommendations. Recommendations resulted from parallel audit are as follows:

a. The importance of adherence to the newly adopted INTOSAI GOV 9250 on the Integrated Financial Accountability Framework (IFAF) so as to uphold transparency and accountability in disaster-related aid management;

b. The need for establishing comprehensive and integrated contingency plans and ensuring the firm commitment of government, local communities and related institutions to actively participating in disaster management.

The parallel audit findings are set out in the form of a compendium report, which is structured as follows:

- Chapter 1 contains a brief explanation of the initiatives underlying the parallel audit project and the parallel audit processes that were applied
- Chapter 2 describes the general terminology used in post-disaster phase operations. This chapter also provides information on the policies and implementation of post disaster rehabilitation and reconstruction by each participating SAI as part of disaster management, and lists the disasters selected by each participating SAI for auditing purposes.
- Chapter 3 sets out the audit findings and recommendations of each participating SAI, categorized based on the agreed audit design matrix
- Chapter 4 sets out the report's conclusions, including the implications of the audit findings for the action plans of each participating SAI, the major obstacles that were faced during the field audits and the lessons that were learned from the project.

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List of Abbreviations

BPK	*Badan Pemeriksa Keuangan (*Audit Board of the Republic of Indonesia*)*
ChNPP	Chernobyl Nuclear Power Plant
DaLA	Damage and Loss Assessment
DMA	Disaster Management Agency
ECLAC	Economic Commission for Latin America and Caribbean
GIS	Geographical Information System
HRNA	Human Recovery Needs Assessment
INTOSAI	International Organization of Supreme Audit Institutions
ISSAI	International Standard for Supreme Audit Institutions
PDNA	Post Disaster Needs Assessment
SAI	Supreme Audit Institution
SIP	Shelter Implementation Plan
TCA	Turkish Court of Account
WG AADA	Working Group on Accountability for and Audit of Disaster-related Aid

Glossary

A

Recovery Action Plan	:	A plan that includes prioritized recovery programs and activities and the source of recovery funding over a defined period, prepared by the Disaster Management Agency and other relevant institutions

D

DaLA report	:	A report published by the damage and loss assessment team which is based on an inventory of the damage to infrastructure, areas, and the population in the immediate aftermath of a disaster
Direct community cash aid	:	Cash aid directly transferred to disaster victims based on reliable published data
Disaster	:	A serious disruption of the functioning of a community *or* a society causing widespread human, material, economic, or environmental losses which exceed the ability of the affected community or society to cope using its own resources
Disaster management	:	The organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular preparedness, response, and recovery in order to lessen the impact of disasters
Disaster management agency	:	The government organization responsible for dealing with all aspects of disaster management

O

On call funds	:	Funds allocated and used for emergency response phase

R

Recovery	:	Activities concerned with the continued rehabilitation and reconstruction of affected areas or communities
Regional agency	:	Government entity at provincial/county/municipal level
Local DMA	:	The government organization dealing with the overall management of a disaster at the provincial/county/municipal level

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CHAPTER 1
INTRODUCTION

1.1 BACKGROUND

A disaster is defined as a crisis or non-routine event that exceeds the capabilities of the affected community or society and which requires non-routine responses. In order to deliver assistance and aid rapidly to people in the affected area, a large number of different actors may be involved. This leads to issues of accountability in respect of the use of disaster-related aid as the complexity of assistance and aid flow increases.

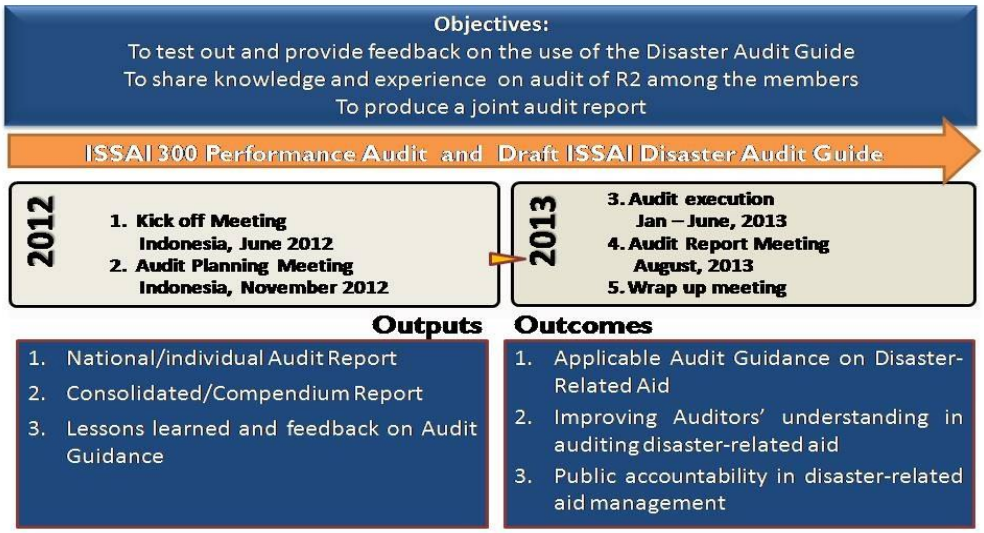
In terms of disaster relief activities, SAIs play a critical role in ensuring that the disaster-related aid is used and managed effectively, efficiently, and economically. As independent and non-political organizations with responsibility for promoting public accountability, SAIs need to share their expertise, knowledge, and experience so as to enhance accountability and transparency in disaster-related aid management.

Within the framework of the INTOSAI WG AADA Work Programme 2008 – 2013, the BPK, with the support of SAI Peru, developed a draft Audit of Disaster-related Aid: Guidance for Supreme Audit Institutions document, which applies a risk-based audit approach and draws on the experiences of other SAIs. The guidance is intended to assist with audits on all kinds of disasters and focuses on the audit of both the emergency response phase and the rehabilitation and reconstruction phase.

To help develop a comprehensive set of audit guidances on disaster-related aid, the INTOSAI WG AADA Work Program 2011 – 2013 included the task of launching, organizing and coordinating a parallel audit on disaster-related aid based on the audit design matrix contained in the draft audit guidance. The BPK accepted the challenge of organizing and coordinating this initiative and providing the necessary guidance and assistance, and eventually feedback, to the Working Group on the findings of the parallel audit and their implications for the draft Audit of Disaster-related Aid: Guidance for Supreme Audit Institutions.

The objectives of the parallel audit were to test out, and provide feedback on, the draft ISSAI 5520, including the use of the audit design matrix; to share knowledge and experience in the audit of the rehabilitation and reconstruction phase; and to develop a joint audit report, including lessons learned, so as to provide feedback for ISSAI 5520. The SAI of Turkey is fully committed as project participant. The SAI of Ukraine, which was firstly an observer, later joined the audit as its full participant.

The parallel audit has resulted in a joint audit report, lessons learned, and feedback on the guidance. The joint audit report is set out in the form of a compendium report. The overall program design is as shown below:Figure 1: Parallel Audit Program Design

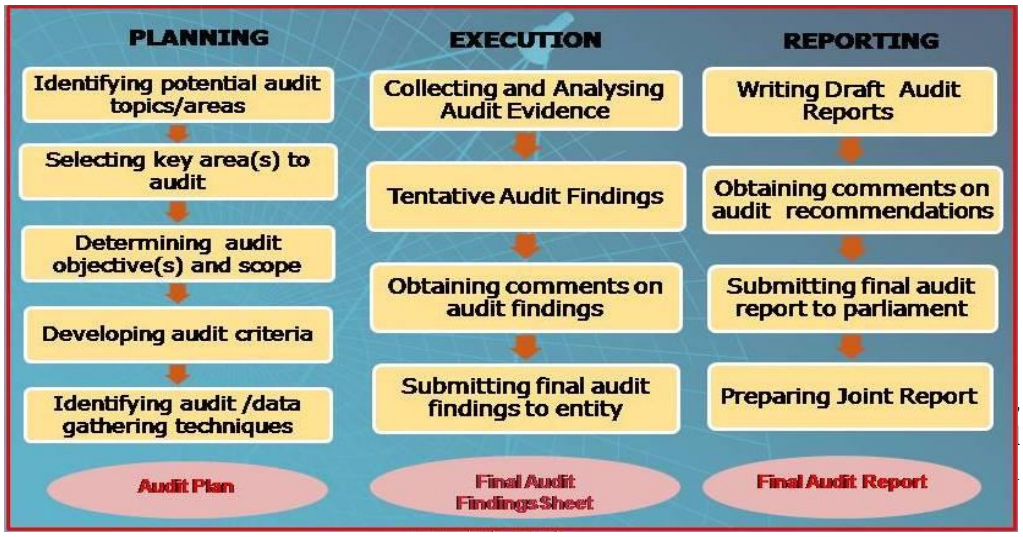


1.2 THE PARALLEL AUDIT PROCESS

The BPK, as the project coordinator, proposed that the performance audit model be employed for the purposes of the parallel audit. However, the door was left open for the participating SAIs to propose other audit types based on their audit objectives, needs and mandates. However, it was recommended that the audit types eventually selected be compatible with the audit design matrix. The SAIs of Indonesia and Turkey applied the performance audit approach, while the SAI Ukraine applied a comprehensive audit approach (combining the performance, financial, and compliance approaches).

Audit methodology covers audit planning, execution, and reporting, and represents a measured comprehensive audit. Figure2 describes the audit methodology that was employed by all of the SAIs.

Figure 2: Audit Methodology



significant as they constitute the major factors determining the direction and aims of an audit.

The parallel audit's activities arrangement consisted of eight activities, as described below:

Table 1. Activities Arrangement

NO	ACTIVITIES	TIMELINE	OUTPUTS	VENUE
A.	**Preparation**		Confirmation of participation from SAI of India, Pakistan, Turkey, and Ukraine	
A.1.	Sending information package (invitation and proposal) to members of INTOSAI WG AADA for comments and participation	May 23 - 24, 2012		
A.2.	Receiving responses from participating SAIs	May 30, 2012		
B.	1st Meeting: Kick Off Meeting Kick off meeting was held to introduce parallel audit on rehabilitation and reconstruction projects. The meeting was also intended to seek approval for audit type, scope, and objectives from participating SAIs and to plan next meeting.	4 June 2012	SAIs' agreement	Yogyakarta, Indonesia
C.	2nd Meeting: Audit Planning Meeting The second meeting was held to develop audit design matrix and plan audit execution.	November, 2012	• Audit Design Matrix • Audit Timeline • Audit Plan	Bali, Indonesia
D.	Audit Execution The SAI team carried out audit as per the approved audit plan and audit design matrix. At the end of audit execution, the team prepared a draft audit report to be discussed at the next meeting.	January – June, 2013	Finding Sheets	Participating SAIs
E.	Intermediary Meeting This meeting was held to strengthen commitment to the parallel audit and	February, 2013	• On-line platform • Revised audit timeline	Istanbul, Turkey

	to prepare possible changes to audit timeline due local constraint affecting SAIs. In addition, the BPK provided an online platform to permit any problems raised during the audit to be discussed.			
F.	3rd Meeting: Audit Report Meeting This meeting was held to discuss and review draft audit reports.	August 2013	• SAIs' Audit Reports • Design and Development of Joint Report	Lombok, Indonesia
G.	Follow up activities Following the completion of the preparation of draft joint audit report, the BPK sought feedback on the draft joint report from participating SAIs.	November, 2013	Draft Joint Report for feedback	TBD
H.	Closure Meeting Based on the final report of the parallel audit, the BPK proposed feedback on ISSAI 5520 to INTOSAI KSC/PSC and sent the final report to INTOSAI WGEA as committed in XXI INCOSAI.	TBD (early 2014)	• Completion of Joint Report • Feedback on ISSAI 5520	TBD

1.2.1 PLANNING

The planning phase is the most significant phase in auditing. Based on ISSAI 5520, the participating SAIs developed an Audit Design Matrix (ADM) to serve as documentation for the entire planning process. The steps involved were as follows:

1) Identifying potential audit topics/areas

During this phase, the SAIs were required to gain an understanding of the entire business processes involved in rehabilitation and reconstruction operations by government. The process involved developing a comprehensive understanding of how Disaster Management Agencies works, as well as identifying other institutions with operational responsibilities for rehabilitation and reconstruction.

2) Selecting key areas/topics to audit

Considering the availability of audit resources, the participating SAIs needed to select and prioritize the topics/areas that would be audited.

The audit scope could cover all of the proposed topics or be limited to selected topics, namely, the Action Plan for Post Disaster Recovery; Damage and Needs Assessment, Housing Recovery, and Reconstruction of Public infrastructure and facilities. While these topics were not exactly the same as the topics offered in ISSAI 5520, we nevertheless concluded that they reflect the activities carried out by government during the RR phase.

The BPK selected all of the proposed topics, while SAI Turkey selected two: Action Plan for Post Disaster Recovery, and Damage and Needs Assessment. Meanwhile, SAI Ukraine formulated its own topic: Execution of Shelter Implementation Plan.

3) Determining audit objective(s) and scope

Risk identification enables auditors to develop a clearer picture of their audit's direction and possible findings. This helps auditors formulate the audit's principal objectives. Once a potential audit objective has been formulated, auditors develop researchable questions and sub researchable questions or lines of inquiry that are likely to guide the audit towards achieving this objective. The questions should be clear and specific, fair and objective, and encapsulate measurable objectives. In addition, the questions should be sufficiently comprehensive to enable the auditors to fulfill the potential audit objectives.

Having regard to the above, as its main audit objective the BPK selected the effectiveness of the management of post disaster recovery operations, SAI Turkey the adequacy of post disaster operations, and SAI Ukraine the execution of the Shelter Implementation Plan and implementation of the Recommendations provided by the International Coordinated Audit of the Chernobyl Shelter Fund.

4) Developing Audit Criteria

After the main audit objectives have been identified, the auditors should examine ways in which the questions referred to in the paragraph above can be answered. This is crucial to determine the audit criteria. Each question will require corresponding and measurable criteria to determine the degree of compliance of the audit identity. Audit criteria may be developed from international conventions, agreements, national regulations, policies, best practices, and benchmarks. The criteria adopted must be reliable, objective, useful, complete, clear, relevant, reasonable, and generally accepted.

Criteria help auditors focus the audit and provide a basis for developing audit findings. Besides, they represent performance standards that should be addressed by the entity.

5) Identifying audit/data gathering techniques

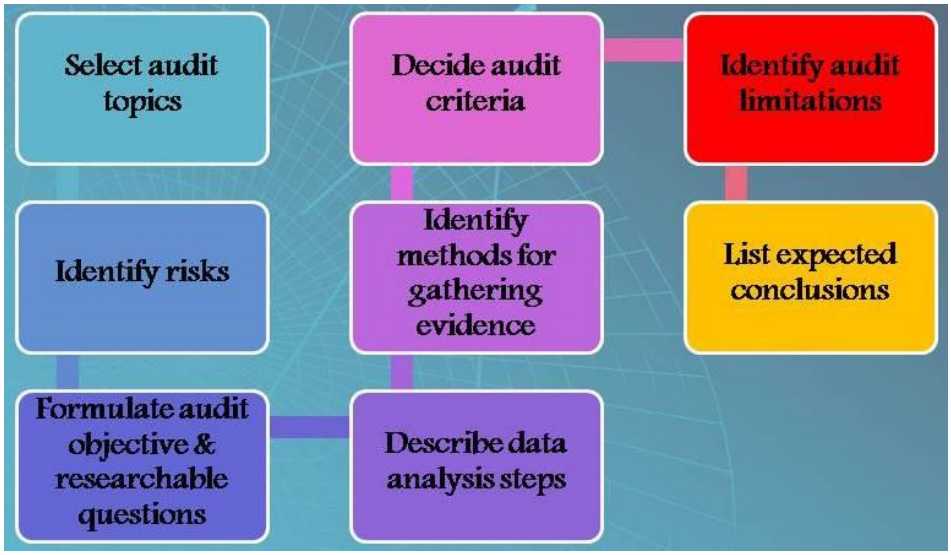
The next step is determining the ways or procedures used to obtain data or information regarding the fulfillment of criteria by audited entity. Auditors should also include the information source, evidence needed to support findings, limitation of audit and analysis, and expected conclusions. Next, auditors should

plan how to obtain the information. This includes procedures commonly used in all types of audit.

6) Developing Audit Design Matrix

The overall steps in audit planning are formulated in an Audit Design Matrix (ADM). The following figure depicts the steps involved in developing an ADM.

Figure 3: Developing Audit Design Matrix



1.2.2 EXECUTION

1) Execution of Audits

The BPK and SAI Turkey conducted their audits in 2012 and 2013 respectively, in line with their work plans, while the SAI Ukraine's audit was conducted over the course of 2007 – 2013. During this phase, the audit teams conducted field audits based on the ADM.

2) Sharing Audit Experiences and Knowledge

A parallel audit process provides a basis for sharing knowledge and experiences not only during the execution phase but also during all other audit phases, and it is hoped that this process will continue in the future. The BPK established an online platform that allowed the participating SAIs to communicate and coordinate their work through *online group* account.

3) The use of Audit Tools

The use of ADM as an audit tool was a primary requirement given that the purpose of the parallel audit was to test out the use of the audit design matrix. It was also important to test whether the audit design matrix is compatible for all audit types.

Besides the ADM, other audit tools used by the participating SAIs were GIS and Google Earth Software. The BPK also used specific software (*lahar – z* software) developed by the Ministry of Energy and Mineral Resources. This software predicts the direction of lahar flows from Mt. Merapi and the volume of lahar in such flows. It also estimates the capacity of rivers into which lahar flows and the surrounding areas that will be inundated by lahar when river capacity is exceeded. The software enables lahar-flow modeling and helps government mitigate the serious hazards arising from such flows.

1.2.3 REPORTING

1) Selecting the Most Suitable Reporting Format for Parallel Audit

The participating SAIs each produced their own national reports in accordance with their mandates and the respective standard reporting structures applied by each SAI. So that the knowledge and experience gained during the preparation of these reports could be shared with all INTOSAI members, these reports needed to be compiled in the form of a compendium report.

The compendium report is one of the final outputs of this parallel audit. It provides summaries of the Rehabilitation and Reconstruction Audit Reports of the participating SAIs. As every country has its own regulations, climate, topography and geographical conditions, different disaster histories, different institutions and responsibilities, different knowledge and experiences, and different problems related to disasters, the audit reports produced by each SAI were also naturally quite different. It was for this reason that we decided that a compendium report would be the most suitable reporting format for the parallel audit.

2) Composition of Compendium Report

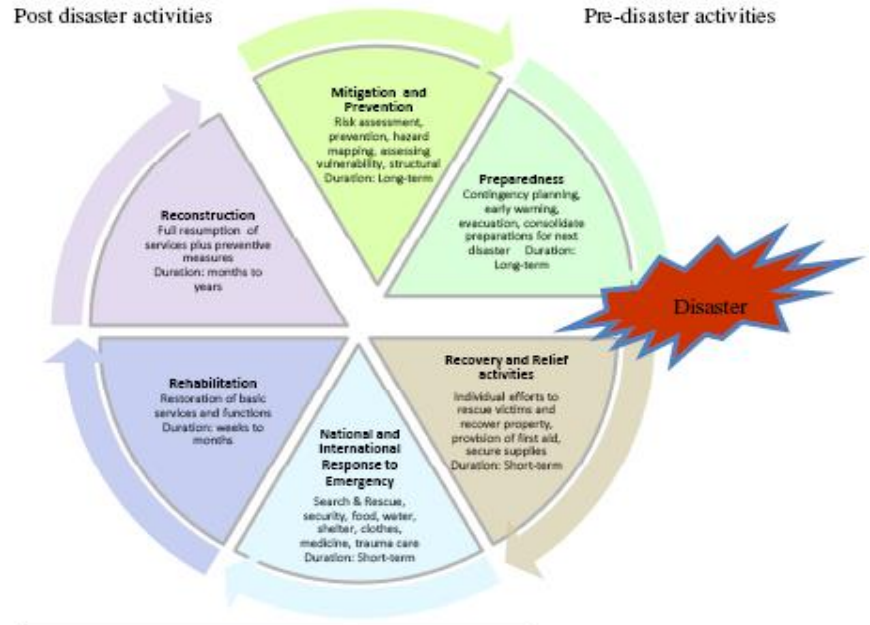
The principal contents of each audit report, as presented in the Compendium, are: background, audit objective(s), audit scope, researchable questions, criteria, methodology, main findings and principal recommendations. The compendium report also describes the processes involved in the audit planning and execution phases, and describes the lessons learned, and obstacles and challenges faced in conducting the parallel audit.

CHAPTER 2
POST-DISASTER REHABILITATION AND RECONSTRUCTION

2.1 POST-DISASTER PHASE ACTIVITIES

The disaster management cycle is divided into two phases: (1) pre-disaster and (2) post-disaster. The post disaster phase begins as soon as disaster strikes. Initially, the focus is on emergency recovery and relief activities. These are followed by rehabilitation and reconstruction activities.

Figure 4. Disaster Management Cycle Showing Pre- and Post-Disaster Phase



Source: Prepared for WG AADA by the SAI of Indonesia

The emergency activities refer[1] to humanitarian assistance when steps are taken to save lives and provide essential supplies to those most affected. It includes such activities as search, rescue, evacuation, provision of shelters, first aid, emergency medical care and protection, temporary restoration of transportation and

[1] *Handbook for estimating the socio-economic and environmental effects of disasters by* ECLAC, *2003*

communication routes, preliminary repairs to essential public services, and initial actions to register victims and record damage to public and private property.

[2]Once the urgency abates, post-disaster rehabilitation and reconstruction activities commence. Rehabilitation is a short to medium-term activity and involves taking care of the victims of the disaster and re-establishing basic facilities. Urgent, initial rehabilitation activities can begin during the emergency. The United Nations Economic Commission for Latin America and the Caribbean (ECLAC) defines rehabilitation as activities required to restore normality to the affected areas and communities. It includes temporary repairs to housing and buildings and to transport and public utility infrastructure. Problems related to the emotional and psychological recovery of the inhabitants of the affected regions are also addressed during this phase. The recovery measures most helpful to affected communities are those that allow victims to return to work, help create new jobs, make loans and other financial resources available and launch projects related to other disaster consequences.

According to ISSAI 5520, reconstruction has the longer-term objective of restoring living conditions to a level equal to or better than before the disaster struck. There will inevitably be overlapping activities that can be classified as rehabilitation or reconstruction. Rehabilitation and reconstruction activities aim to rebuild destroyed property, repair of other essential infrastructure and re-establish the functioning of the local economy.

The ISSAI 5520 also summarizes the characteristics of post-disaster phase activities as shown in table 2.

Table 2 Post-Disaster Phase Activities: Emergency (recovery and relief) and non-emergency (rehabilitation and reconstruction)

	Emergency Recovery and Relief	Rehabilitation	Reconstruction
Timing/ Period	*Urgent* Immediately during or shortly after disaster. Normally counted in days or up to 3 months after disaster	*Short term* Up to 1 year after emergency phase	*Medium-long term* Up to 5 years or more after rehabilitation phase
Target	Saving lives	• Taking care of victims • Developing basic public facilities (at a minimum level)	Restoring living conditions
Purpose	• Victim search and rescue • Burial of the dead • Supply of food and drinking water • Emergency medical care • Provision of basic facilities	• Treating the sick and injured • Preventing outbreaks of cholera, malaria, and other communicable diseases Rebuilding: • Basic infrastructure and facilities	• Construction of permanent housing • Development of economic sectors (production, trade, banking sectors) • Restoration of public infrastructure (transportation and

[2]*Draft ISSAI 5520, endorsement version 2013*

	• Delivery of materials to the affected areas	• Economic facilities • Trauma care facilities	telecommunication systems)
Examples	• Emergency food and medical aid • Emergency distress relief • Meeting basic needs of refugees	• Provision of health care supplies • Establishment of temporary housing and sanitation facilities • Establishment of access between affected area and the chain of supply and support	• Rebuilding social/cultural systems • Re-establishing human capacity • Rebuilding housing, schools, clinics, sanitation systems
Responsible entity	• Government • Donors • NGOs / INGOs • Other parties	• Government • Reduced, but still important role: donors, NGOs/INGOs and other parties	• Government • Reduced but still important role: donors, NGOs/INGOs and other parties

2.2 REHABILITATION AND RECONSTRUCTION PHASE MANAGEMENT

In general, the main activities in rehabilitation and reconstruction management are the conducting of a post disaster needs assessment, preparing a Recovery Action Plan, and carrying out rehabilitation and reconstruction activities, namely, housing recovery, and public infrastructure and building reconstruction.

The affected country needs to estimate the monetary value of damage and losses[3] caused by the disaster, as well as the funds needed for total recovery. Therefore, an appropriate needs assessment should be undertaken.

A number of the participating countries in this study apply specific principles or business processes to RR management, as described below.

2.2.1 INDONESIA

The Indonesia Disaster Management Authority (DMA) conducts rehabilitation and reconstruction activities based on six basic principles: (1) responsibility sharing between central and local government, (2) building back better infrastructure and facilities, (3) the pressing needs of the vulnerable come first, (4) optimizing regional and local resources, (5) achieving community empowering, (6) prioritizing justice and gender equality.

There are three main activities involved in post disaster recovery management in Indonesia:

[3] *Losses means the money value of the impact of damaged/destroyed buildings and facilities*

1. Post Disaster Needs Assessment (PDNA)

   This is the process of assessing the effects, analyzing the impacts, and estimating the needs for post disaster recovery. The results of this process are used to prepare an action plan for post disaster recovery. The best time to undertake this process is after the emergency stage has been completed, when usually the information on direct and indirect damage and losses is more definite and reliable. However, the best time for undertaking the process cannot be defined with certainty in advance as it will depend on the type and magnitude of the disaster, as well as the geography of the affected areas. A PDNA should consist of a damage and loss assessment (DaLA) and human recovery needs assessment (HRNA). The DMA applies the DaLA methodology developed by UN ECLAC. It determines the monetary value of damaged and destroyed assets and the needs for reconstruction, involves impact assessments on five major sectors: warehousing, infrastructure, productive economy, social, and inter-sectoral.

2. Preparation of Rehabilitation and Reconstruction Action Plan

   An action plan is a planning document that contains information on damage, losses and other disaster impacts on the community. It also sets out program priorities, financial needs and the availability of financial resources. In addition, it provides a time frame for the duration of the rehabilitation and reconstruction phase. The quantitative data on damage and losses contained in the action plan is derived from the verified and validated data described in PDNA findings. The key issues in preparing an action plan are as follow:

   - The process of verifying and validating the quantitative data on damage and losses that will be used to assess the financial resources needed for recovery
   - Setting priorities and classifying activities into initial and long-term recovery phases
   - Reliable grant commitments as one component of financing resources
   - Reliable agreements or commitments for responsibility sharing between DMA and related institutions.

3. Initial and long-term recovery phases

   This refers the execution of post disaster recovery based on the action plan. Having set recovery priorities, the DMA determines which activities relate to initial recovery and which to long-term recovery.

2.2.2 Turkey

SAI Turkey conducted an audit of post-earthquake disaster recovery in Van province and Istanbul. The post disaster recovery management for both disasters started with damage assessment by government technical staff shortly after the earthquakes.

When the damage assessment was completed, the Regional Ownership Title Investigation Committee determined those entitled to receive assistance.

Following the Van earthquake, the damage assessment work commenced on October 23, 2011 and continued over a number of months. More than 1,000 architects and construction engineers from diverse public institutions took part in the assessment. During the process, the condition (both indoor and outdoor) of more than 200,000 homes, offices and barns were checked. The amount of damage was then assessed and recorded.

The statutory period for house borrowing commenced on January 25, 2012 and ended on March 24, 2012 in villages within the boundaries of Van and Ercis, while in the centre of Van and Ercis the statutory period for house borrowing ran from April 2, 2012, to May 31.

Disaster victims applied for house borrowing between April 30 – June 28, 2012, in 30 neighborhoods and 2 towns of Van centre, Edremit district centre, Edremit Cicekli town and villages of Edremit. The governor of Van had sought additional time, in response to which the Provincial Directorates of the Prime Ministry Disaster and Emergency Management Presidency (AFAD) granted an extension up to July 19, 2012. In all, 33,663 applications for house borrowing were received from disaster victims in respect of heavy and intermediate damage to houses, offices and barns in central Van neighborhoods during this period. The Regional Title Ownership Investigation Committee reviewed the house borrowing applicants so as to determined ownership titles.

People whose titles were not recognized the first time around could appeal between July 30 and August 14, 2012. As a result of such appeals, the number of entitled property owners increased by 350 to 2,377 people. The announcement of titleholders was made on August 15–29, 2012. A total of 9,161 titleholders were assessed.

2.2.3 Ukraine

In the framework of the International Co-ordinated Audit of Chernobyl Shelter Fund the SAI of Ukraine together with the SAIs of Germany, Switzerland, Poland, Russian Federation, Slovak Republic and European Court of Auditors conducted audit of consequences of the Chernobyl nuclear disaster, which occurred in Ukraine in April 1986 and became the largest man-made radio-ecological disaster of the twentieth century.

The rehabilitation and reconstruction activities after the Chernobyl nuclear disaster were aimed primarily at mitigation of effects of the destroyed reactor on the environment and protection of its components from the natural factors that had to be ensured through establishment and subsequent stabilization of the temporary sarcophagus and construction of the New Safe Confinement around this old structure.

Thus, during the period of August-November 1986 a Shelter Protection Object was constructed. According to the experts its service life had to ensure its functioning up to 30 years. Gradually the international community has joined to the consequences

elimination of the Chernobyl disaster. The Government of Ukraine, G-7 Governments and European Commission signed the Memorandum of Understanding (MoU) on closure of the Chernobyl Nuclear Power Plant (ChNPP) in Ottawa, Canada, in 1995.

The international group of experts, including Ukrainian, developed plan for transformation of the Unit 4 and the existing Shelter Object into an ecologically safe system in 1996. Three phases were determined with the proposed Plan, namely: stabilization and other short-term measures, preparation for transformation and transformation of the Shelter Object into an environmentally safe system. The phase of transformation of the Shelter Object into an environmentally safe system envisaged stabilization of the existing object with the aim to improve its reliability; establishing of the new protective barriers with the aim to ensure conditions necessary for technical works at the next stage, safety of personnel, population and environment as well as gradual decommissioning of the power plant structure, with the exception of flammable materials and long existing radioactive materials.

The European Commission, Ukraine, the USA and the group of international experts developed the Shelter Implementation Plan (SIP) in 1997. The main purpose of SIP was to stabilize the existing sarcophagus and to build the New Safe Confinement around this old structure. It is expected that the new confinement will be safely functioning as a protective shield over the radioactively contaminated components at least 100 years and will prevent continuous water leakage.

In general SIP is aimed at reducing the potential of possible crumbling, the consequences of sudden crumbling, increasing of nuclear safety, personnel and environmental safety, strategy for long-term measures and investigations on transforming of the Shelter Object into an environmentally safe system.

SIP funding is provided from the Chernobyl Shelter Fund (CSF), which was established by the European Bank for Reconstruction and Development (EBRD) in 1997 and which is contributed by G-7 Governments, the European Union and the other countries. Totally 26 contributor countries and 16 donor countries of the CSF have made contributions to the said fund as of the end of 2013.

However, the estimated cost of the Shelter Implementation Plan increased almost three times by the end of 2013 in comparison with 1997 that does not contribute to its full and timely implementation. As a result, there is a risk of further postponement of completion of the New Safe Confinement construction, which is expected in 2016 with the total delays approximately in 11 years as of the end of 2013.

2.3 DISASTERS SELECTED AS AUDIT SUBJECTS

The participating SAIs selected a variety of different kinds of disaster as the subjects of their audits. The BPK selected the West Sumatra earthquake of 2009, Mentawai Island earthquake and tsunami of 2010, and the Mt. Merapi volcanic eruption in Central Java and Yogyakarta Provinces in 2010. Meanwhile, SAI Turkey selected the Van earthquake of 2011 and the 1999 earthquake in Istanbul, SAI of Ukraine selected

its audit of the man-made disaster at the Chernobyl Nuclear Power Plant (ChNPP) in 1986. Each disaster had different impacts and effects depending on its magnitude and geographical extent.

2.3.1 INDONESIA

a West Sumatra Earthquake of 2009

A massive earthquake struck West Sumatra province on September 30, 2009. The epicentre of the 7.9 Richter Scale earthquake was located some 57 km to the southwest of Pariaman county. A 6.2 Richter Scale aftershock occurred just 22 minutes later. The tremors were felt in the provinces of Aceh, Jambi, Riau, Bengkulu, North Sumatra, and even as far away as Singapore and Malaysia. The earthquake caused serious damage to housing and public infrastructure in 12 cities and counties. The damage extended for 100 km along the coast of West Sumatra and up to 50 miles inland. A total of 1,195 people were killed, 1,798 injured, and two were missing. A detailed breakdown of the damage and losses is as shown in the following table:

Table 3 Damage and Losses Resulting from 2009 West Sumatra Earthquake

Sectors		Disaster effects (in IDR billion)		
		Damage	Losses	Total
Housing and Settlement		**15,649.40**	**297.60**	**15,947.00**
Infrastructure		**744.40**	**114.40**	**858.80**
a.	- Roads & bridges	294.00	9.10	303.10
	- Communications	33.60	19.70	53.30
b.	Energy	46.30	6.00	52.30
c.	- Water supply	159.90	79.60	239.50
	- Sanitation	210.60		210.60
Social services		**1,484.20**	**205.10**	**1,689.30**
a.	Education	593.80	25.00	618.80
b.	Health	569.10	175.20	744.30
c.	Culture and Religion	304.20	3.10	307.30
d.	Facilities for the poor	17.10	1.80	18.90
Productive sectors		**879.70**	**1,565.80**	**2,445.50**
a.	Agriculture: - crops	5.10	146.00	151.10
	- livestock	5.20	2.00	7.20
	- fisheries	6.80	49.00	55.80
	- irrigation	39.00	26.00	65.00
b.	Trade	673.70	621.50	1,295.20
c.	Industry	10.90	114.80	125.70
d.	Business & finance: - bank	63.60	152.20	215.80
	- non bank			0.00
	- financial	4.40	78.00	82.40
e	Tourism	71.00	376.30	447.30
Cross - sectoral		**611.40**	**15.90**	**627.30**
a.	Government	610.80	14.80	625.60
b.	Environment	0.60	1.10	1.70
Total		**19,369.10**	**2,198.80**	**21,567.90**
Total (US$)		2,060.50	233.90	2,294.40

Based on the damage and needs assessment, the total funding for post disaster recovery was estimated at IDR 6.41trillion, while a total of IDR 3.93trillion was provided by central and local government. Of this figure, 71% was allocated for

housing recovery. The post-disaster recovery activities started in 2009 and had concluded by the end of 2012.

b Merapi Eruption of 2010

Mt.Merapi, an active volcano located between Central Java Province and Yogyakarta Province, erupted on October 26, 2010. The eruption, which continued into early November 2010, was the largest of a total of six eruptions over the course of 16 years (the others were in 1994, 1997, 1998, 2001 and 2006). The eruption killed 339 people and caused serious damage to housing and public and private facilities.

c Mentawai Islands Earthquake and Tsunami of 2010

On 25 October 2010, a 7.2 magnitude earthquake struck the Mentawai Islands, triggering a tsunami that affected four counties, namely, Pagai Utara, Pagai Selatan, Sipora Selatan and Sikakap. The tsunami killed 509 buildings and caused extensive damage to 1,269 houses, as well as infrastructure and public and privately owned facilities.

2.3.2 TURKEY

Earthquakes struck Van province on October 23 and November 9, 2011. The two earthquakes killed 644 people and injured 1,966, while 252 people were rescued from the debris alive. A total of 100 buildings were destroyed. The magnitude of the larger earthquake was 7.2 on the Richter Scale. While the physical damage from the earthquake was less than might have been expected, approximately 175,000 people were nevertheless forced to take shelter in 35 different "container cities," while 50,000 people were transferred to other provinces.

A detailed breakdown of the damage caused by the Van earthquakes is as shown in the following table:

Table 4. Damage Resulting from the 2011 Van Earthquake

Buildings	Heavily damaged/ destroyed	Moderately damaged	Lightly damaged	Undamaged
Houses	38.515	11.159	57.156	50.191
Offices	2.807	3.834	8.644	6.156
Barn	9.277	341	6.457	3.604

15,341 community buildings constructed by Housing Development Administration of Turkey were handed over to the disaster victims a year after the earthquake.

The total amount spent on the Van earthquake relief and recovery effort was approximately USD 2.9 billion, with the details being as shown below.

Table 5. Total Expenditure on Van Earthquake Relief and Recovery (in Turkish Lira)

Total Immediate Relief Funds	502.175.666TL
Prime Ministry	10.000.000 TL
Humanitarian Assistance Accounts	224.030.000 TL
Ministries and Public Institutions	1.210.552.445 TL
Turkish Red Crescent	121.740.373 TL
NGOs	27.112.540 TL
Governorships	21.345.000 TL
Private Sector	13.880.000 TL
Total Value of International Material Donations	76.849.000 TL
Funds Provided to Housing Development Administration of Turkey	2.362.000.000 TL
Transferred sum on the scope of Financial Aid for Reconstruction	254.500.000 TL
Total Expenditure on Van Earthquake Relief and Reconstruction Efforts	4.824.185.024 TL

2.3.3 UKRAINE

The accident at the 4th unit of the Chernobyl Nuclear Power Plant occurred in 1986 and was ranked as the highest level No 7 of the accidents under the International Nuclear Event Scale. The medical, radiobiological, social, historical, cultural and economic problems caused by the accident have no any analogues among the known natural and man-made disasters in the world.

Thus, the level of contamination, which exceeded the global background, was observed at the distance up to 3 thousand kilometers from the accident place. More than 80 percent of the forest areas were significantly polluted with cesium. During the first post-disaster weeks the contamination levels in some rivers in Ukraine even at the distance of several tens kilometers from the Chernobyl Nuclear Power Plant exceeded the health standards in tens, hundreds and even thousands times.

Radioactive emission of 90 million curie[4] consisting of Iodine, Cesium, Strontium, Plutonium and other isotopes, spread out over the vast territories not only in Ukraine,

[4] The curie is a unit of radioactivity, which is equal to radioactivity of substance, in which 3.7×10^{10} decays occurred per second.

but also in Belarus and Russia. Radioactive emissions were also detected in Sweden, Norway, Finland, Austria, Germany, Poland, France and Swiss Confederation.

Only in Ukraine 2.773 million people were affected from the Chernobyl disaster, 103 thousand of which became disabled, the territory of over 55 thousand square kilometers was contaminated in 74 districts of 12 regions.

CHAPTER 3
AUDIT FINDINGS

3.1 ACTION PLAN

An action plan is an integrated set of individual plans that include prioritized recovery programs and activities and the sources of recovery funds over a certain period. Such plan is prepared by the Disaster Management Agency in conjunction with other relevant parties. This reflects the importance of an action plan in determining what must be done in the immediate aftermath of the disaster so as to ultimately create a more resilient community or society.

Based on the risk assessments that were carried out, SAI Turkey, Ukraine, and Indonesia decided to conduct audits on the action plans for the selected disasters in each country as part of the parallel audit.

3.1.1 INDONESIA

The performance audits conducted by the BPK revealed various problems related to the Action Plans for the West Sumatra Earthquake, Mt. Merapi Eruption, and Mentawai Islands Earthquake and Tsunami disasters. They related to unreliable data on damage and losses, and weaknesses in financing plans. The BPK's detailed findings are as follow.

3.1.1.1 Action Plan should specify RR program and activities based on accurate damage figures

Improper Processes in Preparing Recovery Action Plans

a Background

The information presented in an Action Plan is derived from a Damage and Losses Assessment (DaLA). It is possible, therefore, that there may be changes in the data before it is eventually incorporated in the Action Plan. As a result, the initial data on direct damage should be verified and validated before it is accepted as the definitive data that is used to assess the monetary value of post disaster recovery needs as presented in Recovery Action Plan. Therefore, the information on damage and losses in an Action Plan is often not precisely the same as the initial information on direct damage and losses that was produced by the DaLA. Where this happens, the Action Plan should explain the differences by setting out the

assumptions or appraisal methods used in assessing post disaster recovery needs.

b Audit Objective

To determine the reliability of data on damage and losses presented in Recovery Action Plans.

c Researchable Questions

Does the Disaster Management Agency determine rehabilitation and reconstruction programs and activities in its Action Plans based on accurate figures for damage and losses?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. Its audit also included interviews, field visits, and the consideration of information from secondary sources.

e Main Audit Findings

1) The audit showed that there were some significant differences between the information on damage and losses in the Action Plans and those in the DaLA Reports. Unfortunately, the Action Plans did not state the assumptions and considerations on which they were based, which might have helped explain the differences.

2) Additionally, national and local DMAs failed to maintain documentation on direct damage or evidence of verification and validation processes.

3) Without detailed data on direct damage and evidence of verification and validation processes, it was impossible to arrive at a conclusion on the accuracy of the damage figures presented in the Action Plans. Inaccurate damage figures could result in misconceived recovery programs and activities being incorporated in the Action Plans.

4) The lack of information and evidence indicated that the DMAs failed to properly perform their duties so as to ensure the preparation of reliable Recovery Action Plans.

f Principal recommendations

National and local DMAs should maintain all detailed documentation on direct damage and evidence of the processing of the data presented in Action Plans.

3.1.1.2 Need for comprehensive financing plan

a Background

An Action Plan provides a platform for rehabilitation and reconstruction activities, which includes the prioritizing of particular recovery programs and activities, and the sources of recovery funds over a defined period.

An Action plan should group recovery programs into five sectors, namely housing, infrastructure, productive economy, social, and inter-sectoral. An Action Plan should also detail the budget allocations and resources made available by central and local government, as well as grants.

Furthermore, an Action Plan should specify how the funds and resources allocated by central and local governments, and grants or aid received from donors will be spent. Grants are traditionally distributed directly to the affected population without coordinating with central and local government.

b Audit Objective

1) To ensure the compliance of DMAs' post disaster activities and funding with the Recovery Action Plan.

2) To determine the reliability of the aid commitments set out in the Recovery Action Plan.

c Researchable Question

1) Did post disaster activities and funding refer to Recovery Action Plans?

2) Did Disaster Management Agencies prepare comprehensive financing plans supported by reliable commitments from all involved?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. Its audit also included interviews, field visits, and the consideration of information from secondary sources.

e Main Audit Findings

1) *Actual post disaster recovery funding allocations did not comply with Action Plans*

The audits showed that the actual recovery funds provided by local governments were much less than specified in the Action Plans. In addition, there were no written agreements binding local governments to provide funding in accordance with what was specified in the action plans. Therefore, there was no mechanisms in place to force local governments to provide the funds they had pledged.

This indicates a lack of commitment on the part of local governments to supporting post disaster recovery programs.

2) *Grant allocations detailed in the Action Plans not supported by reliable evidence*

The problems related to the grants that were detailed in the action plans mostly concerned evidence and monitoring. There was no evidence of grant commitments from donors, and there was also no documentation showing that the grants had been made by the donors or transferred into an Indonesian government account. Additionally, the DMAs did not conduct monitoring to ascertain whether the grants had been received or would be received.

The absence of evidence related to the grants made it impossible to conclude that funding allocation and resource planning were accurate and comprehensive.

f Principal recommendations

1) DMAs should monitor and evaluate the budgetary contributions made by local governments to ensure the availability of funding for recovery activities.

2) DMAs should coordinate with relevant institutions to document and monitor grant commitments and to study the possibility of implementing Integrated Financial Accountability Framework (IFAF) as stipulated in INTOSAI GOV 9250.

Link to the Full Report

Badan Pemeriksa Keuangan Republik Indonesia

Address: Jl. Gatot Subroto Kav. 31 Jakarta 10210, Indonesia

Phone: +62 21 25549000

Fax: +62 21 57953198

E-mail: international@bpk.go.id

3.1.2 TURKEY

The performance audit conducted by SAI Turkey revealed some problems regarding the action plan for the Van and Istanbul earthquakes. These related to the provision of temporary shelters and infrastructure, the reliability of the information and stock management systems. The abridged findings are as follows:

3.1.1.1 Need for feasible plans for provision of temporary shelter and infrastructure

a Background

The post-disaster temporary shelter needs plans were drawn up as part of the provincial emergency relief plans. The responsibility for preparing these plans rested with the Provincial Directorates of the Prime Ministry Disaster and Emergency Management Presidency (AFAD) that was established for the purposes of planning, directing, coordinating, supporting, effectively implementing and centrally managing all activities required for disaster prevention and hazard reduction, disaster response and post-disaster rehabilitation work. The locations of temporary shelters in these plans were determined by the "Service Group for Preliminary Damage Assessment and Temporary Shelter". This service group was composed of representatives of a number of entities, such as AFAD the provincial directorates, municipalities, provincial directorates of national education, and special provincial administrations. They were chaired by the provincial directorates of environment and urban planning.

The plans designated hotels, guesthouses and schools as temporary shelter locations, and open spaces in settlement areas, such as parks and gardens, as locations for tent areas, as appropriate. The total number of disaster victims to be accommodated in temporary shelter areas was also specified in these plans.

b Audit Objective

To ensure whether feasibility plans had been prepared for temporary shelters and infrastructure?

c Researchable Question

Was there any effective and feasible plan in place for temporary shelters and infrastructure?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. The audit also included interviews, field visits, and the consideration of information from secondary sources.

e Main Audit Findings

1) The emergency temporary shelter plan had not been updated and did not satisfy expectations. Some of the places designated as temporary shelter areas in the Van Provincial Emergency Plan had been zoned for construction. Thus, they could not be used as temporary shelter areas after the Van Earthquake. In consequence, new areas were designated for temporary shelters. However, due to the inability to provide infrastructure services to tent areas, tent fires broke out leading to loss of life. This was widely publicized in the media and attracted a great deal of criticism.

2) It was found that many places originally designated to serve as tent areas had later been zoned by local municipalities for construction of dwellings, office buildings, shopping centres, etc. Such changes had often not been communicated to AFAD's provincial directorates and other relevant entities. This showed that the places designated in the plans as temporary shelter areas were not inspected at regular intervals and that the plans were not regularly updated.

3) Disaster scenarios had not been developed in many provinces. Therefore, it was not possible to establish a sound correlation between the possible number of victims and the need for temporary shelter areas. Moreover, the number of people expected to be left homeless based on the available disaster (earthquake) scenarios was much greater than the capacity of the locations that had been designated to serve as temporary shelters, such as guesthouses, hotels, tent areas, etc. This led in the likelihood of serious housing problems in the aftermath of a disaster. In fact, according to the earthquake scenario prepared by JICA in 2009 for Istanbul, it was estimated that 1,500,000 people would need shelter after a major earthquake. Nevertheless, the prevailing Istanbul provincial emergency relief plan at the time of the earthquake stated that only 336,889 people would need to be provided with temporary shelter. Likewise in Izmir, while the local emergency plan envisaged the provision of temporary shelter for only 50,000 people, the provincial earthquake scenario envisaged one million people being left homeless.

f Principal recommendations

1) Temporary shelter areas and their infrastructure should be planned and updated regularly based on sound disaster scenarios and the number of victims estimated in these scenarios.

2) Locations that are designated as temporary assembly and shelter areas should be had regard to in construction plans.

3) Any changes in the plans associated with temporary assembly and shelter areas should be notified to AFAD's provincial directorates and other relevant entities.

3.1.1.2 Sound Information System Needed For Disaster-Prone Settlement Areas

a Background

In order to ensure an efficient response and effective relief in the event of a disaster, the relevant entities needed to maintain comprehensive and reliable data on such things as the physical condition and demographic structure of settlement areas, and the occupations and income levels of

residents, in their information systems so as to have such information readily available when a disaster occurs.

Problems related to the failure to gather the relevant data beforehand and to share it with other relevant entities emerged in the aftermath of the Van earthquake. Setbacks and problems were experienced both in conduct of search and rescue operations and the conducting of damage assessment in an accurate and timely fashion.

b Audit Objective

To ascertain whether sound and updated information systems were maintained in disaster-prone settlement areas.

c Researchable Question

Were sound and updated information systems in place?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. The audit also included interviews, field visits, and the consideration of information from secondary sources.

e Main Audit Findings

1) The relevant entities did not have clear and precise information related to the building stock in the provinces.

2) The entities responsible for disaster coordination did not keep information on such things as the number of apartments in each apartment block and their ownership, the number of residents and whether there were old, sick or disabled, etc. The failure to keep such information adversely affected post-disaster search and rescue operations and damage assessment. Furthermore, individual entities which did have some of the required information did not share it with other entities. The Directorate General of Population and Citizenship Affairs, Directorate General of the Land Registration and the municipalities had relevant data but failed to share it with other entities.

3) No information system infrastructure was in place to ensure the smooth exchange of data.

f Main Recommendation

To be able to quickly and effectively manage recovery activities, both central and local information systems need to be in place that provides access to data needed by the entities engaged in post-disaster activities, which can provide effective data sharing services.

3.1.1.3 Need for suitable stock management system for emergency situations

a Background

In emergency situations, a suitable stock management is needed to meet the shelter, nutrition and other needs of disaster victims. How the logistics needed to meet these needs will be supplied, where they will be stored and how they will be distributed should be specified in emergency relief plans.

b Audit Objective

To determine whether there was a suitable stock management system for emergency situations.

c Researchable Question

Was a proper inventory management system in place?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. The audit also included interviews, field visits, and the consideration of information from secondary sources.

e Main Audit Findings

1) The volume of supplies needed could not be determined in a short space of time and the available of stock was not sufficient to meet needs.

2) Temporary shelter needs could unable to be quickly met and this resulted in considerably higher cost.

3) Many other problems also arose since it had not been predetermined who would receive relief in the form of food stuffs and clothes provided by non-governmental organizations, the private sector and private individuals citizens, or how such relieve would be stored and distributed.

4) As a system was not in place to record the processes of receiving and distributing relief, some disaster victims received no relief while others received more relief supplies than they needed.

f Main Recommendation

A stock management system should be put in place that is capable of meeting the needs of disaster victims in a timely, fair, comprehensive manner, and of preventing wastage.

Link to the Full Report

Turkish Court of Account

Address: Sayistay Baskanligi, Inonu Bulvari, No. 45, Balgat, 06100, Ankara, Turkey

Phone: +90 312 2953701

Fax: + 90 312 2954093

E-mail: http://www.sayistay.gov.tr

3.1.3 UKRAINE

As it has already been mentioned in chapter 2.2.3 of the report, the Shelter Implementation Plan (SIP) was developed in 1997 and envisaged stabilization of the existing sarcophagus and construction of the New Safe Confinement around it at the Chernobyl Nuclear Power Plant. At the same time, the International Coordinated Audit of the Chernobyl Shelter Fund, which was conducted in 2007 by 7 SAIs, namely of Ukraine, Republic of Germany, Republic of Poland, the Russian Federation, the Slovak Republic, Switzerland and the European Court of Auditors, revealed some problems related to fulfillment of the abovementioned Plan. Considering importance of this issue for Ukraine and even for the world, the Accounting Chamber of Ukraine annually conducts monitoring and assessment of implementation of the international audit recommendations, paying special attention to SIP fulfillment. The detailed findings are as follow.

3.1.3.1 Issues related to fulfillment of the Shelter Implementation Plan (SIP)

a Background

Positively assessed interstate cooperation in establishment of the Chernobyl Shelter Fund (CSF) and its replenishment, Ukrainian activities related to shutdown of the last active Power Unit No 3 on December 15, 2000, and subsequent decommissioning of the ChNPP, the SAI-participants of the international co-ordinated audit noted deficiency of financing required for timely implementation of the works, determined by the SIP.

The international audit revealed complexity of the project implementation, which was more worsened with a steady increasing of the estimated cost of the project, frequent changes of the individuals involved in the project on behalf of the Government of Ukraine and ChNPP, inappropriate level of interaction between management of the Project Management Unit (PMU), which is responsible for management, coordination and monitoring, and the State Specialized Enterprise ChNPP (SSE ChNPP), which monitors implementation progress of the project.

b Audit Objectives

1) Determination of the actual state of affairs with replenishment of the Chernobyl Shelter Fund and transformation of the ChNPP Shelter Object into an environmentally safe system through fulfillment of the

Shelter Implementation Plan, approved by G-7 Governments and Ukraine.

2) Assessment of implementation of the recommendations issued on the International Co-ordinated Audit of the Chernobyl Shelter Fund.

c Researchable Questions

1. Is funding of the Chernobyl Shelter Fund sufficient for fulfillment of the Shelter Implementation Plan?
2. Are measures taken to transform the ChNPP Shelter Object into an environmentally safe system through fulfillment of the Shelter Implementation Plan?
3. Are measures taken to implement recommendations issued on the International Co-ordinated Audit of Chernobyl Shelter Fund?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. The audit also included interviews, field visits and the consideration of information from secondary sources.

e Main Audit Findings

1) The results of the International Co-ordinated Audit of Chernobyl Shelter Fund showed that the Government of Ukraine and EBRD did not provide timely execution of the works incorporated into SIP as well as required financing volumes according to the Rules on the CSF and Framework Agreement between Ukraine and EBRD on the Chernobyl Shelter Fund's activities in Ukraine.

However, monitoring of implementation of the recommendations issued on the International Co-ordinated Audit shows that some progress and significant improvements in solving key problems related to SIP fulfillment were achieved in 2012-2013. Thus, in particular, the joint efforts helped to achieve significant progress in construction of the infrastructure facilities at the Chernobyl Nuclear Power Plant cite, as well as at the New Safe Confinement. The installation of the "Eastern arch" was completed and the construction of the "Western arch" is continued.

However, full SIP fulfillment on timely bases is not provided with the required resources that caused, for example, delays in solving some SIP issues related to the water management system, which is inside in the Shelter Object, monitoring of the fuel containing materials, technological frame for treatment with the radioactive wastes, equipment for deconstruction. As of the end of 2013 the updated estimated cost of SIP fulfillment completion exceeded available CSF financial resources and also resources provided for this purpose from the other sources.

2) The SAI-participants of the International Co-ordinated audit revealed that as of the end of 2007 SIP fulfillment had fallen for more than 7 years behind the schedule. SIP costs, including completion of the New Safe Confinement, exceeded USD 1.2 billion, were 58.3 percent

higher than the initial cost estimation and were likely to further increasing.

Monitoring of implementation of the recommendations issued on the International Co-ordinated Audit, conducted by the Accounting Chamber of Ukraine, confirmed relevance of the mentioned conclusion. Thus, as of the end of 2013 completion of the New Safe Confinement building was expected in 2016. Besides, the risk of further postpone of its construction completion remained. The total delay in construction of the New Safe Confinement was approximately 11 years. However, due to technical difficulties and delays with SIP fulfillment and especially with construction of the New Safe Confinement, the expenditures were permanently increased and amounted 2.3 billion US Dollars in 2013, thus three times exceeded the initial estimated cost.

3) Additionally to the SIP project there are some other projects which are implemented in the ChNPP site and are related to decommissioning of the ChNPP and transformation of the Shelter Object into an ecologically safe system.

   The International Co-ordinated Audit revealed significant delays in implementation of the projects, which are financed by EBRD from both Chernobyl Shelter Fund (CSF) and Nuclear Safety Account (NSA), as well as from the European Commission funds under the TACIS program. The said conclusion is confirmed with the results of the annual monitoring, carried out by the Accounting Chamber of Ukraine.

   Thus, for example, the building and construction works at the Intermediate Spent Fuel Storage (ISF-2), which are financed from NSA, has not been resumed since 2007. The project continues to be at the stage of preparation and modification of the technical specifications. Its commissioning is expected in 2017 with delay up to 14 years.

   Similarly, the terms of commissioning of the Industrial Complex for Solid Radioactive Waste Management (ICSRM) and "Liquid Radioactive Waste Treatment Plant" (LRTP) were moved for 1 more year. As a result the lag periods in implementation of the mentioned projects are up to 10 and 13 years respectively.

4) Participated SAIs of the International Co-ordinated Audit stated that the information provided by EBRD to the Fund Contributors was insufficient to assess effectiveness of mission performance by CSF, in particular to ascertain Contributors that the allocated funds were utilized in an efficient and economic manner. Appropriate/adequate reports were not submitted to the Assembly of Contributors that resulted that most of its members were not provided with complete information about CSF activities and funds utilization.

   The results of the monitoring, conducted by the SAI of Ukraine in 2012-2013, showed that the contributor governments received information on the status of SIP fulfillment in the form of statements, which fully covered issues related to amount of the executed works,

meeting appropriate deadlines, replenishment and utilization of the Chernobyl Shelter Fund.

The report on project implementation, which contains information about CIP fulfillment and risk assessment of its further fulfillment within the framework of existing schedules and budget, is submitted by EBRD to the Assembly of CSF Contributors twice a year.

5) The International Co-ordinated Audit revealed that the project implementation was complicated with the frequent changes of the responsible persons and insufficient level of interaction between the management of PMU and SSE ChNPP.

   The annual monitoring of implementation of the International Co-ordinated audit showed that the Government of Ukraine could ensure consistency of management of the major Ukrainian organizations, which are responsible for the key decisions related to fulfillment of the Shelter Implementation Plan.

6) The participating SAIs of the International Co-ordinated Audit noted that in order to avoid problems with the construction of the New Safe Confinement, which are connected with the cost overruns and postponement of the construction completion, it is necessary to conduct audits of the principal management activities during the planning and construction stages.

   Based on the results of the international audit and considering importance of the mentioned issue the European Bank for Reconstruction and Development has ensured the annual financial audits and continues to take measures on conduction audits of the CIP management.

7) The construction of the NSC is a complex and difficult task, which can be performed only by means of a highly professional management, i.e., clearer and more efficient PMU integrated into ChNNP.

   The results of the monitoring, conducted by the SAI of Ukraine, showed continuing of the EBRD's practice related to deputing functions and responsibilities from the Project Management Unit to the Ukrainian experts.

ƒ *Principal recommendations*

With the aim to avoid safety reducing at the Shelter Object, maintaining its operational status and to ensure proper SIP fulfillment, the participated SAIs of the International Co-ordinated Audit issued Joint Recommendations to the Assembly of Contributors, CSF, the Government of Ukraine and CSF Contributors Governments.

In particular, ***the Assembly of Contributors was recommended***:

1) to facilitate accountability and transparency of the project financing by EBRD;

2) considering similarity of the problems around the projects financed from the Chernobyl Shelter Fund and the Nuclear Safety Account it is reasonable to consider optimization of these funds' management, that

will help to get some financial benefits from reduction of the administrative costs;

3) with the aim to carry out its obligations in the Chernobyl Shelter Fund the Contributors should request the report on SIP fulfillment as the basis for effective cost and risk management.

The SAI-participants recommended to the EBRD:

1) to provide the Assembly of Contributors twice a year with a comprehensive integrated report, which contains detailed cost estimate and schedule for project completion. Aforementioned information should be submitted to the Contributor countries prior to the regular meeting in optimum terms;

2) to enhance cooperation and coordination between the parties, involved into the projects of construction of the Intermediate Spent Fuel Storage (ISF-2) and Liquid Radioactive Waste Treatment Plant (LRTP). Contractors and customers should find a pragmatic solution within limited time-frames and present complete licensable, safe and cost-effective solution to the Contributor countries as soon as possible;

3) to provide strict project management and adjust the organizational Project Management Unit structure in line with the management audit's proposals with regard to clear structuring or restructuring of responsibilities and assurance quality from the contractors, as well as providing a severe control over the schedule, costs and risk mitigation;

4) to provide a gradual transfer of the Western consultants' functions and responsibilities to the Ukrainian experts;

5) to conduct audit of the project implementation and PMU's procedures concurrently in the stage of construction in order to be able to respond to arising problems at the early stage.

The Government of Ukraine was recommended to ensure stable leadership in the key Ukrainian institutions, which are responsible for all key decisions of Ukraine with regard to the Project, as well as to ensure timely contribution to the Chernobyl Shelter Fund and to the Nuclear Safety Account by Ukraine.

With the aim to fulfill obligations on CSF replenishment, ***the Contributor Governments were recommended*** to request from the Assembly of Contributors and EBRD integrated SIP fulfillment report as basis for effective control and fund management.

Links to the Reports

http://www.ac-rada.gov.ua/doccatalog/document/16742799/auditeurosai1.pdf

http://www.ac-rada.gov.ua/control/main/uk/publish/article/16741813

http://www.ac-rada.gov.ua/control/main/uk/publish/article/16743850

http://www.ac-rada.gov.ua/control/main/uk/publish/article/16743232

The Accounting Chamber of Ukraine

Address: 7 M. Kotzyubynskogo Str. 01601, Kyiv-30, Ukraine

Phone: + 38 044 206 07 55
Fax: + 38 044 234 20 30

E-mail: ird@ac-rada.gov.ua

3.2 DAMAGE AND NEEDS ASSESSMENTS

A damage and needs assessment process means identifying the damage caused by a disaster, and the location of victims and their basic needs. The planning of post-disaster recovery and restructuring activities, the identification of relief beneficiaries and normalization of life depend on the results of the damage assessment.

3.2.1 INDONESIA

The performance audits conducted by the BPK RI revealed various problems in connection with the damage and needs assessments conducted in respect of the West Sumatra earthquake, Mt. Merapi eruption, and Mentawai Islands earthquake and tsunami. They primarily concern inadequate documentation and the assessment of damage and losses.

3.2.1.1 DMA should apply reliable methods of data collection

a Background

The first and most crucial step in a post disaster needs assessment is the obtain data on the direct damage caused by the disaster. ECLAC[5] states that direct quantification should be used to gather data on direct damage resulting from a disaster. The assessment team should directly quantify all assets, populations, and enterprises affected by the disaster so as to provide accurate data that can be used to assess the monetary value of post disaster recovery needs. In addition, DMAs should maintain detailed data on direct damage, either in hardcopy or softcopy archives.

The assessment team should consist of relevant local agencies and the regional DMA. Working together, they should gather and classify data on direct damage by asset category. All data should be well documented either electronically or in writing. The specific method used to collect and assess

[5]Economic Commission for Latin America and Caribbean

direct damage should be in line with the method determined by the National DMA as the principal policy maker.

b Audit Objective

To determine whether the process of gathering data on direct damage and losses is adequate and supported by a proper documentation.

c Researchable Questions

Did the Disaster Management Agencies apply reliable methods in collecting data on damage in order to generate an accurate recovery needs assessment?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. Its audit also included interviews, field visits, and the consideration of information from secondary sources.

e Main Audit Findings

Improper documentation and provision of data on direct damage

The audits showed that the methods used by DMAs in collecting data were unreliable. The National DMA and local DMAs in some provinces failed to present documentation for both their detailed direct damage data and the source/initial direct damage data. The data only specified the total number of damaged homes and farms, and livestock losses. No evidence or documentation was kept on how those figures were arrived at.
In addition, interviews with the authorities revealed that, instead of using the direct quantification method, DMAs resorted to sampling when collecting direct damage data. While DMA officials visited most affected areas to collect and validate direct damage data, they failed to provide evidence of which locations were visited and how the locations to be visited were determined.

The unreliability of the data collection method had the potential to result in unreliable quantitative damage data, thus rendering the monetary value of recovery needs inaccurate.

f Principal recommendations

The national and local DMAs should apply the direct quantification method in collecting direct damage data. They should maintain documentation on all source data and analyze it during the post disaster needs assessment and the drawing up of the Recovery Action Plan.

3.2.2 TURKEY

The performance audit conducted by SAI Turkey revealed a variety of problems regarding the damage and needs assessments conducted following the Van and Istanbul earthquakes. They concerned the timeliness and accountability and transparency of the damage assessments.

3.2.2.1 Damage assessment work should be carried out by experts or specialists in a fair, timely and reliable manner in line with predetermined criteria

a Background

Damage assessment work is necessary to identify disaster victims who are in need of temporary shelter, and those entitled to shelter relief. It is therefore of paramount importance that assessment be conducted by an adequate number of technical personnel who are experienced in damage assessment in line with a predetermined plan, and that the construction of permanent homes starts, or the necessary financial aid is provided to the disaster victims, as soon as possible after the beneficiaries have been identified.

An accurate assessment of the damage to a structure requires different areas of expertise. Therefore, a damage assessment should be performed by specialist and experienced technical personnel. However, following the Van earthquake, it turned out that technical personnel who were neither trained nor experienced were assigned to carry out damage assessment work. A total of 28,699 appeals were made against the damage assessments made by these personnel. Subsequently, 3,605 buildings that were initially determined to be moderately damaged were later reassessed by three technical universities and the damage status of 2,215 of these buildings was changed. The differences in the assessments of damage to the same buildings resulted in a loss of confidence among disaster victims and the number of appeals increased. These problems show that the damage assessments were inadequate. Furthermore, the first training on how to conduct damage assessments was only provided in the wake of the earthquake.

b Audit Objective

To determine whether damage assessments were conducted by experts or specialist personnel in a fair, timely, and reliable manner.

c Researchable Question

Were damage assessments conducted by experts or specialist personnel in a fair, timely, and reliable manner?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. Its audit also included interviews, field visits, and the consideration of information from secondary sources.

e Main Audit Findings

1) The process of determining the beneficiaries took a long time due to the lack of clarity and ambiguity of the procedures and criteria. As a result, the elimination of unjust treatment also took time.

2) In the case of 143 shops and 51 houses that were damaged in 1999 in Istanbul, the beneficiaries continued to suffer unjust treatment at the time of the audit. It was evident that similar problems were also prevalent after the Van earthquake as the procedures for the determination of ownership titles had yet to be definitively determined as of the date of the audit.

f Principal recommendations

In relation to damage assessment and ownership titles, the procedures, criteria and the technical personnel assigned should be identified/ determined prior to the disaster. The technical personnel also need to be trained beforehand so that they are capable of providing post-disaster services in a proper and timely manner.

3.2.2.2 Disaster relief funds should be collected and distributed based on transparency and accountability

a Background

Rapid normalization of life following a disaster depends on the timely and proper provision of necessary relief supplies to disaster victims. If relief supplies are not distributed quickly and fairly, donations may decrease, disaster victims will lose confidence in the relief effort and ultimately order will break down and chaos prevail.

The lack of coordination between institutions during the distribution of relief supplies to the victims following the Van earthquake led to chaos, which was widely reported and roundly condemned by the media. Relief supplies flooding in from all around the country could not be distributed due to the lack of proper organization. As an inventory of relief supplies was not kept, the amounts of relief supplies being received and distributed could not be properly determined. This was also caused by the fact that the AFAD municipal and provincial directorates established two separate and independent crisis centers. This duality in the relief organization led to repeated and excessive distributions of relief in some places and no relief distributions at all in other places.

b Audit Objective

To determine whether disaster relief was collected and distributed transparently and accountably.

c Researchable Question

Was disaster relief collected and distributed transparently and accountably?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. Its audit also included interviews, field visits, and the consideration of information from secondary sources.

e Main Audit Findings

1) Delays occurred in the distribution of relief as inadequate delegation of authority did not permit rapid action during the post-disaster emergency response phase. The fact that such issues as the distribution of tents and replacement of containers required the approval of the most senior civilian officers also slowed down the effort.

2) Public officials and institutions regularly made conflicting statements following the Van earthquake, instead of keeping the public informed via a combined information centre at regular intervals. This served to undermine transparency and resulted in a loss of confidence among the public, which in turn led to a decrease in relief donations so that victims were left to get by as best they could.

f Principal recommendations

1) The procedures for keeping inventories of disaster relief supplies, the places to store and distribute them, and the relevant procedures and principles should be predetermined so as to ensure accountability.

2) A fast, flexible and accountable decision-making mechanism should be established for the emergency response phase. Information on the relief effort should be shared with the public via a combined information centre so as to ensure transparency.

3.3 HOUSING RECOVERY

The homes destroyed by disasters need to be repaired or rebuilt. During such work, land use policies must take into consideration of geophysical factors and disaster resilient spatial planning. The selection of locations should consider long-term future implications, such as the risk of future disasters, in order to ensure sustainability. Technical assistance may be availed of to optimize the housing recovery program. The state policy should also be aimed at providing

houses for the population, affected by disasters, including through their relocation from the risk areas. The state policy should also be aimed at providing housing to the population, affected by disasters, including through their resettlement from the risk areas.

3.3.1 INDONESIA

The performance audits conducted by the BPK revealed various problems related to housing recovery, including housing recovery targets, timeliness and the use of technical assistance, as described below.

3.3.1.1 Housing recovery targets are damaged/destroyed homes

a Background

In housing recovery, government provides the victims with direct cash aid to rebuild their homes, land for relocation sites and cash aid for those who live in disaster prone areas and need to be relocated. The targeted beneficiaries of direct cash aid are displaced victims whose homes were destroyed by the disaster and residents of disaster prone areas. DMAs have to ensure that the potential recipients are properly targeted through the verification of data on destroyed homes and confirmation with the relevant local institutions responsible for population administration and demographic data.

b Audit Objective

To ensure that housing recovery assistance went to the intended beneficiaries.

c Researchable Question

Did housing recovery assistance reach the intended beneficiaries (those whose homes were damaged or destroyed by a disaster)?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. Its audit also included interviews, field visits, and the consideration of information from secondary sources.

e Main Audit Findings

The direct cash aid distribution process was inadequate to ensure that assistance went to the intended recipients. The audit findings revealed that DMAs did not maintain detailed data on direct damage, including details of homes that had been damaged or destroyed houses. Thus, there was no reliable data with which to verify the entitlement of potential recipients. DMAs also failed to verify potential recipients with the relevant local institutions responsible for population administration and demographic

data prior to distributing the cash aid. The inadequate process of distributing direct cash aid resulted in a lack of fairness.

The audits found that, based on population data, some direct cash aid recipients did not actually live in disaster-affected or disaster prone areas. Such people were neither displaced victims nor vulnerable residents, as they should have been in order to receive cash aid.

f Principal recommendations

Both the national and local DMAs should maintain all source data detailing direct damage and coordinate with the local Population and Civil Registration Agency to ensure that only entitled individuals receive direct cash aid.

3.3.1.2 Permanent housing construction must comply with the build back better principal and the sites selected for permanent housing should be safe or have an acceptable level of hazard risk

a Background

One of the priorities in a Rehabilitation and Reconstruction Action Plan is to relocate displaced victims and residents of disaster prone areas. DMAs normally provide grants to help such people revive their livelihoods and rebuild their communities by relocating them to safer areas.

To ensure that housing recovery complies with the build back better principle, DMAs provide technical assistance to help communities plan and rebuild their homes. To achieve the anticipated outcomes, the technical specialists hired by DMAs need to possess the necessary qualifications and competencies.

DMAs have often faced problems as regards relocation plans for displaced victims and residents of disaster prone areas, with the result that relocation plans have been delayed. As a result, in many disaster areas the displaced victims continue to live for prolonged periods in the temporary housing and vulnerable residents of disaster prone areas remain where they are rather than being relocated.

b Audit Objective

To ascertain whether housing relocation programs has been fully carried out.

c Researchable Questions

1) Have housing reconstruction programs complied with the build back better principle?

2) Were sites selected for housing reconstruction safe or characterized by an acceptable level of hazard risk?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. Its audit also included interviews, field visits, and the consideration of information from secondary sources.

e Main Audit Findings

1) Relocation Programs did not strictly adhere to the rules.

The audit found that problems concerning the relocation of victims were often due to inconsistent policies at the provincial level and the refusal of victims to relocate, as further explained below:

a) The country governments in Agam and Padang Pariaman (West Sumatra) planned to relocate residents of a number of disaster prone areas. The plan was based on recommendations from Ministry of Energy and Mineral Resources' Geological Agency, which suggested that the areas in question were vulnerable to landslides and flash floods in the wake of the 2009 earthquake. Nevertheless, this relocation plan was never carried out as the provincial government did not get on board. The Action Plan had been adopted and implementation of the relocation plan was scheduled for completion by 2010. However, this never happened as a result of opaque and inconsistent policies on the part of the provincial government.

b) The tsunami that swept over the Mentawai Islands in 2010 resulted in more than 1,000 families losing their homes. The displaced victims needed to rebuild their homes in a safe area as soon as possible. Thus, a relocation plan was prepared by the DMA. Unfortunately, the preferred relocation sites were all located in forested areas, thus requiring a decision from the Ministry of Forestry as to whether or not the sites in question could be used for resettlement purposes. However obtaining such a decision from the ministry can take months or even years. As a result of the inordinate delay, the relocation plan never went ahead.

c) The National DMA prepared a relocation plan for displaced victims and vulnerable residents affected by the 2010 Mt. Merapi eruption and lahar flows. Nevertheless, it faced a major constraint in executing the plan, namely, the fact the victims refused to be relocated as they were strongly attached to their homes and land. They insisted on staying put, even though their homes were located in a disaster prone area.

2) Technical assistance for home reconstruction did not ensure adherence to build back better principle

The audit revealed that technical specialists that were hired frequently failed to satisfy all the requirements. DMAs hired technical specialists with management and engineering backgrounds. However, they were expected to assist victims with the budgeting, planning and construction work so as to ensure that the reconstruction work did not run over budget and that the build back better principle was adhered to. However, the technical specialists were unable to deliver budgeting and planning assistance due to lack of knowledge and skills in these two areas. As a result, the DMAs needed to hire consultants to have the job done. Obviously, this increased the cost for the DMAs. This shows that the process of recruiting the technical specialists failed to ensure that they had all the required skills.

The audits also found that some technical specialists terminated their services upon the expiry of their contracts despite the fact that the housing reconstruction work was still ongoing. Residents then had to continue the work without technical assistance. This shows that technical specialists failed to deliver the services that were required to ensure adherence to the built back better principle, the requirement for which is stipulated in the contracts.

f Principal recommendations

1) DMAs should conduct their relocation programs based on comprehensive planning and adequate, transparent and accountable management.
2) DMAs should regularly provide mitigation training and education programs to help improve community awareness and preparedness for disasters.
3) DMAs should improve the recruitment process for technical specialist and enhance the control system so as to ensure that they have the necessary knowledge and skills and properly deliver the required services.

3.3.2. UKRAINE

The legislation of Ukraine stipulate social protection for population, affected by the Chernobyl disaster and reimbursement their expenses. However, the performance audit, conducted by the SAI of Ukraine, revealed number of problems related to housing of the citizens, affected by the Chernobyl disaster.

3.3.2.1. Providing housing for the citizens affected by the Chernobyl disaster

a) Background

After the Chernobyl disaster, which occurred in 1986, there was necessity of resettlement of the affected population from the ChNPP 30-km exclusion zone.

The Ukrainian legislation stipulates that the state takes responsibility for damage caused to the citizens and is obliged to reimburse it. As of today more than 35 thousand of affected families, about 10 thousand of which are invalids among the liquidators of the Chernobyl accident consequences and victims of the Chernobyl disaster, require solution of the housing problem. However, the housing problem of the affected population still remains unsolved.

b) Audit Objective

To assess efficiency of use of the budgetary resources, allocated for provision housing to the citizens affected by the Chernobyl disaster.

c) Researchable Questions

Were the budgetary resources, allocated for provision housing to the citizens affected by the Chernobyl disaster used efficiency?

d) Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. Its audit also included interviews, field visits, and the consideration of information from secondary sources.

e) Main Audit Findings

1) The audit, conducted by the Accounting Chamber of Ukraine, revealed that the current system of providing housing for the citizens, affected by the Chernobyl disaster, is not effective enough. As a result, the state budgetary resources, allocated for these purposes, could not significantly affect the solution of this social problem. Totally 511 citizens, affected by the Chernobyl disaster and their families, were provided with the houses during 2012-2013, that was 1.4 per cent of the total number of citizens from the housing roster.
2) The distribution system of houses for the citizens affected by the Chernobyl disaster is imperfect and contradictory. The unsettled area of law related to exhaustive list of family members of the citizens entitled to providing them with the extraordinary living space, has led to the fact that in some cases houses were obtained not only by the citizens affected by the Chernobyl disaster, but also by their parents and other relatives. As a result, in spite of the significant amounts, which are allocated from the state budget for the mentioned purposes, the number of people registered for obtaining houses has remained almost unchanged during the recent years. In addition, there were revealed some cases of non-compliance priority by the local authorities in providing houses.

f) Principal recommendations

1) To take measures aimed at identification of the exhaustive list of family members of the citizens affected by the Chernobyl disaster and who are entitled to providing them with the extraordinary housing, and at providing of this category of the citizens with the right for obtaining of the pecuniary compensation for housing which, they are entitled, on their request.
2) It is necessary to regulate the issue of one-time use of the right for

obtaining houses by the citizens affected by the Chernobyl disaster. The local authorities should ensure priority in providing houses at the expense of budgetary resources.

3.4 RECONSTRUCTION OF PUBLIC INFRASTRUCTURE AND FACILITIES

The reconstruction of damaged public infrastructure and facilities should also be included in an action plan. Damaged or destroyed public infrastructure and facilities should be repaired or rebuilt as quickly as possible. At the same time, it must be ensured that the build back better principle is adhered to in the reconstruction or rebuilding of public infrastructure and facilities so as to mitigate the damage from potential future disasters.

DMAs are responsible for allocating funding for the repair and reconstruction of damaged public infrastructure and facilities, and for ensuring that the necessary steps are taking to ensure that the reconstruction work proceeds as quickly as possible. DMAs are also responsible for ensuring that the build back better principle is adhered to.

3.4.1 INDONESIA

The performance audits conducted by the BPK revealed various problems related to the repair and rebuilding of public infrastructure and facilities reconstruction, including problems related construction quality, compliance with the action plan and the build better principle, and issues related to damage assessment. The details of the problems encountered are as described below.

3.4.1.1 Reconstruction work should only target public infrastructure and facilities that were damaged/destroyed by the disaster

a Background

In the rehabilitation and reconstruction work following the Mt. Merapi eruption and the West Sumatra Earthquake, local DMAs carried out a number of road construction projects, supervised by the National DMA. These projects were subject to the 2010 General Specifications published by the Ministry of Public Works. Only public infrastructure and facilities that was damaged by the relevant disaster should be targeted for rehabilitation and reconstruction work. DMAs should ensure the eligibility of roads that are to be reconstructed by verifying damage data.

b Audit Objective

To evaluate whether the reconstruction effort targeted public infrastructure and facilities damaged by the disaster.

c Researchable Question

Did there construction work target the damaged public infrastructure and facilities (roads, bridges, utilities) as specified in the action plan?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. Its audit also included interviews, field visits, and the consideration of information from secondary sources.

e Main Audit Findings

1) The audit findings revealed that the DMAs failed to maintain detailed data on direct damage, including detailed data on damage to public infrastructure and facilities. Thus, no reliable data was available with which to conduct verification.

2) Rehabilitation of road segments in Pakem-Prambanan was carried out as part the Rights activities in the wake of the Mt. Merapi eruption and lahar flows. The audit showed that these road segments were not specified in the Action Plan, and thus they should not have been targeted as part of the RR effort.

3) Rehabilitation of road segments between Simancung–Tanjung Ampalu was carried out as part of West Sumatra earthquake RR activities. The audit showed that these road segments were not specified in the Action Plan, and thus they should not have been targeted as part of the RR effort.

f Main Recommendations

1) National and local DMAs should maintain all source data on direct damage and should perform proper verification prior to approving the construction of particular infrastructure and factories as part of the RR effort.

2) National and local DMAs should encourage local governments to entirely commit to the RR process and to adopt the action plan as their primary guidance in conducting RR activities.

3.4.1.2 Reconstruction Work Should Comply with Build Back Better Principle

a Background

A DMA should ensure that all reconstruction work complies with the build back better principle so as to help prevent and mitigate potential future disasters. Building codes that only permit earthquake-resistant buildings should be in place, and the technical construction requirements specified in reconstruction contracts should conform to the building codes.

It is essential that vital buildings have robust structures and be earthquake-resistant so that they can function as shelters when an earthquake occurs. Local governments must ensure that hospitals satisfy these requirements. Local governments should initiate the use of seismic base isolation (SBI) to enhance the level of earthquake resistance.

Local DMAs, supervised by National DMA, constructed a number of roads based on the 2010 General Specifications issued by the Ministry of Public Works. The projects were related to the RR activities following the Mt. Merapi eruption and lahar flows and the West Sumatra earthquake. However, the General Specifications do not specifically address the issue of earthquake resistance in the case of roads and bridges.

A local DMA also reconstructed a state-owned hospital as part of RR activities following the West Sumatra earthquake. The hospital had been damaged by the earthquake.

b Audit Objective

To assess whether reconstructed activities complied with the build back better principle?

c Researchable Questions

Did reconstruction work comply with the build back better principle?

d Audit Methodology

The team reviewed documents related to the rules and regulations, plans and manuals. Its audit also included interviews, field visits, and the consideration of information from secondary sources.

e Main Audit Findings

1) Field inspections of the road segments that were reconstructed showed that in most places the construction density was below the minimum percentage (98%) for Job Standard Density (JSD). The audit also revealed that the technical specification employed did not fully comply with the requirements set out in the relevant contracts. As a result of the poor quality of the work, the road segments that were built would have shorter useful lives than anticipated.

2) A field inspection revealed damage to a newly reconstructed segment of the Simancung-Tanjung Ampalu road. Of the total of 7,700m of newly reconstructed road, 64m had subsided due to soil movements. This showed that proper and comprehensive planning, taking into account soil conditions, had not been carried out.

3) Based on regulations issued by the Regional/Provincial Public Works Agency, the use of seismic base isolation is more effective in the case of a building that is utilized 24 hours a day. The regulation also states that

hospitals are categorized as vital buildings. However, the actual utilization of SBI was transferred from hospitals to government offices, which are also designated as escape buildings.

- *Principal recommendations*

1) National and Regional DMAs should encourage provincial and local governments to fully commit to RR activities and to conduct better management in respect of infrastructure construction.
2) DMAs should conduct better supervision in respect of the management of relief funds through monitoring and evaluation.

CHAPTER 4
CONCLUSION

4.1 IMPACTS ON AUDITED ENTITIES

This parallel audit project has resulted in the formulation of a number of recommendations for DMAs. The SAIs would encourage all DMAs to improve their recovery activities, enhance their capacities in managing disaster and disaster-related aid and to uphold transparency and accountability. DMAs are also expected to enhance their coordination with all related institutions and organizations in managing disaster and disaster-related aid.

4.1.1 AUDIT CONCLUSION

Audits conducted by BPK, TCA, and Ukraine SAI revealed several common audit conclusions in each topic, as follows:

a) Recovery action plans for emergency rehabilitation and reconstruction often suffer from a lack of comprehensiveness and integration with mitigation plans. In addition, they are often not properly communicated to local government. In Turkey, a temporary shelter plan was found not to be in line with the provincial spatial plan, which resulted in the establishment of an improper temporary shelter zone and infrastructure problems. An Indonesian DMA set out grant fund allocations from external organizations in its Action Plan but failed to maintain reliable evidence or supporting documents detailing the basis for these allocations. This shows that the action plan lacked comprehensiveness and failed to reflect real recovery needs. Timely fulfillment of the Shelter Implementation Plan and its funding in required amounts were not ensured in Ukraine. Monitoring of implementation of the recommendations on the International Co-ordinated Audit of Chernobyl Shelter Fund, which was conducted in 2013, showed that in spite of some progress achieved in solving key problems, timely completion of construction of the New Safe Confinement, creation of infrastructure at the ChNPP industrial site and carrying out other works defined with the Shelter Implementation Plan for transforming the Shelter Object into an environmentally safe system, is not ensured. The total delay period of the project is more than 14 years that indicates its unreality.

b) The methods used by DMAs in collecting data on direct damage were unreliable. In Indonesia, DMAs failed to present documentation for both their detailed direct damage data and the source/initial direct damage data. In addition, instead of using the direct quantification method, DMAs resorted to sampling when collecting direct damage data. In Turkey, data on direct damage collection was performed by unskilled and inexperienced personnel. In addition, the process of determining the beneficiaries took a long time due to the lack of clarity and ambiguity of the procedures and

criteria. The unreliability of the data collection method had the potential to result in unreliable quantitative damage data, thus rendering the monetary value of recovery needs inaccurate. In Ukraine, the estimated cost of the Shelter Implementation Plan increased in the process of its fulfillment almost in three times, that indicates inaccuracy of its estimation and leads to delays in implementation of the project, including cost of completion construction of the New Safe Confinement.

c) The disaster relief aid distribution process was inadequate to ensure that assistance went to the intended recipients fairly and timely. In distributing cash aid for housing recovery, Indonesian DMAs did not have reliable data with which to verify the entitlement of potential recipients and failed to verify potential recipients with the relevant local institutions prior to distributing cash aid. In Turkey, delays occurred in the distribution of relief as inadequate delegation of authority did not permit rapid action during the post-disaster emergency response phase. The inadequate distribution process resulted in a lack of fairness. In Ukraine measures on improvement of the living conditions of the citizens affected by the Chernobyl disaster, were also not effective enough. Thus, only 1.4 per cent of the registered in the housing roster citizens, which were affected by the Chernobyl disaster, obtained houses during the period of 2012-2013. Besides, the unsettled legislation caused some cases of obtaining houses not only by the citizens actually affected by the Chernobyl disaster.

d) Housing recovery and the reconstruction works on public infrastructure and facilities have not complied with the build back better principle as they should so as to help prevent and mitigate potential future disasters.

4.1.2 IMPROVEMENT OF DISASTER AND DISASTER-RELATED AID MANAGEMENT

Some of the audit findings on the four selected audit topics are related to the ineffectiveness of, and lack of compliance with, action plans. In respect of each finding, the audit teams prepared recommendations that are intended to improve disaster and disaster-related aid management. The recommendations are as follows.

1.1.2.1 Importance of Adherence to International Standards so as to Uphold Transparency and Accountability

The audit teams have also proposed the implementation of the newly adopted INTOSAI GOV 9250 on the Integrated Financial Accountability Framework (IFAF). This guideline introduces the use of IFAF tables for the purpose of upholding transparency and accountability in disaster-related aid management. Under the IFAF, each institution or organization managing disaster-related aid should produce an IFAF table that can be cross-checked with the IFAF tables produced by the other institutions and organizations so as to trace the aid flow from donor to recipients or from donor to executor.

1.1.2.2 The Need for Comprehensive and Integrated Contingency Plans

A number of audit findings show that action plans for emergency rehabilitation and reconstruction often suffer from a lack of comprehensiveness and integration with mitigation plans. In addition, they are often not properly communicated to local government.. To have RR activities run effectively and in timely manner, DMAs need comprehensive and integrated contingency plans. The proper planning of recovery activities plays an important role in the success of RR activities.

1.1.2.3 The Need of Active Participation by Government, Local Communities, and Relevant Entities

In Indonesia, housing recovery and relocation activities were delayed by inconsistent policies on the part of the provincial government, protracted process of obtaining permission to relocate to forested areas, and the refusal of some local communities to be relocated. Public infrastructure and building reconstruction work often failed to satisfy the build back better principle. This shows that provincial and local governments, as the principal executors, failed to fully commit to the build back better principle. Furthermore, incompetence on the part of some technical specialists shows that local communities and relevant entities have not been fully involved in the rehabilitation and reconstruction processes.

4.2 LESSONS LEARNED AND CHALLENGES AHEAD

This sub chapter presents the experiences and challenges faced by auditors during the implementation of this parallel audit program. The lessons learned are based on the overall audit project. Experiences and challenges arose not only in the implementation of the parallel audit project, but also in audit project management.

4.1.2. Parallel Audit Implementation

4.1.2.1. Selecting Audit Types

The participating SAIs each has different mandates. During the kick off meeting, the BPK proposed that performance audits be focused on as part of the parallel audit. However, some SAIs expressed a preference for compliance audits and comprehensive audits as they did not have mandates to conduct performance audits.

4.1.2.2. Preparing Audit Design Matrix

To help the participating SAIs focus on the audit, audit teams were requested to develop an Audit Design Matrix (ADM). For this purpose, draft ISSAI 5520 was used as a guide.

To be able to prepare an audit design matrix, the participating SAIs needed to have an understanding about the business processes and profiles of audit entities. This was important for the purpose of identifying potential audit topics and risks. One of the main challenges faced arose from the characteristics of a disaster itself, namely, the need for a rapid and often unanticipated response. This resulted in unstable data, thus making it difficult for auditors trace aid flows and management.

To overcome this challenge, the participants collected much data and information through interviews, document reviews, and field inspections. The key information obtained -- including information on government programs, legislation, organizational structures, relationships with stakeholders and other parties, external constraints affecting program delivery, and many other issues – was used to identify all potential topics and risks related to disaster and disaster-related aid management. Based on the information that was obtained, the participating SAIs selected their audit topics.

By first identifying the risks, the SAIs developed a clearer picture of the audit direction and possible findings. This helped the audit teams formulate their primary audit objectives. Despite the challenges referred to above, the participating SAIs were able to successfully prepare the audit design matrix.

4.1.2.3. Parallel Audit Execution

The fact that audits were conducted by each SAI gave rise to problems regarding communication and monitoring. Each participating SAI had its own audit agenda which could disrupt the audit timeline agreed at the kickoff meeting. Besides, there were also weather constraints that could put the members of audit teams in danger if they were compelled to go into the field to perform their audits.

To offer an alternative to the participating SAIs, the BPK proposed a revision of the audit timeline. The BPK also created an online platform through which progress and any problems that arose could be communicated.

4.1.2.4. Preparing Joint Audit Report

At the end of audit assignments, each SAI published its national audit report. At the third meeting, the SAIs sent summaries of their draft audit reports draft to be discussed.

In addition to the national audit reports, the BPK also prepared a joint audit report which consisted of summaries of all the audit findings of the participating SAIs.

To improve the quality of audit output, special attention was paid to obtaining feedback from the participating SAIs on the draft joint audit report.

4.1.3. Organizing Parallel Audit Project

The parallel audit project has strengthened relations between the BPK, SAI Turkey, and SAI Ukraine. It has also helped to improve professionalism of auditors. This collaborative venture will not only benefit the participating SAIs, but also other INTOSAI members as the experiences gained during the parallel audit will be shared through the posting of the parallel audit report on the INTOSAI WGEA website.

The sharing of experience and knowledge during the parallel has enriched the knowledge of auditors and increased their expertise in analyzing problems, obtaining audit evidence, and presenting reports.

4.2. THE WAY FORWARD

For the future, it is to be hoped that all SAIs in INTOSAI, not only those who participated in this project, will be able to institutionalize a system for the carrying out of regular audits on disasters and disaster-related aid management. This will help improve disaster management and disaster-related aid management through the implementation of the resulting audit recommendations.

The audit teams found that the guidance was useful in to assisting them in conducting their audits. It describes important concepts of disaster and disaster-related aid management, as well as tools for audit planning based on the logical risk-based approach using an audit design matrix.

Based on their experiences during the parallel audit program, the participating SAIs found that the following matters might need to be considered so as to help improve ISSAI 5520:

a. Risk evaluation associated with disaster management and disaster-related aid management. ***Post-disaster management, as described in ISSAI 5520, may need to include planning and housing recovery activities***. The parallel audit shows that comprehensive and proper planning of recovery activities plays an important role in the success of RR activities. In addition, damage to homes has a severe impact on community life. Thus, housing recovery should be prioritized in RR activities and be allocated the largest proportion of RR funds. Of course, this also implies higher risk in this sector.

b. An audit process should be divided into three main activities, namely, planning, ***execution***, and reporting. Furthermore, the details and expected output of each activity should be explained. For example, planning should include an evaluation of the risks involved in disaster management, audit type selection, audit topic election, audit criteria development, etc.

c. An audit design matrix is a very useful audit tool and serves as a platform for the conducting of audit work in the field. It can be applied to both performance and compliance audits.

d. Audit case studies should be updated to include more disaster-related audits.

ANNEXES

Audit Design Matrix

INTOSAI WGAADA ï PARALLEL AUDIT ON REHABILITATION AND RECONSTRUCTION PHASE

Audit Topic: Preparation of Action Plan for Post Disaster Recovery/RR					
Audit risk: Inadequate action plan can be misleading, Action plan is not applicable and is not implemented by the authorities					
Audit Objective: To evaluate the adequacy of action plan used as platform for RR program implementation					
Researchable questions	**Criteria & information required**	**Information sources**	**Evidence gathering and data analysis methods**	**Limitations of audit and analysis**	**Expected conclusions**
1. **Are there effective and feasible plans in place for post disaster rehabilitation and reconstruction?**	**Criteria:** - DMA's guidelines - Best practice **Information:** - Practical plans for post disaster rehabilitation and reconstruction should be in place.	- Plans and reports of the entity in charge - Internal and external correspondence - Legislation - Previous audit reports - Practice in other countries	- Study of the relevant legislation as well as the reports and documents produced by entities; - Interviews with managers and operating personnel of entity; - Benchmarking with examples of good practices - Reliability of the objectives set forth in the existing plans, the extent to which they satisfy needs and their practicability in the aftermath of a disaster will be evaluated.	Some institutions may not be covered by SAI's audit mandate	Most disaster-prone settlement areas do not have reliable, up-to-date and feasible plans.
2. **Has DMA specified RR program and activities in action plan based on accurate damage figures?**	**Criteria:** - DALA Handbook from ECLAC - DMA's guidelines - Best practice **Information:** - Recovery/ RR activities are classified	- DaLA report - RR Action Plan which consists of prioritized recovery activities and their schedules, programs/activities in each	- Interview with key personnel involved in preparing action plan - Examination of report published by DMA - Comparing DaLA	- DaLA report is not available which makes it difficult to assess the conformity of RR	- Inaccurate damage figures causes RR program and activities in Action Plan to be inaccurate - Inaccurate action plan can derail the overall RR program

	into a number of important sectors - The conformity of recovery activities in each sector with damage assessments - DMA sets priorities based on the urgency and recovery timeframe - DMA sets schedule or timeline for recovery activities and assigns institutions in charge of each activity; - DMA and related institutions sign a MoU or joint agreement/commitment covering their individual responsibilities.	sector and in initial recovery and long term recovery - Minutes or other documentation of coordination meeting among related parties - MOU or joint commitment among involved parties in RR program; - Progress report of RR implementation; - Key personnel in preparing action plan	report with action plan to match RR activities, including priorities and time schedule, with damaged infrastructure/buildings/other facilities; - Comparing institutions' responsibilities specified in action plan with the MoU/joint commitment and with the actual RR execution to match the institution in charge for each activity;	activities; - There is no MoU or other documented agreements on each institution's responsibilities which may cause difficulties in assessing the upholding of commitments	
3. HasDMA prepared a comprehensive financing plan supported by reliable commitments by all parties involved?	**Criteria:** - Government Regulation on international grants - DMA's guidelines - Action Plans for post disaster RR **Information:** - The need for recovery funds in action plan is in line with the damage and needs assessment; - A set of consistent policies or assumptions used to estimate the need for recovery funds is disclosed in the action plan - A comprehensive financing plan, containing information on budget allocations and resources (funding provided by DMA/central government, other related government institutions,	- Action plan which includes required recovery funds, financing resources and plan - Policies/assumptions used to estimate RR funds - Documentation showing the formulation of assumptions used for needs assessment - Minutes or other documentation of coordination meetings for determining the budget allocations provided by each institution, including local government; - Government bank accounts	- Interviews with personnel involved in preparing financing plan; - Examination of DaLA report made by DMA - Examination of existing MoUs/joint agreements - Examination of action plan and budget allocations (including budget sources) - Comparing DaLA report with action plan to match estimated recovery funds with needs assessment;	- Neither DaLA report nor other documentation of needs assessment is available. It will be difficult for auditor to assess reliability of recovery funds specified in action plan. - DMA fails to present MoU or any reliable commitment regarding RR budget allocation	- Lack of reliable financing commitments causes action plan to be inadequate and unreliable. - Inadequate and unreliable action plan can derail the overall RR program

	and by local government) - Financing resources specified in the action plan take account of both national and international grants - Grants specified in action plan have been made by donors or available in Government Account; - If the grants are not yet available, a reliable commitment from donors is needed to ensure their contribution. - DMA and related institutions sign an MoU or joint agreement/commitment on funding availability.	used to keep grants received from donors or - Any commitment from donors to contribute sums of money or in kind aid	- Comparing MoU/joint agreement on each institution's budget availability with action plan to evaluate the reliability of budget allocations specified in action plan; - Comparing budget allocations specified in action plan with actual financing resources for each RR activity; - Comparing donors' commitments with action plan to evaluate the reliability of information on grants specified in action plan; - Comparing estimated grants in action plan with grants actually received by government to finance RR activities	and grants. It will be difficult to evaluate the upholding of contributions that should be made.	
4. Is funding of the Chernobyl Shelter Fund sufficient for fulfillment of the Shelter Implementation Plan?	**Criteria:** -The Framework Agreement between Ukraine and European Bank for Reconstruction and Development on Chernobyl Shelter Fund (CSF) activity; -The Shelter Implementation Plan (SIP); **Information:** -CSF replenishment; -Allocation of the State Budgetary resources of Ukraine to SIP fulfillment; -Status of CIP fulfillment;	-Minutes of the meetings of the CSF Assembly of Contributors; -Information about amount of the CSF contributions; -Letters related to Ukraine's contribution to the CSF; -Information on property contribution of Ukraine to the CSF; -Information on the CSF projects;	-Gathering of information on the projects, which are implemented in Ukraine due to logistical assistance; -Analysis of the reports on SIP fulfillment, in particular through comparison planned and reported data;	Some institutions may not be covered with the audit because of the SAI's mandate	- Deficiency of CSF funding; - Improper management with the resources of the international technical assistance, allocated through the EBRD; - Increasing of the SIP estimated cost, including cost of construction of the New Safe Confinement (NSC); - Delayed SIP fulfillment, including completion of the NSC

	-Timeliness of SIP fulfillment according to the scheduled deadlines.	-Information on utilization of the grants allocated to SIP fulfillment; -Report on SIP fulfillment.	-Analysis of the reports on utilization of state budgetary resources allocated for CSF contribution.		construction; - Insufficient information for assessment effectiveness of SIP fulfillment.
5. Are measures taken to transform the ChNPP Shelter Object into an environmentally safe system through fulfillment of the Shelter Implementation Plan?	**Criteria:** - The legislation and regulations; -The Framework Agreement between Ukraine and European Bank for Reconstruction and Development on Chernobyl Shelter Fund (CSF) activity; -The Grant Agreement between the EBRD, which manages funds according to the NSA Grant, the Government of Ukraine and the Chernobyl nuclear power plant; - The Shelter Implementation Plan; - Information about transformation of the ChNPP Shelter Object into an environmentally safe system. **Information:** - Implementation of the measures aimed at transformation of the ChNPP Shelter Object into an environmentally safe system; - Status of SIP implementation with regard to transformation of the ChNPP Shelter Object into an environmentally safe system; Funding of the measures aimed at transformation of the ChNPP Shelter Object into an environmentally safe system.	- Legislative, regulatory and administrative acts, other documents related to transformation of the ChNPP Shelter Object into an environmentally safe system; -The Shelter Implementation Plan; - Reports on fulfillment of the Shelter Implementation Plan; -Information about the projects, which are implemented in Ukraine within the framework of transformation of the ChNPP Shelter Object into an environmentally safe system and their implementation; -Information about the international grants aimed at transformation of the ChNPP Shelter Object into an environmentally safe system; -Information about funding of the measures aimed at transformation of the ChNPP Shelter Object into an environmentally safe system	- Monitoring of legislative and regulatory acts; - Survey of the responsible persons with regard to the issue of transformation of the ChNPP Shelter Object into an environmentally safe system; - Analysis of the reports on fulfillment of the Shelter Implementation Plan; - Gathering and analyzing of the information on implementation of the projects, financed from the international grants in Ukraine; - Analysis of allocation and utilization of the funds for the mentioned purposes; - Visual examination of the Shelter Object.	Some institutions may not be covered with the audit because of the SAI's mandate.	- Late implementation of the measures aimed at transformation of the ChNPP Shelter Object into an environmentally safe system; - Lack of financial resources for SIP fulfillment related to transformation of the ChNPP Shelter Object into an environmentally safe system.
6. Are measures taken to implement recommendations issued on the	**Criteria:** -Joint recommendations of the International Co-ordinated Audit. - The Framework Agreement between	- Legislative and regulatory acts; - Report on the results of the International Co-ordinated Audit of Chernobyl Shelter Fund;	-Monitoring of legislative and regulatory acts; -Gathering and analyzing of the	Some institutions may not be covered with the audit because of the	-Incomplete implementation of recommendations of the International Co-ordinated Audit; - Increasing of the SIP estimated

International Co-ordinated Audit of Chernobyl Shelter Fund?	Ukraine and European Bank for Reconstruction and Development on Chernobyl Shelter Fund (CSF) activity; - The Shelter Implementation Plan (SIP). **Information:** - With regard to implementation of recommendations of the International Co-ordinated Audit received from the responsible executive authority; -Reports on projects implementation; - Transfer of functions from the Western consultants to the Ukrainian experts; -Findings and reports on the conducted financial audits of the projects; -Leaders of the main Ukrainian organizations, which are responsible for the project implementation.	- Information from the executive authorities with regard to implementation of recommendations of the International Co-ordinated Audit; - Reports on the projects implementation; - Financial audit findings and reports of the independent auditors of the project; -Information about responsible persons for the projects implementation; -Information about participation of Ukrainian representatives at the meetings of the CSF and NSA donors' Assemblies; - Information about CSF contributions and utilization.	information on the projects, which are financed from the international grants; - Analysis of tasks and measures carried out by the audit objects; - Analysis of reports on Shelter Implementation Plan fulfillment by comparison planned and reported data; -Analysis of the report on utilization of the state budgetary resources allocated for CSF contribution; -Visual examination of the Shelter Object.	SAI's mandate.	cost and caused delays in its implementation; - Prolongation of the period of object construction, determined with the projects; - Slow transfer of functions from the Western consultants to the Ukrainian experts; - Failure to conduct financial audits of the projects; - Inconsistent management of the major organizations, responsible for the project implementation.

Audit Topic: Damage and Needs Assessment (focusing on damage data collecting)					
Audit risk: Unreliable quantitative data on damage can lead to inaccurate needs assessment					
Audit Objective: To evaluate the reliability of quantitative damage data used for assessing recovery needs					
Researchable questions	**Criteria & information required**	**Information sources**	**Evidence gathering and data analysis methods**	**Limitations of audit and analysis**	**Expected conclusions**
7. Are there measures taken to ensure timeliness, effectiveness, transparency and accountability of damage assessment, determination of eligibility and distribution of emergency supplies?	**Criteria:** - DMA's guidelines Best practices **Information:** - Damage assessment and determination of eligibility should be done by specialist and experienced personnel based on predefined criteria. - Damage assessment, determination of eligibility and distribution of emergency supplies should be done in a fair, reliable and timely manner. - The collection and distribution of emergency supplies should be carried out transparently and accountably.	- Personnel files - Officials, experts and academics. - Training programs; - Criteria sources, if any. - Documents and reports of the entity in charge - Instructions and directives related to implementation; - Case studies; - Disaster victims of disaster and assigned personnel. - Files kept by entities; - Internal controls; - Disaster victims and key officials.	- Interviews with the personnel from relevant entities, universities and representatives of professional associations; - Focus group meetings; - Examination of training programs attended by assigned personnel. - Conduct of surveys and interviews with disaster victims and responsible entities. - Process analysis; - The criteria are evaluated through focus group meeting attended by specialists.	If primary responsible institution for reconstruction activities is outside SAI's audit mandate, difficulties will be encountered while gathering evidence on reconstruction activities.	Most disaster-prone settlement areas lack reliable, up-to-date and feasible plans.
8.Does Disaster Management Agency apply reliable methods in collecting damage data in order to generate an accurate recovery needs assessment?	**Criteria:** - DALA Handbook from ECLAC - DMA's guidelines **Information:** - The quantitative data on damage and casualties is obtained through direct observation and quantification of direct damage and casualties in affected areas in a timely manner. - DMA verifies and validates quantitative damage data using satellite images for	- Detailed damage data documentation (DaLA report), including damage level categorization and use of judgment in estimating damage and losses - Guidelines for categorizing damage levels - Documentation showing verification and validation process, including judgments used in	- Documentary/data analysis (comparing relevant documents/data: satellite images of affected areas vs selected samples, working papers on direct quantification/source data for direct	DMA failed to present documentation on both detailed damage data and source data for direct damage, or evidence of samples of affected areas to visit. As a result.	- Lack of concern on part of the authorities to maintain source data on direct damage and detailed damage data - Quantitative damage data is unreliable which causes inaccuracies in recovery needs assessment.

	generating accurate samples - Validated data is documented appropriately and made accessible.	selecting samples of affected areas to visit - Satellite images of affected areas - Key personnel involved in damage and needs assessment	damage vs validated quantitative damage data - Interviewing personnel from DMA and other parties that are involved in damage and needs assessment - Verifying validity and reliability of information obtained from interviews by obtaining relevant documents and comparing legal documents/guidelines to actual conditions;	will difficult for auditors to evaluate the overall data collecting process. The only evidence was provided by interview results, which is not sufficient for auditors to draw conclusions.	

Audit Topic: Housing Recovery					
Audit risk: Housing recovery does not target damaged homes nor comply with build back better principle					
Audit Objective/s: To evaluate whether the housing recovery targets the damaged houses and meets build back better principle					
Researchable questions	**Criteria & information required**	**Information sources**	**Evidence gathering and Data analysis methods**	**Limitations of audit and analysis**	**Expected conclusions**
9.Does housing recovery target damaged homes?	**Criteria:** - DMA's guidelines - Best practice **Information** - DMA sets priorities for permanent housing reconstruction based on damage levels and urgency; - DMA verifies victims that will be granted cash aid to rebuild homes based on house damage data used for formulating the Action Plan before distributing direct aid; - DMA conducts verification to ascertain those who have not been granted subsidies/aid for housing recovery and prioritizes those who have not.	- Priority list of damaged homes to be reconstructed; - List of actual beneficiaries of cash aid; - Detailed house damage data used in action plan; - Documentation evidencing the beneficiary verification process.	- Comparing house damage data with priority list and actual beneficiary list to verify that beneficiaries match house damage data; - Interview with key personnel of DMA about the process of granting cash aid; - Distributing questionnaires among	DMA failed to present both detailed house damage data and priority lists. The only evidence was list of actual beneficiaries which was insufficient for auditors to assess the conformity of	DMA did not perform any appropriate and necessary activities to ensure that cash aid beneficiaries are the real victims whose homes were damaged.

			beneficiaries to assess their pre disaster condition; - Verifying validity and reliability of data from interview and surveys by obtaining relevant documents and comparing legal documents/guidelines to actual condition.	cash aid beneficiaries with the real victims whose homes were damaged.	
10.Does permanent housing reconstruction comply with the build back better principal and are the sites selected for permanent housing safe or have an acceptable level of hazard risk?	**Criteria** - Guidelines for earthquake resistant construction - DMA's guidelines for housing in West Sumatra Province. **Information** - Building codes for earthquake resistant housing are in place. - DMA disseminates information on the building codes to displaced victims targeted for house rebuilding. - Relocation plan is enforced when existing locations of victims/communities are unsafe. - Victims/communities are provided with construction training before rebuilding their homes. - Victims/communities are provided with building tools needed to rebuild their homes. - Technical assistance is provided to help victims/communities plan and build their homes. - Technical specialists are knowledgeable about building construction codes - DMA monitors and evaluates the building process for the purpose of making improvements.	- Building codes for earthquake resistant housing - Maps of disaster affected areas, which are subsequently designated disaster prone areas - Relocation master plan - Site plans of permanent housing; - House construction plans - Victims targeted for house rebuilding; - Key DMA personnel; - Technical specialists; - Reports of technical assistance; - DMA's monitoring and evaluation reports	- Comparing maps of disaster affected areas with relocation plans to ensure that relocation sites are safe; - Comparing building codes with permanent housing site and construction plans to determine whether permanent housing reconstruction plan meets requirements; - Site visits and construction inspections to assess the safety of relocation sites and compliance of permanent housing construction with building codes; - Interviews with DMA personnel and key technical specialists; - Distributing surveys or questionnaires on suitability of permanent housing in terms of construction, technical	DMA failed to present both detailed house damage data and priority lists. The only evidence was list of actual beneficiaries which was insufficient for auditors to assess the conformity of cash aid beneficiaries with the real victims whose homes were damaged.	- Relocation master plan not in line with district master plan. This delayed relocation. - Relocation sites not suitable for victims, or, relocation sites selected by victims were unsafe. - Auditors required to prepare recommendations to help resolve problems.

			assistance, and location, based on victims' and technical specialists' perceptions; - Analyzing and monitoring evaluation reports to ensure DMA is benefitting from lessons learned in order to improve housing recovery in the future.		
11. Were the budgetary resources, allocated for provision housing to the citizens affected by the Chernobyl disaster, used efficiency?	**Criteria:** -Legislative and regulatory acts; - Level of providing housing to the citizens affected by the Chernobyl disaster. **Information:** -Management decisions on providing housing to the citizens affected by the Chernobyl disaster; -Planning and implementation of the measures aimed at providing housing to the affected citizens; - Roster of victims who need better housing conditions; - Planned and actual costs for providing housing to the affected citizens; - Providing housing to the citizens affected by the Chernobyl disaster.	-Legislative and regulatory acts; - Action plans and reports related to provision housing to the citizens affected by the Chernobyl disaster; -Roster of the citizens who need better housing conditions; -Concluded agreements on share participation in the housing construction and their implementation; -The results of monitoring of the level of providing housing for the citizens affected by the Chernobyl disaster.	-Monitoring of legislative and regulatory acts on the audit subject; -Analysis of the management decisions related to providing housing to the citizens affected by the Chernobyl disaster; -Verification of reasonability of the formed roster of victims who need better housing conditions; -Analysis of implementation of the action plan on providing housing to the affected citizens; -Verification of reasonability of the expenses on providing housing to the affected citizens; - Evaluation of the level of providing housing to the citizens affected by the Chernobyl disaster.	Lack of complete and accurate information in the responsible executive body on the number of citizens, who affected by the Chernobyl disaster and need better housing conditions.	Inefficiency of the management decisions on providing housing for the citizens affected by the Chernobyl disaster; -Inefficiency of the current system of providing housing to the citizens affected by the Chernobyl disaster; - Ineffective and inappropriate utilization of the budgetary resources allocated for providing housing to the citizens affected by the Chernobyl disaster; --Unsubstantiated inclusion of the

					citizens to the roster of victims who need better housing conditions; - Low level of providing housing to the citizens affected by the Chernobyl disaster.

Audit Topic: Public infrastructure and Buildings Reconstruction					
Audit risk: Reconstruction does not target damaged infrastructure and buildings nor complies with build back better principle					
Audit Objective/s: To evaluate whether reconstruction effort targets damaged infrastructure and buildings and complies with build back better principle					
Researchable questions	**Criteria & information required**	**Information sources & design strategy**	**Evidence gathering and Data analysis methods**	**Limitations of audit and analysis**	**Expected conclusions**
12.Do reconstruction activities target damaged public infrastructure (roads, bridges, utilities) and buildings and comply with "build back better" principle?	**Criteria**: - DMA's guidelines - Guidelines for earthquake resistant construction - contracts - Best practice **Information**: - Guidance for reconstructing infrastructure and buildings located in hazard areas are in place. - DMA sets priorities based on damage levels and urgency - DMA verifies infrastructure and buildings to be reconstructed with damage data used for preparing the Action plan - Reconstruction activities in line with action plan - DMA verifies that infrastructure and buildings to be reconstructed are not financed by other parties - Reconstruction work should be carried out by competent lead institution. - Technical construction requirements specified in contract are in line with build back better principle - Reconstruction design and implementation comply with technical requirements specified in contract - Permanent reconstruction work does not consist of repetition of urgent repairs - No double funding in multiyear reconstruction projects - DMA monitors and evaluates reconstruction process for making of improvements	- Action plan - Priority list of infrastructure reconstruction work - List of actual reconstruction work - Detailed data on damaged infrastructure/ buildings - Infrastructure reconstruction contracts - Invoices and other supporting documents - Final/progress reports on reconstruction work - DMA's monitoring and evaluation reports - Key personnel of DMA and other parties involved in preparing action plan and/or planning reconstruction activities	- Comparing action plan with list of actual reconstruction work to assess conformity of urgent repair activities; - Comparing detailed data of damaged infrastructure with list of actual reconstruction to assess conformity of reconstruction work; - Comparing building code with contracts to assess whether technical requirements specified in contract comply with building code; - Comparing building code with permanent infrastructure reconstruction designs to assess whether reconstruction designs satisfy requirements; - Design and construction inspections to assess compliance with technical requirements specified in contracts;	- DMA failed to present both detailed infrastructure damage data and priority lists. The only evidence was list of actual urgent repairs which is insufficient for auditors to assess the adequacy of reconstruction planning. - Infrastructure building code for infrastructure not available. As a result, auditors unable to draw conclusions about suitability of construction work. Auditors can only assess the appropriateness of construction	DMA failed to perform appropriate and necessary activities in planning reconstruction activities.

			- Comparing list of actual urgent repairs with reconstruction work to ensure no repetition; - Examining invoices to ensure that there are no double funded/charged items; - Interviewing key personnel of DMA and other parties on planning of reconstruction work, judgments used, setting priorities, how to they are in line with urgent repair needs,	based on compliance with technical specifications and requirements contracts	

REFERENCE

ISSAI 5520: Audit of Disaster-related Aid. INTOSAI. 2013

CONTRIBUTORS

Accounting Chamber of Ukraine	Address: 7 M. Kotzyubynskogo Str. 01601, Kyiv-30, Ukraine Phone: ++ 38 044 206 07 55 Fax: ++ 38 044 234 20 30 E-mail: ird@ac-rada.gov.ua
Turkish Court of Account	Address: Sayistay Baskanligi, Inonu Bulvari, No. 45, Balgat, 06100, Ankara, Turkey Phone: +90 312 2953701 Fax: + 90 312 2954093 E-mail: http://www.sayistay.gov.tr
Badan Pemeriksa Keuangan Republik Indonesia	Address: Jl. Gatot Subroto Kav. 31 Jakarta 10210, Indonesia Phone: +62 21 25549000 Fax: +62 21 57953198 E-mail: international@bpk.go.id

LIST OF CONTACT PERSONS

Accounting Chamber of Ukraine	:	Mariya Shulezhko Phone: +380442348548 E-mail: rp25@ac-rada.gov.ua
Turkish Court of Account	:	Arife Coşkun Phone: + 90 312 2953701 E-mail: acoskun@sayistay.gov.tr
Badan Pemeriksa Keuangan Republik Indonesia	:	Fitriyah Phone: +62 8131 707 0730 E-mail: fitri_list@yahoo.com