

**GDLN Seminar on Disaster Risk Management in East Asia and the Pacific  
– 2010 series – Summary of April 1, 2010 Video Conference  
*Conducting Post-disaster Damage and Needs Assessments (PDNAs)***

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**Key topics discussed:**

1. Rationale of Conducting Post-Disaster Needs Assessments (PDNAs)
2. Damage and Loss Assessments (DaLAs), Post-Disaster Needs Assessments (PDNAs), and Post-Crisis Needs Assessment (PCNA)
3. Challenges while conducting PDNAs

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**Executive Summary**

*This seminar on Disaster Risk Management in East Asia and the Pacific focused on conducting Post-Disaster Damage and Needs Assessments (PDNAs). Case studies from Indonesia and Pakistan demonstrated how Damage and Needs Assessments were undertaken after varying types of disasters, which informed the recovery, reconstruction, and rehabilitation process.*

- Firstly, after a disaster occurs, the **damages** (direct impact, short-term recovery) and **losses** (indirect impacts, medium-term rehabilitation) should be quantified and the **needs** estimated in a **DNA**. The character of the DNA is not only to identify the damages, losses, and needs, but also to provide guidance on how to harmonise different phases of early recovery and humanitarian relief with following stages of rehabilitation and reconstruction, and long term sustainable development (Building Back Better (BBB)).
- Secondly, DNAs can be applied in different contexts. A case study from Pakistan highlights the development of a DNA as a result of a military conflict in the North West Frontier Province in early 2009. On the other hand, Indonesia conducted several DNAs or PDNAs in recent years due to several natural disasters (mostly earthquakes).
- Finally, various challenges exist while conducting a DNA, for example, accurate baseline data inventory may be difficult to access, as either data are not available or access is restricted due to security regulations (e.g. Pakistan 2009 conflict). Furthermore, the amount of time used for conducting DNAs is likely to be constrained by the number of trained specialists/experts who can analyse each sector in terms of damages, losses, and needs; although, early and quickly finalised DNAs are favourable to smoothen the transition between the post-disaster phases.

## Summary

### *1. Rationale of Conducting Post-Disaster Needs Assessments (PDNAs)*

During this seminar, emphasis was put on the necessity to conduct Post-Disaster Needs Assessments (PDNAs) soon after a disaster occurs to quantify the damages and losses caused by such an incident, and to identify the needs to return the affected areas to the pre-disaster situation.

The purpose of PDNAs is to address damages (direct impact, short-term recovery) and losses (indirect impact, medium-term rehabilitation) adequately; whereby, damages are regarded as physical damages to housing and infrastructure and losses in the form of reduced incomes or production declines, mostly in the agricultural and industrial sectors.

Quantifying damages and losses in a Damage and Loss Assessment (DaLA), or rapid assessment, is the first step to be taken after a disaster to provide indications about the estimated costs of such an event. This primary assessment is crucial for the formulation of a more comprehensive PDNA where the needs are identified for each phase: recovery, rehabilitation and reconstruction, and development.

The key aim of a PDNA, or DNA, is to link the different post-disaster phases better with each other to allow a seamless transition between the early recovery and development phases. Furthermore, the chance to Build Back Better (BBB) is more likely to be achieved in the long-term if implementation actions start as early as possible.

### *2. Damage and Loss Assessments (DaLAs), Post-Disaster Needs Assessments (PDNAs), and Post-Crisis Needs Assessment (PCNA)*

It is important to differentiate between DaLAs and PDNAs, as the former is an assessment developed in the mid 1970s by the Economic Commission for Latin America and the Caribbean (ECLAC) and the latter is a newer modified or extended form of assessment to identify the needs of the affected population after a disaster. Moreover, a PDNA may also include social impact analysis where the impacts on communities are holistically analysed, as it was done in the case of Cyclone Nargis in Myanmar.

This seminar presented experiences from two countries where DaLAs/PDNAs or Disaster Needs Assessments (DNAs) were recently conducted:

#### **Indonesia:**

Indonesia frequently experiences different types of natural disasters (more than 4,000 between 2001 and 2007), mostly geo-physical, and has undertaken several DaLAs/PDNAs in recent years.

Since it is suggested that DaLAs and PDNAs are led by national governments, Indonesia has adopted a law on disaster management in 2007 and established a National Agency for Disaster Management. Furthermore, governmental regulations, adopted in 2008, urge the development of rehabilitation and reconstruction plans based on analysis of damages and losses after a disaster.

As Indonesia frequently experiences different types of disasters, this process of quantifying the damages and losses and identification of corresponding needs has sped up markedly. For instance, after the Sumatra earthquake in West Sumatra on September 30, 2009, a comprehensive assessment was undertaken between October 9-17, and the full report was finalised on October 30, 2009. Thus, within one month a full PDNA was developed. The total damages and losses, of this incident, were calculated to be around US\$ 2.3 billion. Out of the total amount, 80 percent accounted for damages and losses related to infrastructure

(including housing). This report shall help the government improve the transition between the first phase of early recovery and humanitarian relief with the following stages of rehabilitation and reconstruction and development (BBB).

Provided a PDNA is quickly developed, it has the potential to better harmonise and coordinate the implementation of the different phases, (relief, recovery, rehabilitation and reconstruction, and development) followed by a disaster, and may reduce or even avoid unnecessary duplication of reconstruction activities. For example, if shelter is provided immediately after a disaster to people, the materials used to build these shelters could also be designated to be reused in a later stage when new houses are reconstructed.

Since the establishment of an explicit disaster management body in 2007, mentioned before, various international and national trainings have been organised in different parts of Indonesia to educate experts and technical specialists on how to conduct DaLAs/PDNAs. So far more than 100 specialists have been trained in the methodology.

#### **Pakistan:**

The experience from Pakistan where a DNA was undertaken, between April and September 2009, was not due to a natural or environmentally caused disaster, but due to a military operation launched by the Pakistan Army in early 2009 to fight militants in the North West frontier region. This operation resulted in around 2 million people being internally displaced. Furthermore, numerous battles and bombings resulted in large damages in this region.

It was seen as necessary to quantify the damages and losses and estimate the needs to return the affected area to the pre-crisis situation. The scope of the DNA included the following aspects: firstly, quantification and validation of physical damages caused by the crisis; secondly, development of sector level strategies for the immediate restoration of (public and private) infrastructure, services, and livelihoods, and; thirdly, quantification of corresponding needs in respect of the immediate reconstruction and rehabilitation of critical damaged infrastructure and services, and the restoration of livelihood opportunities.

The total estimated immediate reconstruction and recovery needs was US\$1,087 million, in which a share of 33% was accounted for social sectors (livelihood and social protection, housing, education, health, and environment), 27% for productive sectors (transport, water and sanitation, energy, governance, and infrastructure), 25% for physical infrastructure (private sector, agriculture, livestock, and irrigation), and 15% for cross-cutting areas including environment and governance. The largest losses (US\$690 million) were identified in the agricultural, livestock, and fisheries sectors.

As this DNA was triggered due to a military conflict, its strategic objective was to establish conducive conditions for immediate recovery, rehabilitation, prevention and crisis relapse. Additionally, this DNA, unlike other DNAs, places a great deal of emphasis on the restoration of private sector assets, enterprises, and livelihood activities, as they were the most affected sectors due to this crisis.

Followed by this assessment a more comprehensive report is in progress – the Post-Crisis Needs Assessment (PCNA) - which will be released in May 2010. Accordingly, the finalised DNA shall be aligned with a 3-stage PCNA framework for incremental recovery.

### 3. Challenges while conducting PDNAs

As sector-by-sector assessments are required to correctly identify the damages and losses, and later the needs, a large number of people need to be trained in the appropriate methodologies. In this regard, Indonesia has made good efforts and trained more than hundred experts in various workshops and training programmes over the last few years.

Another challenge or constraint in conducting DNAs is the access to accurate baseline data. In the case of Pakistan, the access for international specialists to assess the situation (damages and losses) was restricted due to security regulations, which prevented them from visiting the sites until July 2009. As a result, local civil society and informal networks were appointed to validate primary data to estimate the damages, losses, and needs.

In the process of conducting and estimating the needs in financial terms, changes in the actual numbers (implementation costs) are likely to occur over time as calculations based on different or updated statistics may alter the figures; moreover, inflation rates have to be taken into account while calculating the costs.

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#### Further Information

For more information on how DNAs were conducted in the past (various cases from Indonesia) and also general information about this topic, please visit the following links:

##### General:

- Global Facility for Disaster Reduction and Recovery (GFDRR), Summary of Methodology of Damage and Loss Assessment:  
[http://gfdr.org/docs/DaLa\\_Methodology\\_Summary.pdf](http://gfdr.org/docs/DaLa_Methodology_Summary.pdf)
- Economic Commission for Latin America and the Caribbean (ECLAC); The World Bank, Handbook for Estimating the Socioeconomic and Environmental Effects of Disasters:  
<http://www.preventionweb.net/english/professional/publications/v.php?id=1099>

\* From Protection stand-by capacity project (ProCap), the Assessment capacities project (Acaps), UNOCHA and UN/ISDR offices for the Pacific based in Fiji

- Protecting persons Affected by natural Disasters  
[http://www.jointokyo.org/files/cms/news/pdf/Protecting\\_Persons\\_Affected\\_by\\_Natural\\_Disasters.pdf](http://www.jointokyo.org/files/cms/news/pdf/Protecting_Persons_Affected_by_Natural_Disasters.pdf)
- Protection of Internally Displaced Persons in Situation of Natural Disaster  
[http://www.jointokyo.org/files/cms/news/pdf/Protection\\_of\\_Internally\\_Displaced\\_Persons\\_in\\_Situations\\_of\\_Natural\\_Disaster.pdf](http://www.jointokyo.org/files/cms/news/pdf/Protection_of_Internally_Displaced_Persons_in_Situations_of_Natural_Disaster.pdf)
- Data Collection in Humanitarian Response  
[http://www.jointokyo.org/images/cms/Data\\_Collection\\_in\\_Humanitarian\\_Response.pdf](http://www.jointokyo.org/images/cms/Data_Collection_in_Humanitarian_Response.pdf)

##### Indonesia:

- National Agency Disaster Management (BNPB), LAW OF THE REPUBLIC OF INDONESIA NUMBER 24 OF 2007 CONCERNING DISASTER MANAGEMENT  
[http://www.jointokyo.org/files/cms/news/pdf/DISASTER\\_MANAGEMENT\\_LAWS\\_AND\\_ITS\\_ANCILLARY\\_REGULATIONS.pdf](http://www.jointokyo.org/files/cms/news/pdf/DISASTER_MANAGEMENT_LAWS_AND_ITS_ANCILLARY_REGULATIONS.pdf)
- Indonesian National Disaster Management Agency, Badan Nasional Penanggulangan Bencana (BNPB):  
<http://www.bnpb.go.id/website/> (only in Indonesian)

- BNPB, West Sumatra and Jambi Natural Disasters: Damage, Loss and Preliminary Needs Assessment (2009):  
[http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2009/11/03/000334955\\_20091103042447/Rendered/PDF/514090WPOBox34110DALA0West0Sumatera.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2009/11/03/000334955_20091103042447/Rendered/PDF/514090WPOBox34110DALA0West0Sumatera.pdf)
- BNPB, Preliminary Damage and Loss Assessment, Yogyakarta and Central Java Natural Disaster (2006):  
[http://siteresources.worldbank.org/INTINDONESIA/Resources/226271-1150196584718/PackageJune13\\_HIRES\\_FINAL.pdf](http://siteresources.worldbank.org/INTINDONESIA/Resources/226271-1150196584718/PackageJune13_HIRES_FINAL.pdf)
- BNPB, Indonesia: Preliminary Damage and Loss Assessment, The December 26, 2004 Natural Disaster (2005):  
[http://siteresources.worldbank.org/INTINDONESIA/Resources/Publication/280016-1106130305439/damage\\_assessment.pdf](http://siteresources.worldbank.org/INTINDONESIA/Resources/Publication/280016-1106130305439/damage_assessment.pdf)

**Pakistan:**

- Asian Development Bank (ADB); The World Bank, Preliminary Damage and Needs Assessment: Pakistan North West Frontier Province and Federally Administered Tribal Areas (2009):  
[http://www.reliefweb.int/rw/RWFiles2009.nsf/FilesByRWDocUnidFilename/SNAA-8294FR-full\\_report.pdf/\\$File/full\\_report.pdf](http://www.reliefweb.int/rw/RWFiles2009.nsf/FilesByRWDocUnidFilename/SNAA-8294FR-full_report.pdf/$File/full_report.pdf)