



Post Disaster Needs Assessment system in Moldova: a scoping study

A comparative overview of the Post Disaster Needs Assessment (PDNA) and the existing loss and damage assessment and information management system in the Republic of Moldova

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I. Introduction

In July 2016 UNDP Moldova requested technical support from the UNDP IRH for reviewing the national system of disaster damage and loss assessment and shaping recommendations for its improvement in line with the internationally-accepted post disaster needs assessment (PDNA) approach. This request followed the initial appeal from the Ministry of Agriculture and Food Industry for recovery assistance from the recent heavy rain and hail (July 2016) and the late frost (May 2016). This call is also supported by the Civil Protection and Emergency Situation Service (CPESS) of the Ministry of Interior of the Republic of Moldova.

In response to this request, UNDP IRH commissioned an international expert to carry out an initial situational analysis by reviewing the existing system of damage and loss assessment and designing the roadmap for its improvement. The proposed report outlines the initial findings and recommendations.

The work has been carried out in close consultations with UNDP Moldova, CPESS, and all other relevant stakeholders. A site visit was organized to the Ungeni district and Petresti commune to see the consequences of hail and to interview local authorities and local farmers. Also, a workshop was organized for the CPESS staff members to introduce the concept of post disaster needs assessment (PDNA), the current practices at the international level, and to discuss the initial outcomes of the consultancy mission and the ways to strengthen the PDNA in Moldova.

II. Disaster Risk Profile of Moldova: High-Level Overview

The Republic of Moldova, is a landlocked country in Eastern Europe, which is vulnerable to disasters caused by hydro-meteorological hazards (hail storms, early frost onset, droughts, and floods) and geo-physical hazards (landslides and earthquakes). The disaster risk profile of Moldova is dominated by the risks of climate-related hazards with the greatest economic impact posed by floods and drought. The impact of natural disasters on population and infrastructure is moderate. Yet the impact on

agriculture and agro-food sector, which is of paramount importance for Moldova, is huge.

The latest disasters that took place in Moldova confirm that agriculture remains highly vulnerable to natural hazards. The late frost in May 2016 and the heavy rains and hails in July 2016 resulted in a substantial damage and losses, the calculation of which is still in progress. However, initial results are known. Late frost affected almost 4800 ha of agricultural land during the night from 26 to 27 of April, 2016. Fruit plantations, annual crops have been seriously damaged resulting in the preliminary damage estimation of 500,000.00 USD according to the data from the Ministry of Agriculture and Food Industry.

As a consequences of torrential rain and hail that affected Moldova during the 18-19 June, 2016 following districts have been affected: Ungheni, Soldanesti, Floresti, Reizna, Telenesti, Criuleni, Straseni, Calarasi, Nisporeni, Balti, Falesti, Riscani, Singerei, Edinet, Orhei. The first three (Ungheni, Soldanesti and Floresti) are among the most severely affected ones. The damage occurred to infrastructure (destroyed roofs of the buildings mainly), to agriculture and assets (livestock). In total 120 localities, 7196 buildings (out of which 7131 are from housing sector) have been affected by hail and torrential rain.

III. Overview of Post Disaster Needs Assessment System in Moldova

This section provides a brief overview of the legal and institutional frameworks of the post disaster needs assessment in Moldova. It is further focused on damage and loss assessment within the main priority sector identified jointly by UNDP and CPESS, namely, the agriculture.

A. Legal and regulatory framework

The post disaster needs assessment system in Moldova is in very immature stage and is predominantly focused on direct damage assessment.

The definition of disaster adopted in the legal framework in Moldova is based on the transnational classification system 'Safety in Emergency Situations' №316 adopted by the Intergovernmental Council on Emergency Situations of the CIS countries on 15 August 2002. The Degree N1076 of the Government of Moldova (16.11.2010) specifies the requirements of the abovementioned system in Moldova.¹ It defines a unified approach to disaster classification and the definition of levels (of intensity) of a disaster. It also defines a threshold for an emergency situation to be considered a disaster, due to which a certain number of emergency situations could not be classified as a disaster.

Among the CPESS staff and the representatives of local authorities, there is a general acknowledgment of the importance of disaster loss calculation however, there are no clear guidance and mechanisms for loss assessment. Even a direct damage assessment is an ambiguous process. According to the Order N67 issues by CPESS there are eight different reports (*donesenie*) designed for different types of emergency situations:

- on transport accident,
- on explosion (or threat of explosion),
- on explosives, on chemical (radiological) accidents,
- on technological accidents,
- on natural disasters (format #6), on biological and social emergencies, and
- on fires.

A close look at the report #6 on natural disaster, reveals inconsistencies and gaps to be addressed in collected data and its potential usability. For instance, the report is fully focused on 'direct damage assessment'. The data are not sex-disaggregated. The report is focused not only on post disaster damage but also includes some operational information that is related to the dynamic of still evolving emergency situation (specifically, the section E of the report #6). Also, the report reflects on some reconstruction work (specifically, the section D); obviously, under these conditions it is difficult to define the whole picture of damage and losses. Also, if the damage is

¹ <http://lex.justice.md/viewdoc.php?action=view&view=doc&id=336766&lang=2>

caused to state-owned properties (land, forest, etc.) nor damage neither loss is calculated. Most importantly, there is no methodology for damage or loss assessment attached to the report, which requires estimation of total (and a specific or per category) direct financial damage but does not provide a guidance on 'how' question. The current practice is based on a simple common sense – to estimate the minimum market price of a damaged unit (either an infrastructure, or orchard, or crops, etc.) and the level of damage (in percentage). This is the simple formula that is currently used to calculate the direct disaster damage in Moldova. However, while calculating agriculture damage no distinction is made between short-cycle, transitory or seasonal crops and ornamental crops, for instance. Or no adequate consideration is made for the seasonality: with annual crops the period that elapses between sowing and harvesting must be taken into account, while with permanent crops what is important is the period from flowering until harvest.

The compensation of any damage caused by a disaster is set by the Degree N862 of the Government of Moldova on the Management of the State Emergency Funds (18.12.2015). According to this document the request on compensation can be submitted by any level of local authority, including national, or *district* (province) or *local* (village) levels. However, the final decision on compensation is to be issued by the National Commission on Emergency Situation. The State Emergency Fund can be used in two cases:

- a) So called, reserve funds, to be used to support unforeseen budgetary expenses;
- b) So called, intervention funds, to be used to finance emergency response and recovery activities as a result of an emergency situation (fires, diseases, natural disasters, and suchlike).

However, due to limited financial resources available at all levels and within the State Emergency Fund particularly, the cases of financial compensation to disaster victims are almost non-existent. In some cases, there are in-kind compensation in the form of construction materials to rehabilitate damaged infrastructure (houses, schools, kindergartens, hospitals, etc.). Also, the Government can appeal to international community for support however,

lack of clear mechanisms for loss and damage calculation could potentially hinder this process.

B. Institutional framework

Regarding post disaster needs assessment, CPESS is responsible for the collection and maintenance of disaster statistics. CPESS is not (and cannot be) responsible for developing detailed methodologies on sector-specific damage and loss assessments. Yet, the legal framework does not define the role and responsibilities of the line ministries to develop such methodologies.

In case of an emergency situation on all civil protection levels are activated the Commissions for emergency situations, which are set up in advance on the basis of Orders of the heads of public authorities within Central public administration, other central, local authorities, and heads of enterprises. The Regulations of these Commissions are approved by Head of Commissions for emergency situations of the respective level.

The Regulations of the Commission for emergency situations of the Republic of Moldova is approved by Government Decree no.1340 dated on 04 December 2001. At the local (village) level there are no specialists available to conduct necessary sector-specific damage and loss assessment. In such situation, support could be requested from the district level. At the district level, there is typically at least one expert in agriculture sector, but for other necessary expertise they also have to request support from a respective national authority (ministry or a state agency). Thus, for instance, during the hail in June 2016, the representatives of the National Anti-Hail Agency visited each and every village affected by the hail to carry out damage assessment for the agriculture sector. The National Anti-Hail Agency is using a methodological guide on assessing damage and loss caused by hail to agriculture that has been developed in Soviet times. Even though the guide was updated in 2005 it has remained largely the same document as its very first edition and far from supporting adequate damage and loss assessment in agriculture sector. In addition, even though the guide exists it is not endorsed officially to be used and remain an internal document only. In addition, the time and resources used for such assessment could be highly inefficient.

The damage and loss assessment system is based not on a disaster and its impact but on the administrative and territorial division of the impacted units. Thus, the disaster impact assessment is delegated to the specially

established Commission on Exceptional Situations at each level of territorial division (national, district, and village) respectively. Thus, if disaster has affected several districts, there would be several reports (equal to the number of districts affected). At the level of CPESS the information will be accumulated to generate the whole picture of a disaster impact. However, if any of the villages or districts would not report on the disaster impact (for instance, due to low impact of the disaster or low trust in potential damage compensation) the information about the disaster impact will be incomplete.

C. Focus on agriculture sector

The focus on agriculture is explained by its importance for the economic and social development of Moldova.

Agricultural lands constitute about 75% of the territory of Moldova. In 1992 the sector contribution to GDP was around 50,9%.² This share has dropped significantly over the last years, reaching 13,8% in 2015. However, the agriculture and agro-food sector remains a substantial source of income for the local population and a driver of Moldova's international trade. Food products represent the second-largest category of Moldovan exports, with a 26% share and average value of US\$370 million in 2011–2013, up from US\$238 million in 2000–2001.³

Agriculture remains one of the most climate-sensitive of all economic sectors in Moldova. The seasonal distribution of temperature and precipitation are expected to be more severe in the years to come. Summer temperature increases can be as much as 7°C in southern Moldova by the 2050. These conditions have been confirmed by farmers as already affecting their actions and production results.⁴

² <http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=MD>

³ <http://documents.worldbank.org/curated/en/778601467989461212/pdf/103997-REPF-Moldova-Trade-Study-Competitiveness-in-Moldovas-Agricultural-Sector.pdf>

⁴ Reducing Vulnerability of Moldova's Agriculture to Climate Change, 2013, <http://www.worldbank.org/en/news/press-release/2013/12/05/reducing-the-vulnerability-of-moldovas-agriculture-to-climate-change>

Under such conditions the damage and loss calculation needs to be strengthened and adequate prevention and preparedness measures are of paramount importance. This requires strong cooperation among all relevant stakeholders, specifically, the farmers, the local authorities, CPESS, the Ministry of Agriculture and Food Industry, and the others.

The Ministry of Agriculture and Food Industry is responsible for policy-making and its implementation in the agriculture and agro-food sector. The functioning of the farms and other agriculture-related juridical entities instead is under the jurisdiction of the local authorities. Therefore, *de jure* authority and the scope of responsibility of the Ministry related to damage and loss assessment are quite limited. The representatives of the Ministry are usually included in the specially established Commission on Exceptional Situation to participate in damage and loss assessment. However, there is no methodology provided by the Ministry for adequate, compatible, and reliable assessment.

Today, the focus of the post disaster needs assessment in agriculture and agro-food sector is very much on damage assessment and compensation when necessary. The calculation of damage is understood largely in terms of a) necessary liquidation and/or early reconstruction work, and b) lost profit due to the disaster. However, even if losses in such a narrow term are indeed identified and calculated, this information remains only for statistical references and no actual compensation follows. In often cases, there are no formal requests for damage compensation from the victims because there are no expectations for compensations from the Government of Moldova.

There was one example when the Ministry of Agriculture and Food Industry used ECLAT (2014)⁵ for damage assessment during the late frost in May 2015. There is a strong interest on behalf of the Ministry to adapt the ECLAT for Moldova, but without technical and financial support this will not be possible to realize in a foreseeable future.

The agriculture insurance schemes in Moldova could be a strong instrument disaster risk transfer. There are already some insurance schemes available.

⁵ http://repositorio.cepal.org/bitstream/handle/11362/36823/1/S2013817_en.pdf

However, farmers are quite reluctant to be enrolled in insurance schemes due to various reasons, including rather weak legal foundation and lack of trust towards insurer. There are cases when farmers were not compensated against the insured losses.

IV. Information and Data Management System

The data registration and the database maintenance is the responsibility of the Planning and Analysis Division based at the CPESS HQ.

The statistics on disaster including damage and loss assessment is directed by CPESS, which has developed an IT platform GISCUIT to support the data recording on emergency situations. The initiative was supported by UNDP. The system includes the function of spatial visualization of data on GIS environment and the generation of simple disaster statistics in table formats. The structure of the database fully reflects structure of the report #6. Therefore, the limitations of the report #6 further constrained the functionality and usability of the database in order to provide adequate analytics for decision-making and risk-informed development planning.

It is currently exploring the possibility to extend GISCUIT platform for supporting the electronic registration of disaster data by CPESS local units or by the respective Commission on Exceptional Situation.

V. Comparative Overview of PDNA and the Loss and Damage System in Moldova

The proposed section provides an overview of the main points of divergence between the PDNA approach and the national loss and damage system in Moldova. In turn, these divergence points are the entry points to approximate the national system to the international standards used within the PDNA.

It is further the responsibility and the authority of the national counterparts to decide how to ensure such approximation, however, some recommendations are provided in the next section.

<i>PDNA</i>	<i>Loss and Damage System in Moldova</i>
PDNA is initiated by the affected government and is implemented in close partnership with UN, WB, EC, and other partners (national and international)	Local authorities initiate the damage and loss assessment.
Holistic approach with the focus on 1. disaster effect a) Damage to infrastructure and physical assets; b) Damage of access to goods and services; c) Governance and decision making processes; d) Increased risks and vulnerabilities. 2. disaster impact (macro-economic and human)	Predominant focus on damage to infrastructure and physical assets. Loss assessment is considered in terms of 'indirect losses', which largely implies costs for disaster response or liquidation activities and costs for the lost profit. However, there is no shared understanding of the concept of loss and the mechanisms for loss assessment. Social impact is considered only in terms of the number of deaths, injured, or displaced people. The data are not gender disaggregated. The only differentiation introduced in social impact data is its division to adults and children. The impact on economy is not considered at all.
Focuses on the assessment of 17 sectors categorized as productive, infrastructure and social	No methodologies for sectoral damage and loss assessment
Timing: about 6 weeks	No timing is specified
The loss and damage assessment is based on pre-disaster baseline information	No comparative overview with the pre-disaster situation is practiced for damage assessment
The loss and damage assessment leads to formulation of recovery strategy and recovery action plan	No recovery strategy is developed. The sectorial damage compensation could be covered from the State Reserve Funds however, due to limited resources

	a compensation could be allocated only in exceptional cases.
The loss and damage assessment is carried out by a team of experts comprises state and non-state actors	Damage assessment is carried out predominantly by state actors (representatives of the local authorities, line ministries (when invited), and CPESS).
A defined system of monitoring for damage and loss assessment	No unified monitoring system is developed and put in use.
Information and data management	The database of disasters and their impact is structured in compliance with the structure of the disaster report #6.
<p>PDNA in Agriculture Sector⁶ should include:</p> <ol style="list-style-type: none"> 1. Baseline information on Agriculture Sector 2. Disaster effect (damage to agriculture infrastructure, disruption of access to agriculture goods, governance and decision-making process, increased risks and vulnerabilities in the agriculture sector) 3. Disaster impact <ul style="list-style-type: none"> ➤ macro-economic impact (impact of disaster on economic performance of the sector) ➤ Human development impact (impact on the quality of human life) 	<p>Damage to infrastructure is the primary focus. In limited cases both damage and (minimal) loss could be calculated but hardly compensated.</p> <p>Baseline data on pre-disaster situation in the agriculture sector is challenging too - often the information available is incomplete due to various reasons: in a good year farmers might under-report the formal income to avoid taxes.</p>

⁶ <http://www.undp.org/content/undp/en/home/librarypage/crisis-prevention-and-recovery/pdna.html>

in the medium and long term) 4. Sector Recovery Strategy	
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VI. Main Shortcomings

- **Conceptualization:** the concept of ‘post disaster needs assessment’ that is practiced in Moldova is very limited – it does not include ‘loss and damage’ perspective and does not link assessment with the ‘recovery strategy’ accounting for short, medium, and long-term recovery priorities.
- **Methodologies:** There are no methodologies available for damage and loss assessment.
- **Legal framework:** the national loss and damage system in Moldova is strictly focused on ‘damage’ assessment and requires substantial improvement to ensure that post-disaster needs assessment are complete and followed by a comprehensive recovery strategy. The existing legal and regulatory framework does not provide a clear division of roles and responsibilities, and therefore, clear expectations among stakeholders: local authorities and the representatives of the sector ministries at the local level. Special attention should be paid to **timing of damage and loss assessment**. The timing of damage and loss assessment is not regulated at all. In some cases, the assessment could be carried out within the couple of day following a disaster, in other cases – within some months.
- **Institutional framework:** Also, it could be concluded from the expert mission to Moldova, that there is a need to further develop capacities of a wide range of stakeholders (representatives of various ministries, agencies, non-state organizations, academia, etc.) in organizing and implementing PDNAs.

VII. Recommendations

Based on above-mentioned that has been discussed with a wide range of stakeholders, it is **recommended**

Conceptually:

1. To develop methodologies for damage and loss assessment for target sectors based on leading international standards, specifically PDNA. The priority sectors for Moldova could include (in the order of importance) agriculture, fires, forestry, infrastructure, and CBRN. These methodologies should be developed by specialized institutions under some similar requirements, coordinated among various sectors and be easily applicable by any entity (local or central public authorities, private sector, citizens etc.).
2. To ensure that damage and loss assessments are linked with corresponding recovery strategies and are used for the planning and prevention purposes.

Legal framework:

3. To review legal and regulatory framework from the perspective of PDNA and propose recommendations for improvement: to clarify the concept of damage and loss assessment, to define roles and responsibilities for assessment as well as for recovery processes and monitoring of both.

Institutional framework:

4. To design mechanisms for the participation of non-state actors in damage and loss assessment
5. To build capacities of the national counterparts (representatives of line ministries, national authorities, policy-makers, non-state actors) to understand the rationale and functioning of post-disaster needs assessment. Towards this end, it is recommended to engage the CPSS Training Center: to design a general training module on PDNA and ensure that it is part of regular training courses for civil servants. In addition, it is strongly recommended to set a group of experts from the key relevant ministries and agencies and train them in sectorial PDNA. Engage them as focal points for sectoral PDNA through creating a pool of experts and mobilize their resources when necessary.
6. Establish expert working group to adjust the existing PDNA methodologies for Moldova and ensure follow up training for a larger group of experts from different levels (national, district, and local).

Information and data management:

To review the disaster report #6 and develop the minimum set of indicators necessary to collect from each emergency situation to be further used for preparedness planning, prevention, and recovery purposes. It is

recommended to learn the latest developments at the international level particularly that of EC Joint Research Centre (JRC) on Recording and Sharing Disaster Damage and Loss Data⁷ and the Warsaw International Mechanism for Loss and Damage associated with climate change impact.⁸ Special focus should be on ensuring sex-disaggregated data collection and gender-sensitive planning, preparedness, and response adequately.

⁷ http://drr.jrc.ec.europa.eu/Portals/0/Loss/JRC_guidelines_loss_data_recording_v10.pdf

⁸ http://unfccc.int/adaptation/workstreams/loss_and_damage/items/8134.php

Annexes

Annex 1: List of stakeholders consulted

No.	Full name	Position
1.	Alexandru Oprea	Deputy Head of the Civil Protection and Emergency Situations Service
2.	Alexandru Tatarov	Main specialist of Analysis and Planning Department
3.	Ecaterina Melnicenco	UNDP Moldova, project manager
4.	Monica Moldovanu	UNDP Moldova, cluster lead
5.	Vladimir Albot	Main specialist of the Engineering Protection Department
6.	Mihai Suvac	Head of Department, Ministry of Agriculture and Food Industry
7.	Svetlana Drobot	Head of the International Relations Department
8.	Eremeico Serghei	Deputy Head of Anti-Hail Service, Ministry of Agriculture
9.		Representatives of the local authorities at the district and village levels (met during the field trip)

Annex 2: List of participants of the workshop

No.	Full name	Position
1.	Alexandru Malic	Specialist, Health-biological Protection Section
2.	Barbu Ghenadie	Head of Direction
3.	Alexandr Tatarov	Main specialist of Analysis and Planning department
4.	Vitalie Rudico	Head of Analysis and Planning Department
5.	Eduard Ambrosii	Main specialist in chemical and radioactive protection section
6.	Viorel Vatamaniuc	Main specialist, Health-biological Protection Section
7.	Vladimir Albot	Main specialist of the Engineering Protection Department
8.	Vitaly Mutaf	Head of Engineering Protection Department
9.	Liudmila David	Main specialist of the Engineering Protection Department