

Sectoral Consultative Workshop on
National Agriculture Disaster Management Plan



12th July, 2019
NDCC Building, NIDM, MHA
New Delhi

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FOREWORD

Indian agriculture, like the India's landscapes, is vulnerable to multiple disasters of natural and anthropogenic nature, and also aggravated by the impact of climate change. Unlike anytime in the past, India's agriculture challenge has to be understood concurrently in many dimensions. The increased frequency and severity of climate related hazards and risks induced by climate change are adding a new dimension to the existing disaster risk profile of India. Through, there are visible improvement brought through adoption of management practices through on-farm and off-farm operations in this sector, there are also growing risk of disaster related damages and losses to the agriculture systems.

National Institute of Disaster Management (NIDM) is developing a National Agriculture Disaster Management Plan (NADMP) for the Ministry of Agriculture and Farmers Welfare with the aim to strengthen resilience of farming community to deal with disasters and weather uncertainties. The Disaster Management (DM) will also focus on providing guidance to attached and subordinate offices as well as other agencies within the Agriculture Department to manage the risks of disasters before, during and after a disaster. These include assessing the sectoral and departmental risks of disasters, mitigating the existing risks of disasters, preventing creation of new risks of disasters, presenting the status of its preparedness to perform its role and responsibilities as defined in the State DM Policy and State DM Plan, measures proposed for strengthening capacity-building and preparedness etc.

The consultation workshop was aimed to facilitate knowledge sharing among experts working in the field of agriculture, climate change and disaster management. I am happy to learn that the team has come up with a compiled report of the workshop contains the key recommendations, suggestions and inputs given by the participants. I believe this report will help in understanding the agriculture sectoral landscape and agriculture related disasters.

Manoj Kumar Bindal

Background and Objective of the Session

Agriculture is one of the most disaster affected sector. Agricultural activity is adversely affected by any unforeseen weather changes or variations in physical conditions. This gets accentuated in case of cyclones, floods and droughts resulting in disruption of people's livelihood and adding to the risk, damage and stress of disasters as a substantial part of the population depends on agriculture for its livelihood. Crop losses due to pests, disease, wild animals etc are also considerable. Approximately 600 million people live in rural areas of India and depend upon natural resource base and climate sensitive sectors like agriculture, forestry and fishing for their livelihoods. They continue to rely on a biomass-based subsistence and live in areas that already suffer from rising ecological degradation, low productivity, water shortages and recurrent droughts or floods. Smallholder farmers are particularly vulnerable to natural hazard impacts due to high exposure to natural hazards coupled with low production levels and rain-fed conditions. One of the key drivers behind such increasing economic loss due to disasters is lack of appropriate disaster management including risk reduction strategy based on knowledge about hazard impacts and access to risk information. As such National Institute of Disaster Management (NIDM) is developing a National Agriculture Disaster Management Plan (NADMP) for the Ministry of Agriculture and Farmers Welfare with the aim to strengthen resilience of farming community to deal with disasters and weather uncertainties. The plan will include HRVCA exercise, components of prevention, mitigation, response and recovery for which a framework has been developed, which is to be further developed upon.

In this context a half-day sectoral consultation workshop on forenoon 12th July 2019 at the Conference Hall 2nd floor, NDCC Building, NIDM, New Delhi was organised to discuss the landscape of DM plan and its framework, methodology and template for Hazard Risk Vulnerability and Capacity Analysis (HRVCA).

Agenda

The consultation workshop was aimed to facilitate knowledge sharing among experts from Government agencies, scientific/ academic/ research institutions and NGOs working in the field of agriculture, climate change and disaster management. The workshop was organized with following key points:

- To develop better understanding of agriculture sectoral landscape and disaster risks.
- Defining guiding principles for NADMP
- Develop a practical template/framework to conduct Hazards-Risk, Vulnerability and Capacity Assessment (HRVCA) at the national level.
- Develop better understanding of capacity needs
- Scoping exercise

Participation

Senior officials / scientists / State representatives from departments such as ICAR, CRIDA, Central Water Commission, Central Groundwater Board, NAARM, CRRI, etc., and officials from states like Orissa and Maharashtra and other national and international organizations were present in the consultation.



AGENDA		
Sectoral Consultative Workshop on National Agriculture Disaster Management Plan Day: Friday Date: July 12, 2019 Venue: NDCC Building, NIDM, MHA New Delhi		
Time	Topic	
10.00 to 10.40 hrs	Session 1. Opening Session	
	Context and Background	Dr. Anil Kumar Gupta, PD-NADMP
	Remarks	Executive Director, NIDM, Maj. Gen. Manoj Kumar Bindal
	Address	Joint Secretary-DM, MHA, Shri Sanjeev Kumar Jindal
		Joint Secretary (DM) MoAGFW, Shri Amitabh Gautam
Additional Director General (AAF&CC), ICAR, Dr. S. Bhaskar		
Tea		
10.40 to 11.00 hrs	Presentation on NADMP Framework & Scoping by NADMP Team	
11.00 to 11.40 hrs	Session 2. Panel Discussion on HRVCA	
	Principal Scientist, IARI, Pusa, Prof. V. K. Sehgal	
	Scientist G & Head (Services) IMD, Dr. M. Mohapatra	
	State (Orissa) Ms. Nandini Dalai	
	Assist. Professor , NIDM, Dr. Sushma Guleria	
	CWC (TBC)	
Ms. Swati Singh, SURE Alliance		
Deputy Secretary, MoAGFW, Shri B. P. Bimal		
11.40 to 12.20 hrs	Session 3. Panel Discussion on Mitigation & Mainstreaming	
	Director I/C, CRIDA, Hyderabad, Dr. G. Ravindra Chary	
DGM, IMD, Delhi, Dr. S. D. Attri		

SESSION I: Inaugural Session

Senior officials / scientists / State representatives from departments such as ICAR, CRIDA, Central Water Commission, Central Groundwater Board, NAARM, CRRI, etc., and officials from states like Orissa and Maharashtra and other national and international organizations were present in the consultation.



In the welcome address, **Maj. Gen. Manoj Kumar Bindal, Executive Director, NIDM** stated that maximum population of our country lives in disaster prone areas. He urged to include climate change issues in the DM plan to reduce future losses. He appealed to all the participants to give inputs and asked to develop a better understanding between the whole team and asked to come up with a constructive and descriptive plan that can be referred by the people in the years to come.

The workshop was coordinated by **Dr. Anil Kumar Gupta, HOD of ECDRM Division, NIDM** with the NADMP and CAP-RES teams under the Centre of Excellence on Climate Change at NIDM. Dr. Anil Kumar Gupta gave brief introduction about the context and background of the project. He also urged the participants to give their suggestions and inputs so as the plan can be prepared comprehensively.



Dr. S. Bhaskar, Additional Director, ICAR, Delhi suggested that the agriculture contingency plan has to be operationalized and the things that are already done on contingency plan needs to be brought to ground level. He highlighted the need to demonstrate the resilience practices to the farmers and village communities. He also mentioned that the damage of high value crop by disaster is of great challenge. He suggested that the vulnerability map developed by CRIDA can be used as an input for the development of NADMP and also the risk assessment map which is in the



process of development can also be used as an input.

Richa Srivastava, Dr. Sanayanbi Hodam, Ms. Shweta Bhardwaj, TEAM NADMP, NIDM gave a presentation on the overview of NADMP project with detailed context, objectives and scope of the plan. They also showed the format of HRVCA exercise which is the core agenda of the consultation workshop.



SESSION II: Panel Discussion on HRVCA

Dr. M. Mohapatra, Scientist G and Head (Services), IMD suggested to refine the HRVCA and make it both qualitative and quantitative and to make it in such a way that it is easily understandable. He said that a visit to the farmers is needed so as to understand the real issue. He also asked to include indices in the plan and also to prepare environmental vulnerability with respect to disaster.



Ms. Nandini Dalai, Representative, Department of Agriculture, Orissa pointed out the importance of post disaster management for agricultural crops and that it is important to be included in the DM plan. She highlighted about the damages brought by cyclone fani to the crops specially the standing crops in Orissa and that the degree of severity was high that all the growing crops were destroyed. Therefore, to mitigate, stress tolerant crops were chosen for kharif season in Orissa. She said that upto 5 thousand farm sheds were also provided to the farmers. She asked to consider crop contingency plan and pest contingency plan while making DM plan.



Prof. V. K. Sehgal, Principal Scientist, IARI suggested to make the plan simple and implementable and also to identify the final unit of the plan. He asked to prepare a uniform HRVCA template and to be incorporate more parameters in the HRVCA along with their weightages. He highlighted about the issue to tackle the climate change/climate variability and to include it in DM plan.



Ms. Sushma Guleria, Assistant Professor, NIDM, stated that adaptation strategy specifically for agricultural practices should be defined in the DM plan. She highlighted about the rural development schemes which are already available and the same which can be included in the DM plan as a part of strategy. She also mentioned that Blue Ocean revolution can also be integrated.



Dr. Jyoti Kumar, Scientist D, CGWB pointed out the issues relating to ground water depletion due to rice cultivation in Punjab. He said that the data relating to ground water for HRVCA exercise can be from aquifer map which is available online. He added about the importance of farm pond practices and also to include women while making plans for water related issues since women are considered good manager of water.



Ms. Swati Singh, SURE Alliance highlighted about the present traditional water harvesting/conservation systems like ahars and their role in conserving water for agricultural practices. She mentioned about the DM plan for horticulture crops for Khandwa district of Madhya Pradesh.



SESSION III: Panel Discussion on Mitigation and Mainstreaming

Dr. G. Ravindra Chary, CRIDA, Hyderabad highlighted about the convergence of schemes on how to deal with disasters. He stated that for mitigation, the gaps and challenges should be addressed and also the good agriculture practices should be addressed in the plan. He showed the vulnerability maps and the process of vulnerability assessment developed by CRIDA. He urged to refer the maps while developing the DM plan. He also discussed about the contingency plan for Andhra Pradesh developed by CRIDA.



Dr. S. D. Attri, DGM, IMD, Delhi urged to include farmers while developing the plan so that the real issues can be identified and also to incorporate all the different disaster. He mentioned that IMD is reaching to 4 crore farmers through agro advisory services and the aim is 10 crore in the next 2 to 3 years. He also suggested taking up integrated approach of different ministries which are contributing to agriculture.



Dr. P. Krishnan, Principal Scientist, NAARM, Hyderabad pointed out that NAARM did a brief study on National Framework for Coastal Vulnerability Assessment and that it was a part of National Coastal Mission. He added that the study was done in such a way that village level indices can be identified and drivers contributing to the vulnerability and then a prototype decision system were developed. He suggested that the procedure done under National Coastal Mission can be considered for developing the NADMP.



Dr. A. D. Kaushik, Research Associate, NIDM stated to develop the plan that will be applicable and implementable. He mentioned that the results from the study that have already been done on different types of crops under climate change can be referred and incorporated while making the DM plan. He asked to include Climate Induced Natural Disaster (CIND) and its impact on impact on agriculture to integrate the knowledge



of agriculture sector. He added that there are also literatures on CIND and these can be utilized in making NADMP.

Dr. P. C. Sudhakar, Deputy Manager, AICL, Delhi highlighted about the various schemes which are helping the farmers in mitigating from disaster like Pradhan Mantri Fasal Bima Yojna (PMFBY) and Restructured Weather Based Crop Insurance Scheme (RWBCIS) which are being subsidized by the state government and government of India under flagship schemes of the government. He added that as of now, PMFBY is yield based index product which requires lots of infrastructures for conducting cross experiment which are hampering its effective implementation and RWBCIS is major index product. He suggested that the present comprehensive crop insurance schemes can be included in the mitigation plan.



Mr. Anup Kumar Srivastava, Senior Consultation, NDMA, Delhi asked to follow the NDMP templates prepared by NDMA under DM Act. He suggested that a contingency plan at field level or district level for vulnerability assessment can be included so that mitigation can be done easily. He mentioned that the cross cutting issues are social intrusion like gender based vulnerability, caste based vulnerability, minority community, etc which are affected at large. He said one important thing is governance and it should be included that in the plan under whose governance mitigation should be done and type of linkage. He mentioned that the linkages with other ministries should also be included in the plan. He also said the short term, medium term and long term mitigation plans should be included. He said the traditional systems of water conservation should be analyzed and adopted. He also stated that every ministry or department should include a component and should be included in regular budget and the plan should be implemented in disaster aspect.



Mr. Ganesh Patil, Joint Secretary, Department of Agriculture, Government of Maharashtra stated that early warning system should be included in the plan. He said that there should be SOPs for every disaster. He said that one of the most important things is capacity building of the farmers in terms of disasters. He mentioned that one of the serious issues is man and animal conflict and then there's are so many wildlife and forest act and farmers are left with no help in this matter. And therefore, he asked to include about this matter so that



mitigation can be done in a proper way. He also stated to include detailed mapping of the plan, detailed mitigation plan, capacity building of the farmer on how to increase production, etc. in the plan. Another issue which he pointed out is that the Fasal Bima Yojna is not matching with the drought management and this cross cutting issue should be raised to the Ministry

Dr. Manisha Mukherjee, Practice Head, Deft Advisory and Research suggested putting livelihood context under consideration while drafting the plan. She highlighted about the need for insurance for standing crops. She urged to adopt agriculture value chain approach to highlight the crops for export, to include technologies for tackling disaster and to include social protection schemes that can be utilized.



Ms. Preeti Tahlani, Scientist, MNCFC suggested including infrastructure for which data is available at high resolution, to check the portal for monitoring developed by Andhra Pradesh state. She mentioned that this portal gives details about delay in monsoon, informs the farmer about which types of crops to be sown, etc. She also asked to include policy for protection of agricultural land. The role of social media in reaching out to farmers regarding different schemes, etc. was also highlighted.



Key Recommendations

- The HRVCA format to be uniform for all the divisions and to be quantitative.
- To develop indices from HRVCA exercise that can be used in the development of DM plan.
- The DM plan to be refined and easy to understand.
- To mention the importance of schemes for mitigation.
- To visit the farmers to understand the real issues and to include the issues defined by them.
- To include all types of schemes available for crops and agriculture in the DM plan.
- To include the importance of livelihood context and social protection schemes.
- Detailing of man and animal conflict and its proper mitigation in the plan.
- To include capacity building of the farmers on how to increase production and on how to mitigate disaster.

Gallery



Organizing Committee
<ul style="list-style-type: none"> • Major General Manoj Kumar Bindal, Executive Director, National Institute of Disaster Management
<ul style="list-style-type: none"> • Dr. Anil Kumar Gupta, Project Director-NADMP, Head ECDRM, NIDM
<ul style="list-style-type: none"> • Ms. Richa Srivastava, Research Consultant, NADMP, NIDM
<ul style="list-style-type: none"> • Dr. Sanayanbi Hodam, Research Associate, NADMP, NIDM
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<ul style="list-style-type: none"> • Ms. Pritha Acharya, Junior Research Fellow, CAP-RES, NIDM
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<p><i>Administrative and Logistic Support:</i></p> <ul style="list-style-type: none"> • Ms. Santosh Mishra, Training Assistant, NIDM

List of Participants

Name	Designation	Organization	State
Mr. Anup Kumar Srivastava	Sr. Consultant	NDMA	Delhi
Prof V. K. Sehgal	Principal Scientist	IARI	Delhi
Ms. NAndini Dalai	ADA II	Department of Agriculture and Farmers Empowerment	Orissa
Ms. Swati	Independent Consultant	Free Lancer	Delhi
Mr. M. Mohapatra	Scientist G and Head (Services)	IMD	Delhi
Dr. P. Krishnan	Principal Scientist	NAARM	Hyderabad
Archisman Mitra	IWMI Representative	CGIAR	Delhi
Dr. G. Ravindra Chary	Project Coordinator	CRIDA	Hyderabad
Ms. Manisha Mukherjee	Practice Head	Department Advisory and Research	Delhi
Dr. Shushma Guleria	Assistant Professor	NIDM	Delhi
Dr. A. D. Kaushik	Research Associate	NIDM	Delhi
Ms. Preety Tahlani	Scientist	MNCFC	Delhi
Dr. P.C. Sudhakar	Deputy Manager	AICL	Delhi
Dr. N. Jyothi Kumar	Scientist D	CGWB	Delhi
Dr. S. Bhaskar	Additional Director, NRM	ICAR	Delhi
Dr. S. D. Attri	DGM	IMD	Delhi
Mr. Ganesh Patil	Jt. Secretary	Department of Agriculture, Government of Maharashtra	Maharashtra
Mr. Pradeep	Deputy Secretary	Disaster Management	Delhi

Kumar		Division, MoHA	
Mr. Nikol	Assistant Director	CWC	Delhi
Mr. Abhijit Singh Nathowat	Student (M. Sc. International Business	IMT-BS	France
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Dr. Sanayanbi Hodam	Research Associate	NIDM, MHA	Delhi
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