Capacity Development of Virtual Cadre Officials of Eight Departments of Government of Kerala

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Inception Report

30th August 2019

seeds
TECHNICAL SERVICES

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1. Project Background

Kerala is prone to natural disasters and the changing climatic dynamics given its location along the seacoast and with a steep gradient along the slopes of the Western Ghats. The floods and landslides destroyed public and private infrastructure, including houses, roads, bridges, schools, health facilities, and other utility services and seriously influenced the production sectors.

However, the recent floods in Kerala highlighted the need for a robust preparedness, response and recovery mechanism to mitigate impacts of disasters. Considering the vulnerability of the state to disasters, highlighted in the disaster management plan of the state, disaster preparedness assumes high priority. Building capacities of individuals and institutions goes a long way towards preparedness. There is a growing global consensus on the need to invest in disaster risk mitigation, with a focus on mainstreaming mitigation into sustainable development. Coastal states are particularly vulnerable to disasters due to growth of population in unsafe areas, climate change, environmental degradation and lack of local capacities.

The Section 38(2) (g) of the Disaster Management Act mandates the preparation of departmental Disaster Management Plans and Section 39 to integrate measures of disaster preparedness and mitigation in developmental plans in accordance with the NDMA and SDMA guidelines. However, the departments do not have the needed expertise to prepare Disaster Management Plans and the Disaster mitigation concerns are not integrated in the developmental plans. The Virtual Cadre once full capacitated will be able to support the departments in doing the above-mentioned tasks.

Keeping the above at forefront, UNDP is implementing the project titled "Capacity Development of Virtual Cadre Officials of Kerala." The project is being implemented by SEEDS Technical Services Pvt. Ltd. The main objective is to build and strengthen the capacity of virtual cadre officials for acting as champions in the area of disaster preparedness and management, eight departments of state government has been selected to provide training on different areas specific to their department in the context of any emergency. This study will involve both formative research to assess and identify training and capacity needs; and the creation of a framework, strategy and plan to effectively address those needs.

2. Objective:

Develop capacities of the departmental virtual cadre of officials at district and state level to act as DRR champions.

3. Profile of Study Area: Kerala

3.1 General Profile

3.1.1 Geographic Profile and Physical Divisions: The state is situated between latitude 10°00 North and longitude 76°25 East whiles shares its state borders with Tamil Nadu on the east and Karnataka on the north. It is flanked by the Arabian Sea on the west. With an area of 38,863 square kilometre Kerala's coast runs 580 km in length and 35 -120 kilometre in width. Networks of forty-four rivers are seen in Kerala. Among forty four forty one of the rivers originates from Western Ghats in Eastern Kerala. Western Ghats rises on average of 1500 meters above Sea level. There are peaks, which may reach to about 2500 meters.

3.1.2 Administrative Divisions: As per Census 2011, there were 14 revenue districts. The 14 districts are further divided into 75 Taluks. There are 14 District Panchayats, 152 Block Panchayats, 941 Grama Panchayats, 87 Municipalities, 6 Corporations and 1 Township. Malappuram is the largest district of Kerala by population, while the least populated district of Kerala is Wayanad. Kozhikode, Thrissur, and Kannur are the other major commercial centers of the state. The High Court of Kerala is located at Ernakulam.

3.1.3 Demography: As per the Population Census 2011, the total population of Kerala as per Census 2011 is 3,34,06,061 with 1,60,27,412 males and 1,73,78,649 females. It is the 13th most populous state in India with an overall population density of 2,200 people per square mile or 860 per square kilometre. Kerala is home to almost 3% of India's population, and its land is three times more densely settled than the rest of the country. In the census 2011, Kerala is the most literate state in India, with 93.91% literacy.

3.1.4 Climate, Temperature and Rainfall: Kerala has tropical monsoon with seasonally excessive rainfall and hot summer except over Thiruvananthapuram district, where the climate as tropical savana with seasonally dry and hot summer weather. The total annual rainfall in the State varies from 360 cm. over the extreme northern parts to about 180 cm. in the southern parts. The temperature in Kerala normally ranges from 28° to 32° C (82° to 90° F) on the plains but drops to about 20° C (68° F) in the highlands.

3.1.5 Infrastructure: Transport infrastructure of the State consists of 3.31 lakh Kms of road, 1257 Kms of Railways, 1687 Kms of Inland Waterways and 111 statute miles of Airways and 18 Ports. Central agencies like Railways, National Highways, Ports, Post and Telegraph, Telecommunication and Civil Aviation Authorities play a significant role in providing infrastructure facilities. Kerala has 120.42 lakh registered motor vehicles as on March, 2018. Total installed capacity of power in the State as on March 2018 is 2,956.47 MW. Of which, hydel power contributed the major share of 2,121.92 MW (71.77 per cent); while 676.56 MW was contributed by thermal projects (22.88 per cent), 60.28 MW from wind (2.04 per cent) and 97.71 MW (3.30 per cent) from solar.

3.1.6 Industries: As per Annual Survey of Industries (ASI) 2014-15 results that across the State, there are 7,295 factories in the Organised Manufacturing sectors among which food

products tops with 19.9%. Total output worked out as 1,42,375 Crores. Out of this, 44% of the total output contributed by the Industry of Manufacturing of coke and refined petroleum products.

3.2 Hazard Profile

3.2.1 Flood: Kerala is highly vulnerable to floods. It may be noted that there are many manmade reasons for the occurrence of floods. Flood situation worsens in Kerala nowadays as Red Alert issued in 4 districts due to high intensity rainfall mainly in central and northern parts of the state in July, 2019. In 2018, 357 people lost their lives, and the floods destroyed roughly 906,400 hectares worth of crops. The cost to the state and its people stands at an astounding Rs 19,512 crore, the worst natural disaster occurred in decades. Besides heavy rainfall, the mismanagement of water resources and forests and improper land use practices leads to such disaster.

3.2.2 Landslide: In Kerala, often landslides are triggered by heavy rains. All except 1 of the 14 districts are prone to landslides. Wayanad was one of the northern Kerala districts which was severely affected by the extreme rains in early August, have faced 10 major landslides in August with Puthumala being the worst-hit in the district. In the 2018 floods, Wayanad witnessed a total of 278 landslides and landslips. Major landslide incidents have occurred in monsoon seasons due to anthropogenic development along the landslide prone regions. Landslide have primarily results in loss of life and property, but has more importantly led to secondary and tertiary impacts such as chemical accidents, road accidents, rails accidents, flood, fire, gas leaks, etc.

3.2.3 Thunderstorm and Lightening: The state of Kerala is also vulnerable to thunderstorms and lightening covering all regions of the state and leading to the loss of life and property. The Indian Meteorological Department had issued a yellow alert in Wayanad and Pathanamthitta district, with heavy rains forecast for the two districts in the month of April 2019. Between 1986 and 2002, around 159 people died in Thiruvananthapuram due to lightning. The district has over 400 living victims of lightning, which is the highest in the state. "Areas such as Gandhipuram at Sreekariyam, Mangalapuram, Kilimanoor Kattakada have places prone to lightning. Kumbil at Kadakkal on the Thiruvananthapuram-Kollam border is a place for lightning strikes.

3.2.4 Earthquake: The earthquake list of the Kerala State specifies that the central part of the state (WadakkancheriTrissur and Idukki –Kottayam- Pala) perceives repeated seismicity. Two earthquakes of magnitudes 5.0 and 4.8 occurred on 12 December 2000 and 7 January 2001 respectively, in the bordering regions of Idukki and Kottayam districts of Kerala, both of which were followed by aftershocks.

3.2.5 Environmental Hazard: Due to rapid urbanisation the air, water and soil are badly affected. In urban locations due to rapid growth of population and urbanisation the

environmental degradation has taken place. As a result the deforestation, air and water pollution, creation of plastic wastes and development of urban slums became the major issues for all. Despite progress in science and technology, contaminated food and water remain to this day major public health problems.

The hazard maps of the state are attached as annexure 1.

4. Selected Departments of Kerala under the Project

4.1 Agriculture: Around 52% of Kerala's geographical area is under cultivation. Being the spice capital of India, Kerala accounts for 89% of total small cardamom and 98% of total nutmeg production in the country. The state also accounts for 34% of total pepper production. Agriculture along with livestock and fisheries contributes to 11% of the Gross State Value Addition (GVSA) at current prices. In Kerala, 17.15% of the population depends on agriculture. The lowest regions of midland plains host paddy fields and the elevated land slopes has rubber and fruit trees along with black pepper, tapioca and other crops. The coastal belt of Kerala is flat with paddy fields, coconut trees and by a network of interconnected canals and rivers.

4.2 Animal Husbandry: Around 8.8 million households in Kerala are involved in animal husbandry and nearly 94% of the livestock population is concentrated in rural areas. In the subsector of animal husbandry and dairy development, Alappuzha, Kottayam, Pathanamthitta, Ernakulam, and Thrissur districts suffered the most in the 2018 floods. The share of livestock in Kerala's GSVA is 3.84%.

4.3 Mining and Geology: Kerala State is endowed with a number of occurrences/deposits of minerals. The contribution of mining and quarrying sector to Gross State Value Added (GSVA) of Kerala at constant prices is estimated at ₹3,658 crore in 2017-18

4.4 Minor Irrigation: Minor Irrigation departments lifts the schemes, that having a Cultivable Command Area (CCA) up to 2,000 ha. Minor irrigation scheme comprises of surface water schemes like minor irrigation tanks and canal systems, diversion weirs, lift irrigation schemes and sub-surface schemes.

4.5 Health: Kerala has made significant gains in health indices such as high life expectancy, low infant mortality rate, birth rate, and death rate. The health status of the marginalised communities like adivasis and fishing workers is also poor compared to that of the general population. Also, 70% of Kerala's healthcare is privately provided, which is making it expensive. In addition, the number of disaster incidents are increasing causing loss of lives and affects a large number of people.

4.6 Water Authority: The Kerala Water Authority (KWA) is the primary institution for the development and regulation of water supply and wastewater collection and disposal in Kerala. There are 1081 schemes under Kerala Water Authority in total and have a total installed capacity of 3468 MLD. The per capita availability through the KWA schemes is 176 LPCD.

4.7 Land Revenues: The largest department under the Government, with more than 19000 employees, also known as the "Mother of All Departments". Some of the major functions of the department are collection of basic tax, plantation tax, building tax, etc., land/mineral conservancy, census, election, natural calamity operations, redressing grievances of citizens, law and order, distribution of social welfare pensions etc. Although this is also getting affected from the disasters occurred in the state. A total of 342 landslides occurred in the Revenue Department marked land extents.

4.8 Soil Conservation: This is one of the important department, which plan, promote, coordinate and oversee the implementation of soil and water conservation programmes with an aim to conserve the valuable resource trinity of soil, water and biomass in a sustainable manner ensuring active participation of all stakeholders.

5. Approach

The perspective for undertaking a capacity development exercise of this nature and scale will be one of inclusive, equitable, safe and sustainable development. Moreover, it will be sensitive to climate change impacts and uncertainties and will have a special focus on enhancing their skills in managing disaster risks – including climate related ones. The strategy to be developed would aim to improve the quality of available human resources by upgrading their knowledge, skills and competencies through appropriate training and technical assistance interventions.

6. Scope of Work

6.1 Preparing TNA report: A training Needs Assessment Questionnaire has been developed by KSDMA and UNDP. This questionnaire has been finalized through a consultative process. A state level consultation was held at KSDMA to provide an over view of the Virtual Cadre Officials role and also to initiate TNA Process. The questionnaire was finalized based on the feedback from the participants and was sent to all the line departments at State and District Level for 8 departments. SEEDS Technical Services will be responsible for developing TNA report for each of the sector based on the TNA data. Data will be made available to the SEEDS Technical Services in digital format for analysis and preparation of report.

6.2 Developing/ Customizing Training Modules: The expert(s) will be responsible in the development of module based on the Training Needs Assessment Report. The training

module and resource materials shall be contextualized based on the requirements of the state.

6.3 Conducting training courses for the VC officials: The expert(s) will be responsible in the development of module and conduct 6 training programmes of 2-3 days duration for the Virtual Cadre Officials for the department. Training programmes for Disaster Management Concepts, District Disaster Management Planning etc. can be organized in groups of 30 participants. The training should be practical and based on case studies and practical exercises from the state as well as the departmental needs.

6.4 Training Report: SEEDS Technical Services will submit a training report after each training within 7 days of completion of the course. We shall apply appropriate tools for evaluation including mood meter, pre and post training questionnaire, training evaluation form and debriefing for the evaluation of the course. We shall revise the training course materials, delivery methods etc. based on the feedback from participants.

6.5 Departmental Disaster Management Plan: Once the training is completed the Virtual Cadre official will take lead in formulation of departmental disaster management plan for the respective department. SEEDS Technical Services shall facilitate the process and mentor the official for the preparation of Plan.

7. Project Timeline

Sl. No.	Project Activities	Project Months					
		July 2019	Aug 2019	Sept 2019	Oct 2019	Nov 2019	18 Dec 2019
1	Desktop Review	██	██				
2	Inception Report	██	██				
3	Training Need Assessment Report	██	██				
4	Scenario Building through Consultative process			██			
5	Developing Capacity Development Strategies			██			
6	Development/Customization of Training Modules			██	██		
7	Training of 8 Departments				██	██	
8	Submission of Training report						██

9	Mentor support for preparation of DDMP by virtual cadre officials						

8. Deliverables

- Inception Report - 30th August 2019
- TNA Report – 30th August 2019
- Modules and course materials for priority courses – 26th October 2019
- Training of VC officials from all the 8 departments and Training Report – 07th December 2019
- Draft/ outline departmental DM Plan with final report – 18th December 2019

9. Tentative Structure of Training Module

The training module will act as a tool to train virtual cadre of officials on preparation of disaster management plan for their respective department.

9.1 Base Module

Topics to be covered
- Introduction to Disaster Management
- Definition of Key Terms
- History of Disaster Management
- International Frameworks
- Phases of Disaster Management
- Legal and Policy Framework for Disaster Management in state level for Kerala and national level for India
- Integration of disaster risk reduction and climate change

9.2 Sector Specific Module

Topics to be covered
- Departmental Resource mapping
- Listing of Assets of the Department
- Departmental HRVCA
- Development of department specific information layers on GIS
- Departmental Risk Reduction Strategy
- Developing people centred and inclusive plans
- Early warning
- Emergency Operations and Response
    - Standard Operating Procedures – Pre, During, Post

- o Incident Command System
  - Hazard Specific Actions Plans
  - Disaster Recovery and Reconstruction
    - o Departmental PDNA
    - o Strategy for recovery and reconstruction
  - Capacity Building
  - Integration of disaster management in departmental development plans
  - Business continuity planning
  - Risk Sensitive Budgeting and Financing
  - Monitoring and Evaluation
  - Departmental Action Plan for Disaster Management (Short Term, Medium Term, Long Term)

9.3 Training of Trainers (TOT) Module

- Abbreviations and Acronyms
- Introduction
- Aim
- About the training module
- Base module
- Sector Specific Module (department wise)
- Training Schedule
- Training Materials requirement
- Guidance/Facilitation Notes for trainers and facilitators
- Feedback from the participants

9.4 Schedule of the Training workshops

3 Training workshops will be organised in the month of October 2019.

1. First workshop on 9, 10 and 11 Oct 2019
2. Second workshop on 14, 15 and 16 Oct 2019
3. Third workshop on 17,18, and 19 Oct 2019

10. Roles of Project Implementing Agencies

10.1 Role of SEEDS

- Prepare Training Modules
- Prepare TNA and training reports
- Deliver training to officials
- Obtain feedback from UNDP and officials
- Oversee preparation of outlines of Departmental DM Plans
- Addressing queries and issues of UNDP and officials
- Quality assurance

- ▪ Budget, timeline and workplan management
- ▪ Internal monitoring and evaluation

10.2 Role of UNDP

- ▪ Approve reports
- ▪ Organize training venue
- ▪ Ensure that required officials are available.
- ▪ Provide timely feedback

11. Activities during the inception period

The inception activities were undertaken with the objective of assessing need for any changes in the proposed methodology and workplan, and drawing up the content of selected departments for the capacity development. The activities included:

11.1 Project initiation meeting: Immediately on signing the contract the project team had an introductory meeting with UNDP on 01 August 2019. Key issues pertaining to project implementation, workplan and deliverables were discussed. For more details please refer to meeting minutes as in Annexure 2.

11.2 Review of Literature:

- • Demographic Data from Census of India (2011), Economic Survey (2017-18) and BMTPC Atlas 2019 to understand profile and background of the state, departments and exposure and vulnerabilities.
- • Articles and research papers to understand the scenario of disasters in Kerala and also to understand the departments vulnerable to it.
- • Kerala State Disaster Management Plan 2016
- • National Disaster Management Plan 2016

11.3 Internal Team meeting to develop shared understanding of scope of work, tasks and responsibilities.

The above activities helped strengthen the methodology.
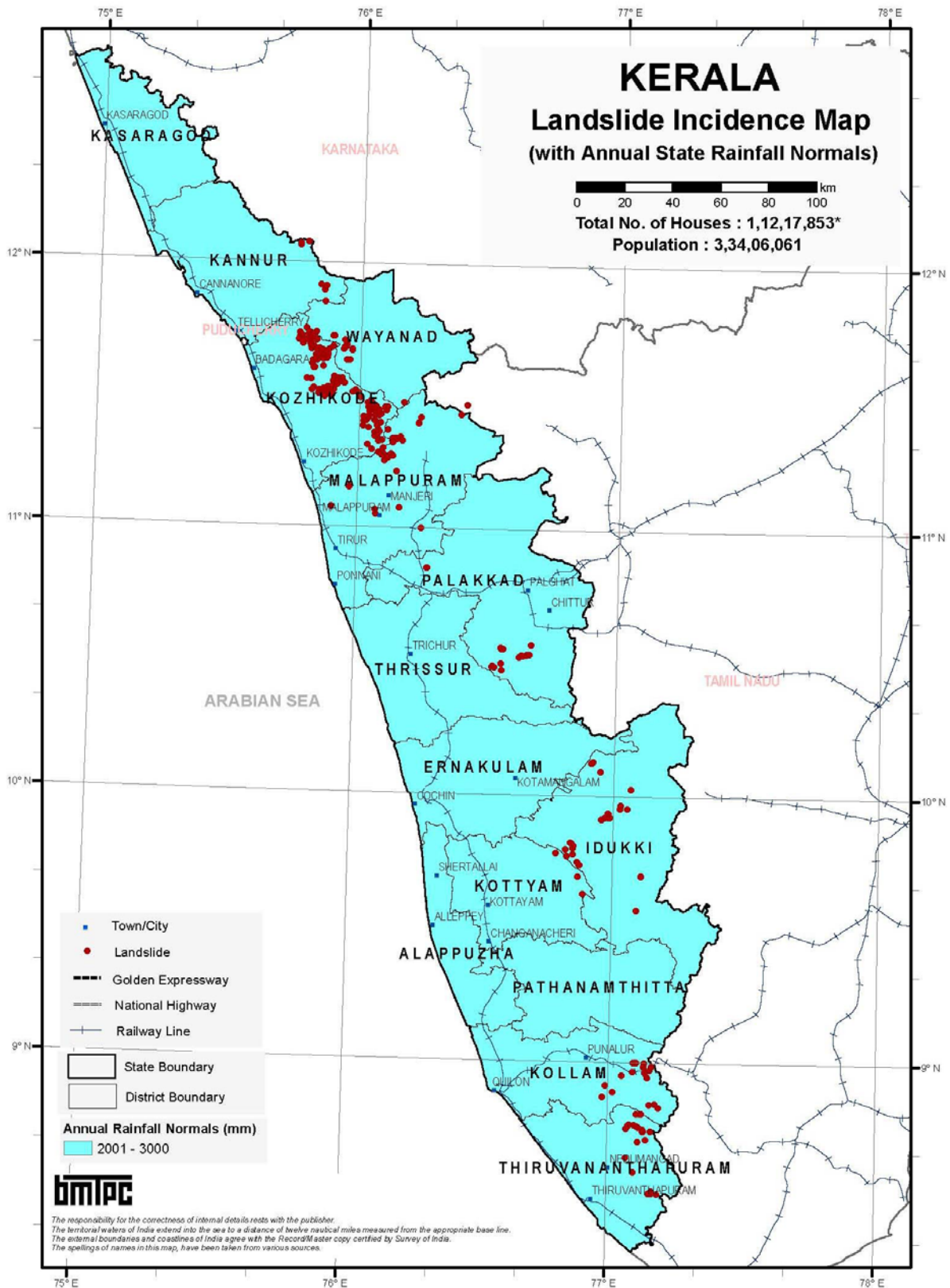
Annexure 1: Hazard Maps of Kerala

1. Flood Affected Areas of Kerala
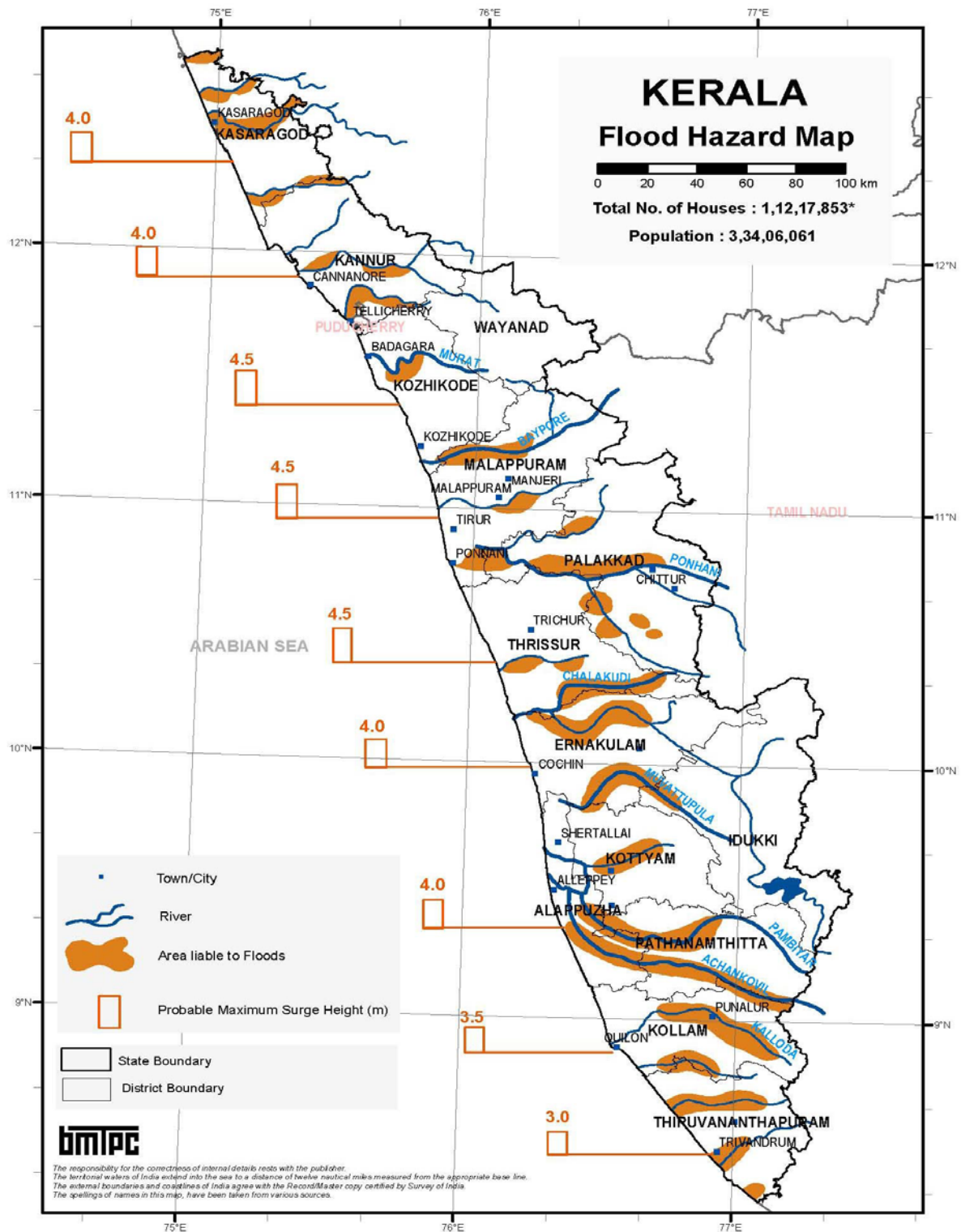
Source: Vulnerability Atlas of India, 2019

2. Landslide Hazard Map

KERALA
Landslide Incidence Map
(with Annual State Rainfall Normals)

km
0   20   40   60   80   100

Total No. of Houses : 1,12,17,853*
Population : 3,34,06,061

Source: Vulnerability Atlas of India, 2019

3. Wind Hazard Map
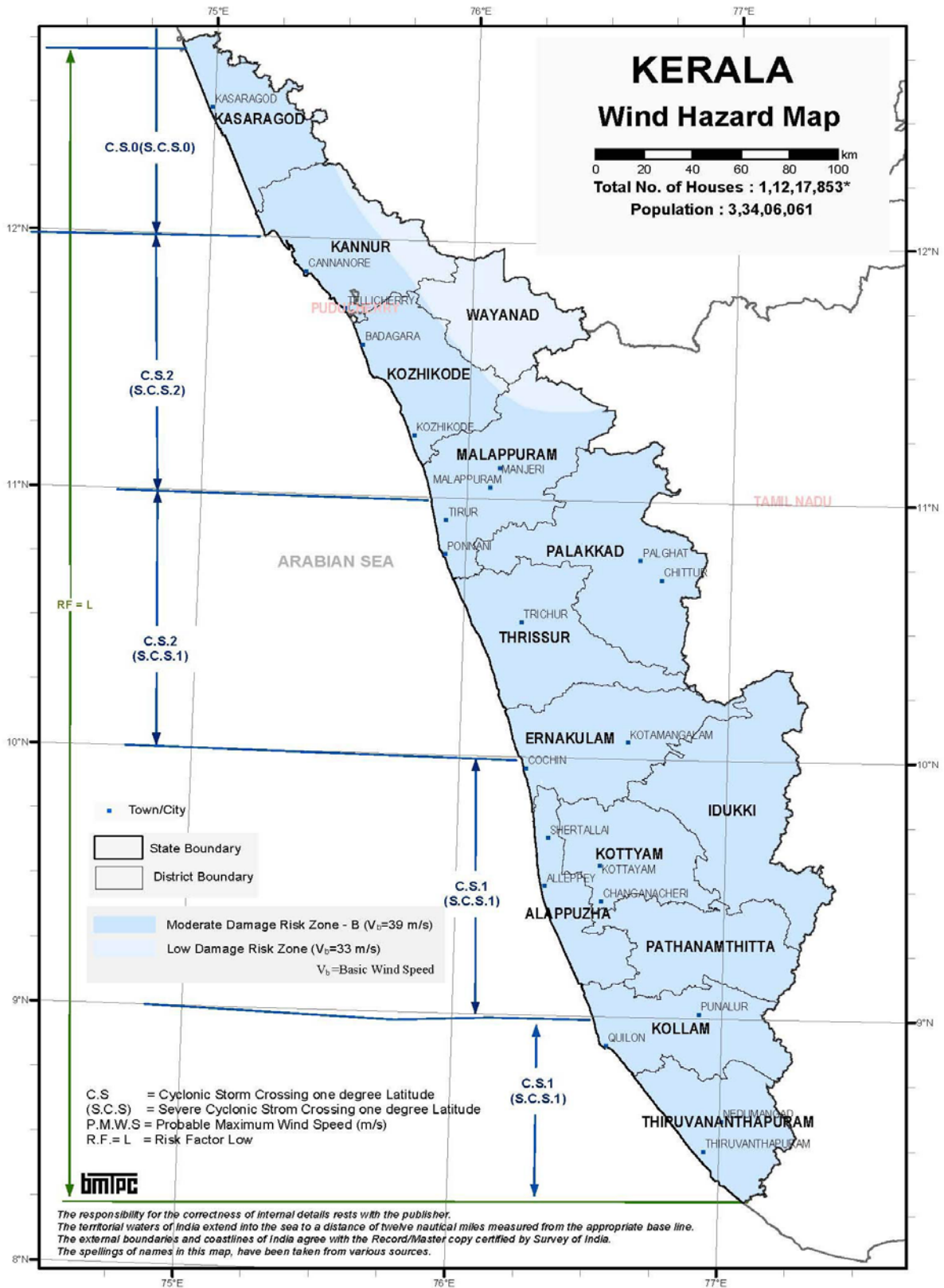
Source: Vulnerability Atlas of India, 2019

4. Earthquake Hazard Map
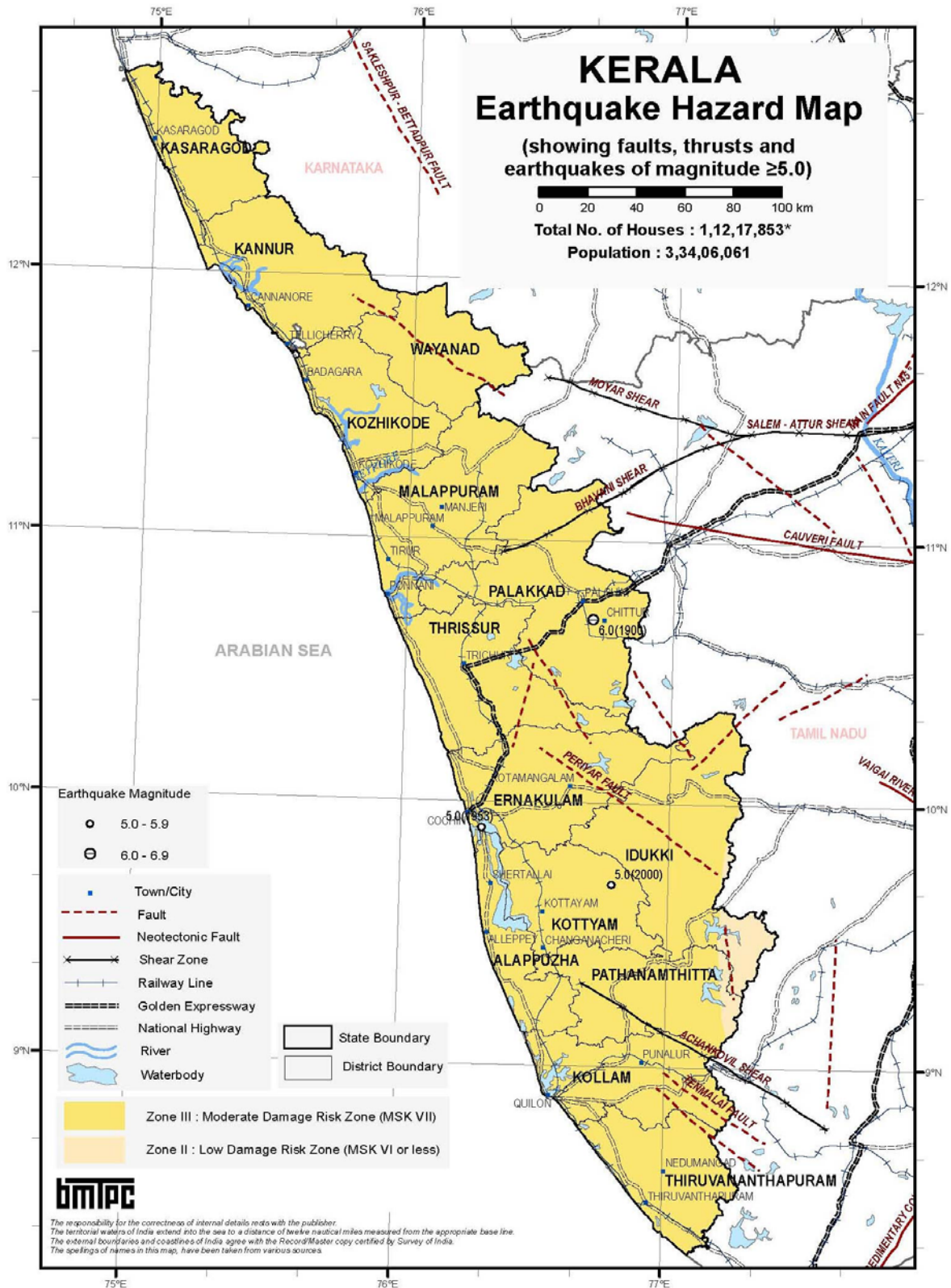
Source: Vulnerability Atlas of India, 2019`

Annexure 2: Minutes of Meeting

Meeting Agenda: Introduction and project briefing meeting
Date of Meeting: 01 August 2019
Venue of Meeting: KSDMA Office, Thiruvananthapuram
Meeting Participants: Ms. Annie george, UNDP; Mr. Joe, UNDP; Jinu Varghese, STS

Discussion Points:

- **Tentative date of launching workshop to be organized in KSDMA office with officials from 8 departments, UNDP staff and SEEDS**
  - Data of inception workshop to be finalized at the earliest. Suggested dates are Aug 9 or 13.
- **Training needs assessment report to be presented during the launching workshop.**
  - UNDP has shared the training needs assessment (done earlier) data. T. As this document is not expected to give full data. For this documents like PDNA, and state disaster management plan etc. to be referred and consultation with the partners in the state level to be done before drafting the final TNA report.
- **Training modules.**
  - The trainings modules can be sub divided into 2 parts. First part, which would be common to all departments, would cover general/introduction to disasters, history, institutional framework, state disaster mgt plan etc. second part to cover sector specific modules. Modules need to be prepared in English first and shared to UNDP after which it has to be translated also in local language.
- **Trainings**
  - Trainings will be conducted to 15 officials from 8 departments making the total participants to 120. As the govt officials may not turn up for multiple times for training, a 3 day continuous training program is suggested for all departments; first day will cover general topic and next 2 days covering sector specific. Trainings to start from September.
  - The training venue and accommodation will be taken care by UNDP/SDMA. Following are the 8 department officials are to be trained.
  - Agriculture
  - Fisheries (fisheries later replaced by geology & mining)
  - Dairy development (replaced by Soil conservation department)
  - Irrigation minor
  - Kerala Water Authority
  - Animal husbandry
  - Health
  - Land revenue
  - For trainings some of the departments can be clubbed together.
- **An outline/template of** the department wise disaster management plan which is the final output of the training to be shared in the inception workshop.

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