

INCEPTION WORKSHOP REPORT

Groundwater Recharge for improving livelihoods and enhancing resilience in the dry zone

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Abstract

The inception workshop was held to discuss and agree the workprogramme for an *Incubation Pilot Project* on groundwater recharge to enhance water resources in the dry zone as a multi-disciplinary, multi-stakeholder project. The main focus of the project is enhancing livelihoods of farmers and resilience of agriculture production systems against climate change. The meeting was held at the Mahaweli Ministry in Sri Lanka, on the 07th of August, 2015, chaired by Mr. Nihal Rupasinghe, secretary to the Ministries of Mahaweli and Environment. After the meeting briefings were conducted at the Irrigation Department. Field surveys of Malwatu Oya basin, proposed dam site, potential infiltration sites below the Malwatu Oya basin, the Tekkam diversion, upstream of Giants tank for infiltration, the integrated operation of Giants tank with small village tanks were conducted. Finally flood affected villages were visited and interviews with residents conducted.

Keywords: Transdisciplinary, Traditional and Modern Masaics, Groundwater, Weather Forecast

1. Workshop agenda

1.1. Workshop Participants

Organization	Participants
Mahaweli Ministry	Mr. Nihal Rupasinghe,
Irrigation Department	Mr. Nelugolla, Mr. Rohan, Dr. G
Mahaweli Authority	Mrs.
Peradeniya University	Prof. Weerakoon
Rajarata University	Prof. Madduma Bandara
Meteorological Department	

2. Workshop Discussion

Welcome remarks by Mr. Nihal Rupasinghe on the importance of integrated water management practices for Sri Lanka.

Introduction to the International Network for Advancing Transdisciplinary Education (INATE) by Prof. Srikantha Herath.

2.1. Climate Projections, Real time forecasts and Seasonal Predictions

Real Time Forecasts Parameterisation for WRF model, assimilation of real time additional information in WRF, especially satellite and radar observations.

Climate Projections Selection of models that have the ability to capture Sri Lanka climatology.

Seasonal forecasts There is an urgent need to conduct research in to the possibility of seasonal forecasts.

Data sharing Need to have an agreement for sharing data among participants

Focus Catchment While Malwatu Oya catchment will be the study area, whole island forecasts are important because often the rainfall in central mountains have a profound effect on water resources on the north central provinces.

2.2. Data Infrastructure

- Compilation of physical and social data
- Development of a GIS (NKGias)
- Extend the platform as part of the data infrastructure

2.3. Hydrological Modeling

1. Current modeling initiatives (Irrigation Department, IMMI, World Bank?)
2. Need to share experiences and develop a robust hydrological model – a workshop ?

2.4. Water Allocation

- Make use of the Deduru Oya experiences. WEAP model

2.5. Ground water

- Collecting ground water information
- Modeling ground water

2.6. Recharge options

1. Design of recharge facilities
2. Recharge options

2.7. Water Management

3. Malwatu Oya basin

- Proposed new reservoir and maximising its benefits.
- Civil society response

4. Infiltration downstream of the proposed dam

- Location where infiltration can be implemented
- Information on the geology and ground water

5. Giants tank reservoir area

- A local map of the area with high resolution DEM
- A soil property map
- Soil and geological information on the areas visited.

6. Tank bed cultivation

1. Observations on the tank bed cultivation: infiltration characteristics of the area