

PEACE, PROSPERITY AND REGIONAL INTEGRATION

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MANAGING FLOODS WITHIN THE IDDRSI FRAMEWORK

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Climate Crisis – Extreme Weather



Economic losses
Crop damage
Desert locusts
Erosion, gullies
Social insecurity
Migration

Inadequate info on flood problems (flood risk & dynamics, mapping); **Need for regional** cooperation; Inadequate national & regional interventions; Need for a study to analyse flood problems (causes, dynamics, impact, mitigation intervention; Integration with IDDRSI



Early Warning System Components

EWS Component	Local Community level	National Level	Regional/global Level		
Risk Knowledge	Hazard maps drawn by communities	GIS risk maps showing hazards and vulnerabilities	Risk maps with layers of hazard and vulnerabilities developed using satellite imageries		
Monitoring	Manual River & Rainguages, bilboards	Automated guage system with information flowing in to a central location	Satelite based Monitoring in real time with current regional/global condition based on regional/global model		
Warning Communication	Local devices for communication; word of mouth	Radio, Telephone and Television	Email, internet based seasonal forecast,		
Response Capability	Evacuation routes signaled with locally made signs	Any response at this level will draw on the same technology found in warning communication listed above			

AVAILABLE SATELLITE PRECIPITATION DATA FOR MODELLING

Product	Coverage	Temporal Resolution	Spatial Resolution	Latency	Data availability
GPM : Global Precipitation Measurement (GPM) v6 - IMERG	Global	30 minutes 3 hours 1 day	0.1°	4 hours	03/2000– present
GSMaP Operational : Global Satellite Mapping of Precipitation	Global	1 hour	0.1°	5 hours	03/2014 – present
CHIRP Daily : Climate Hazards Group InfraRed Precipitation with Station Data (version 2.0 final)	Global	1 day	0.05°	3-6 days	01/1981 – present
TRMM 3B42 : Tropical Rainfall Measurement Mission 3- Hourly Precipitation Estimates – DISCONTINUED -	Latitudes 60°N-S	3 hours	0.25°	8 hours	01/1998 – 04/2018
RFEv2 : The Climate Prediction Center Rainfall Estimation Algorithm Version 2	40°N-40°S,20°W-55°E	1 day	0.1°	12 hours	01/2001 - present
CMORPH: Climate Prediction Center Morphological Technique	Global	3 hours 1 day	0.25°	stopped	12/2002-10/2017
PERSIANN: Precipitation Estimation from Remotely Sensed Information using Artificial Neural Networks - Cli <u>mate Data Record</u>	Global	1 day	0.25°	1 day	01/1983/01 – present



AVAILABLE FLOOD FORECASTING SYSTEMS

FFS	Hydrological Model	Hydraulic model	Web Dissemination	Free for operational use?
Delft FEWS	HEC HMS, Sobek	HEC RAS	?	No
HEC RTS	HEC HMS	HEC RAS	No	Yes
Mike Operation	Mik Hydro Basin (NAM)	Mike Hydro River	Yes	No





Study Approach Flood risk analysis across region (data & info) Overview of flooding challenges Select location for case study **Case Study** Review of results **Deliverables**

Thank you

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