



World Meteorological Organization

Weather • Climate • Water

Hydrological Services Activities in Hydrology and Water Resources

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OUTLINE OF PRESENTATION

- World Meteorological Organization – Purpose
- Role in Hydrology and Water Resources
- Hydrology and Water Resources Programme
 - Basic Systems
 - Hydrological Forecasting and Water Resources
 - Capacity Building



WORLD METEOROLOGICAL ORGANIZATION (WMO)

- Set up on 23 March 1950
- Successor to International Meteorological Organization (IMO, created in 1873)
- Specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences.
- UN system's authoritative voice on the state and behaviour of the Earth's atmosphere, its interaction with the oceans, the climate it produces and the resulting distribution of water resources.
- 191 Members as of June 2013



PURPOSES OF WMO

To promote and foster meteorology and hydrology and related geophysical sciences and to facilitate world-wide co-operation for the benefit of humankind in:

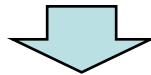
- Networks for meteorological/hydrological and other geophysical observations
- Standardization of observations and publications
- Development of operational hydrology
- Systems for processing and rapid exchange of data
- Applications for socio-economic development, environment protection and policy formulation
- Disaster prevention and mitigation
- Research and training



ROLE OF WMO IN THE FIELD OF HYDROLOGY AND WATER RESOURCES

WMO Convention

Art: 2(e): "to promote activities in operational hydrology and close co-operation between Meteorological and Hydrological Services"



**Hydrology and
Water Resources Programme**



HYDROLOGY AND WATER RESOURCES PROGRAMME

The Programme is implemented through three mutually supporting components:

- Basic Systems in Hydrology
- Hydrological Forecasting and Water Resources Management
- Capacity Building in Hydrology and Water Resources Management



PROGRAMME ON BASIC SYSTEMS IN HYDROLOGY

Objective: To provide guidance to, and support for, national Hydrological Services in the development and maintenance of their activities for the provision of data and services, with an emphasis on quality assurance

- Supports NHSs in the collection, transmission and storage of data, the development of the World Hydrological Cycle Observing System (WHYCOS), and the implementation of the Quality Management Framework - Hydrology.



Standardization and regulatory activities

**Technical Regulations Volume III – Hydrology – 2006 ed.
Guide to Hydrological Practices – 6th Ed. – November 2008**

Manuals issued or under preparation:

Manual on Stream Gauging – 2nd Ed. – 2010

Manual on Flood Forecasting and Warning - 2011

Manual for the Estimation of Probable Max. Precipitation - 2009

Manual on Low Flow Estimation and Prediction - 2008

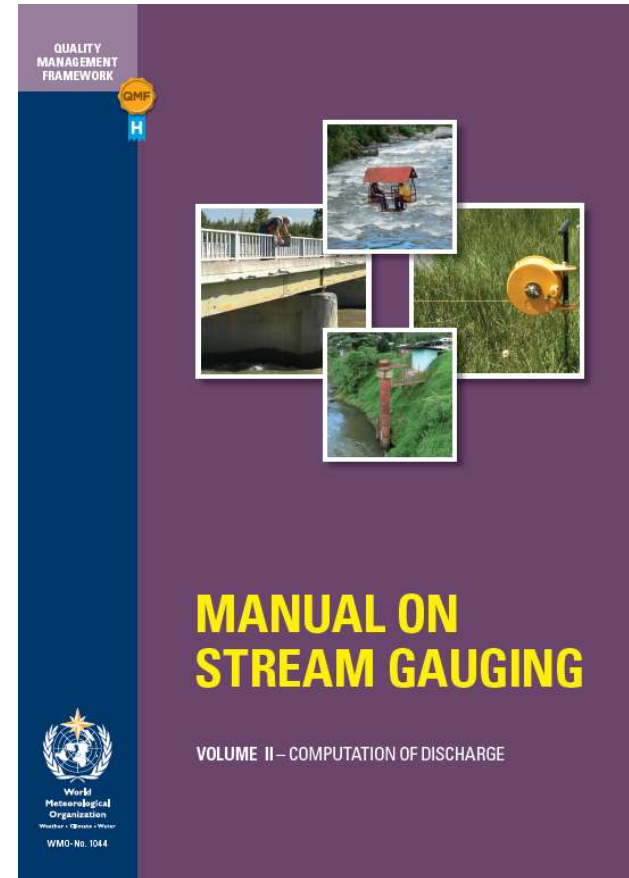
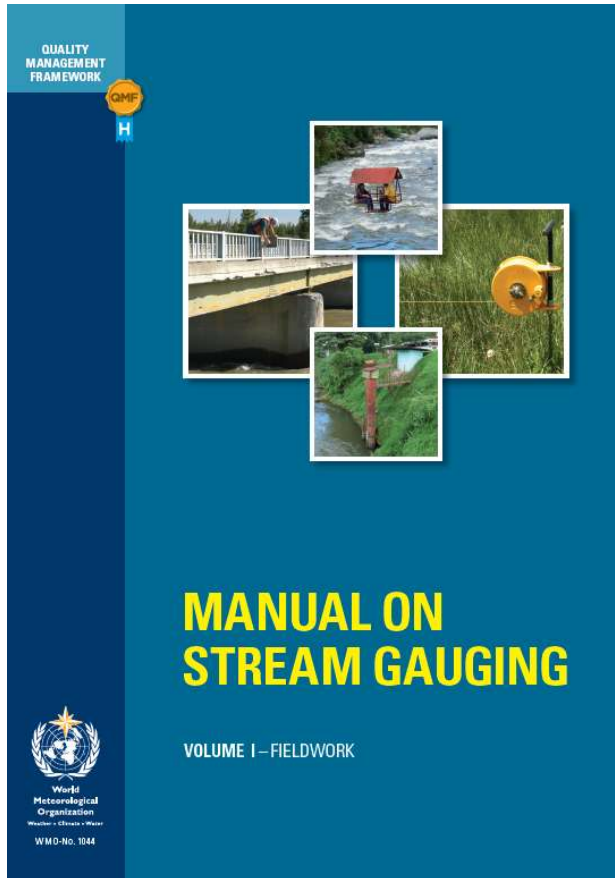
Manual on Water Resources Assessment

Manual on Design Flood Estimation

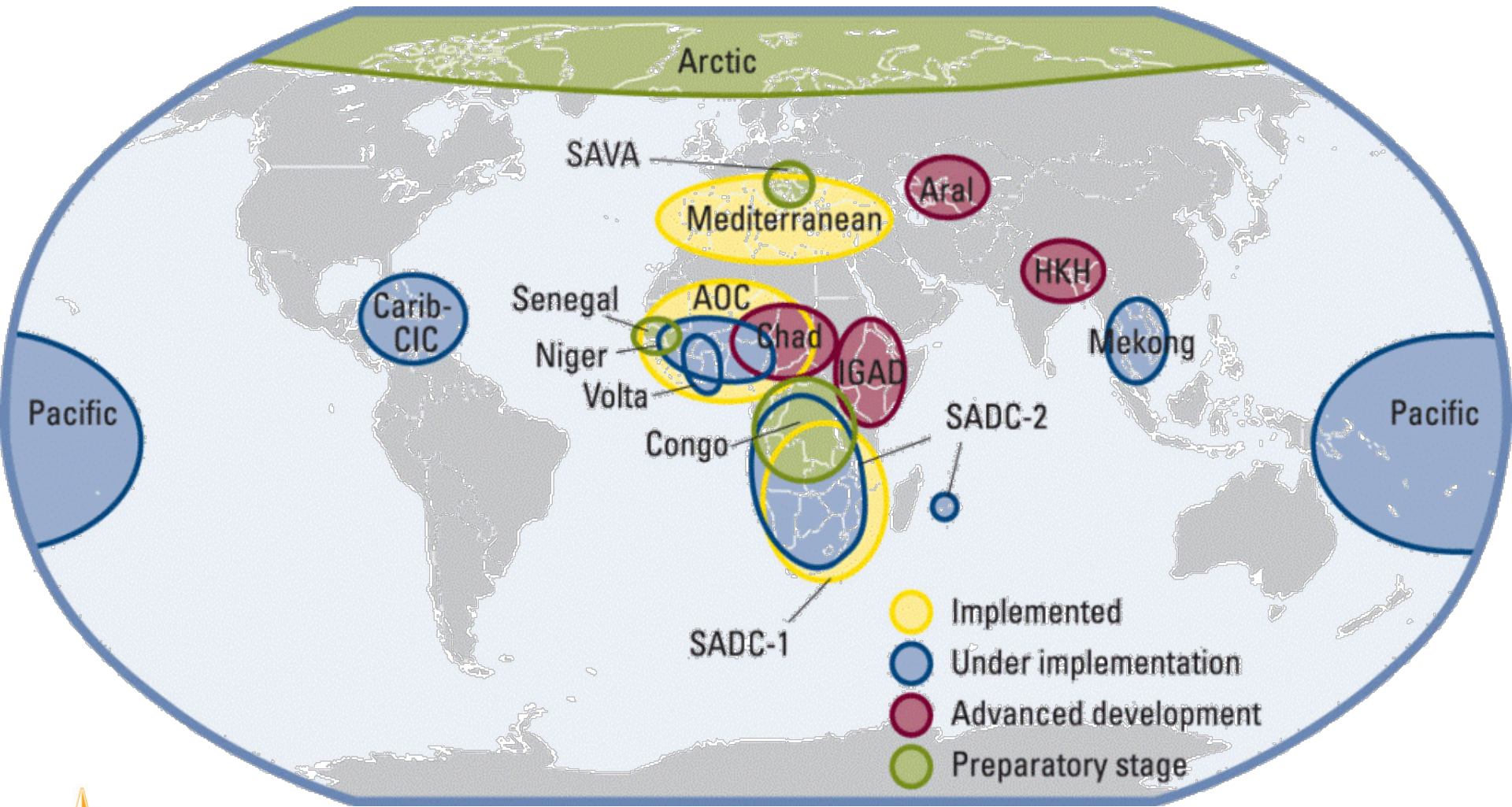
Manual on Flood Risk Mapping



Manual on Stream Gauging



WHYCOS COMPONENTS



PROGRAMME ON HYDROLOGICAL FORECASTING AND WATER RESOURCES MANAGEMENT

Objective:

To apply hydrological modelling and forecasting techniques and related technology for the mitigation of water-related disasters of both natural and anthropogenic origin and for studies of global change.



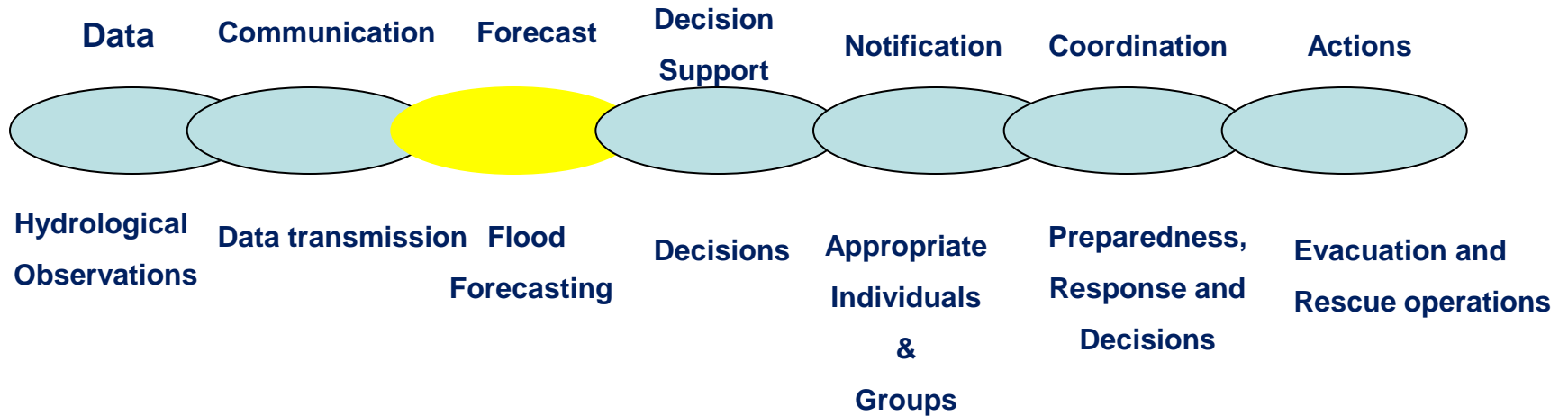
PROGRAMME ON HYDROLOGICAL FORECASTING AND WATER RESOURCES MANAGEMENT

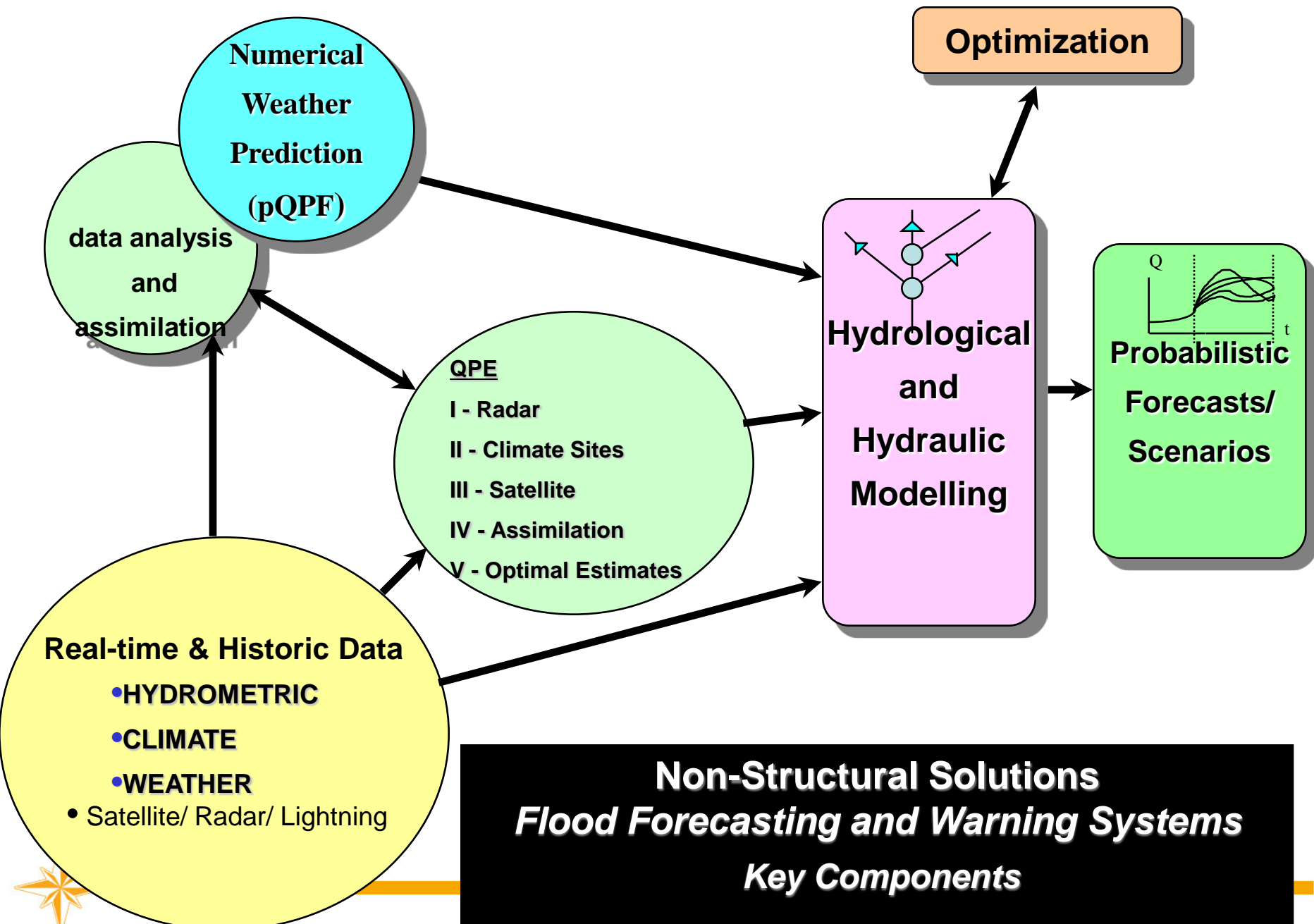
- **Flood management**
 - **Flood Forecasting Initiative (FFI)**
 - **Global Flash Flood Guidance System**
 - South Asia
 - Mekong River Commission (South East Asia)
 - **Projects – Zambezi FF&EWS**
 - **Associated Programme on Flood Management (with the GWP) - Integrated Flood Management**
- **Droughts**
 - **Integrated Drought Management Programme (IDMP) (with GWP)**



Flood forecasting, warning and response system

Critical Chain of Events and Actions





Non-Structural Solutions
Flood Forecasting and Warning Systems
Key Components

APFM

- The Associated Programme on Flood Management (GWP & WMO)
 - to support countries in the integrated management of floods within the overall framework of integrated water resources management
 - Supports awareness
 - Provides information (tools, publications)
 - Supports action
 - www.apfm.info



Integrated Flood Management

Clear and objective policies with a multidisciplinary approach

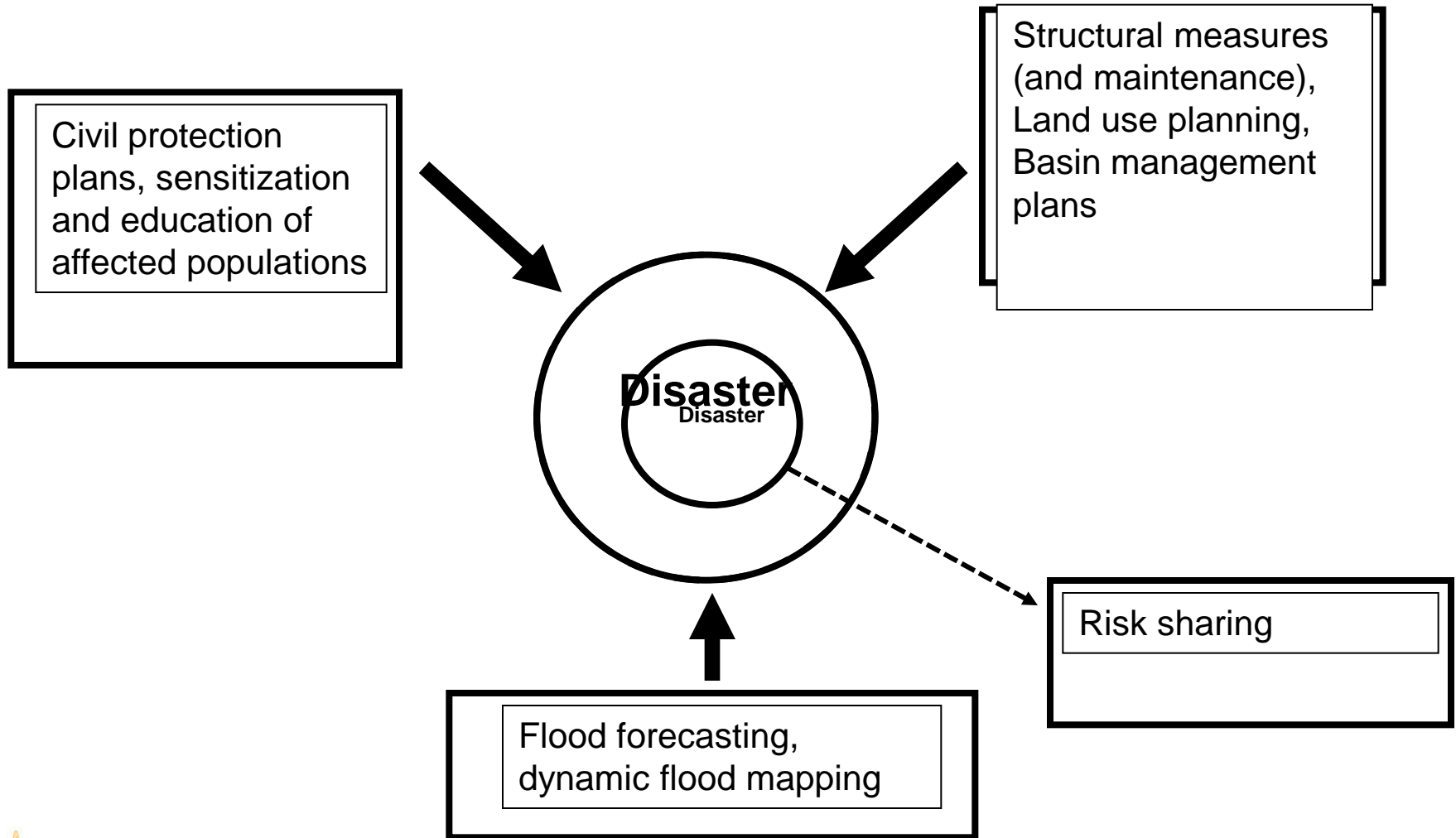


Supported with appropriate

- Legislation and regulations;
- Institutional structures for proper coordination and appropriate linkages;
- Economic instruments;
- Enabling participatory processes; and
- Information management and exchange mechanisms.



Integrated Flood Management: A Recipe to Avert Disasters



PROGRAMME ON CAPACITY BUILDING IN HYDROLOGY AND WATER RESOURCES

- Education and training in hydrology
- Product delivery and public awareness in hydrology and water resources
- Educational material and technical publications (Operational Hydrology Reports, Technical Documents, etc)
- Provides a framework by which NHSs can seek advice and assistance and provide support to efforts to build their capacities to serve their nations.





**World
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Organization**

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Thanks!

For more information:

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