What are the essential components for establishing flood forecasting and early warning systems?

DATA

DATA SOURCES:

Hydrology · Meteorology · Topograpy · Social & Structural

FORECAST

ELEMENTS:

Data

Human Resources
Meteorologists
Water & Environment
Experts

Infrastructure
Operation center
located in a safe area
Computers
Computing capability

COMMUNICATION

KEY CONSIDERATIONS FOR DATA TRANSMISSION CHANNELS:

Available facilities in the country/region · Amount of information to be transmitted · Operating requirements · Economics and cost of system

NOTIFICATION

COMPONENTS OF AN EFFECTIVE FLOOD WARNING:

A single authoritative voice · When the flood will occur and reach certain heights · Which areas may be inundated · What floodwater depth and velocity is expected · What other factors may affect safety

DECISION SUPPORT

POTENTIAL USERS:

High level government decision makers · Public & Private Infrastructure Managers · Civil Contingency & Emergency Services · Staff from other Government departments

COORDINATION

FLOOD WARNINGS HELP REDUCE THE RISK OF DEATH, INJURY AND LOSS OF PROPERTY BY:

Allowing operational teams, emergency personnel and organizations to plan · Alerting the public about the flood's timing and location so they can prepare · Warning about likely impacts on roads, dwellings and flood defence structures · Enabling preparation for undertaking evacuation and emergency procedures

ACTIONS

POSSIBLE RESPONSE TO WARNINGS:

Rural flood plain populations move livestock and property to higher areas or to purpose-built flood refuges · Urban areas organize road closures and diversions, temporary flood barriers and possible evacuation

REVIEW

Assessment of the warning system after flood events to identify potential improvements