

Rural Communities adapting to Climate Change

Opportunities for ICTs

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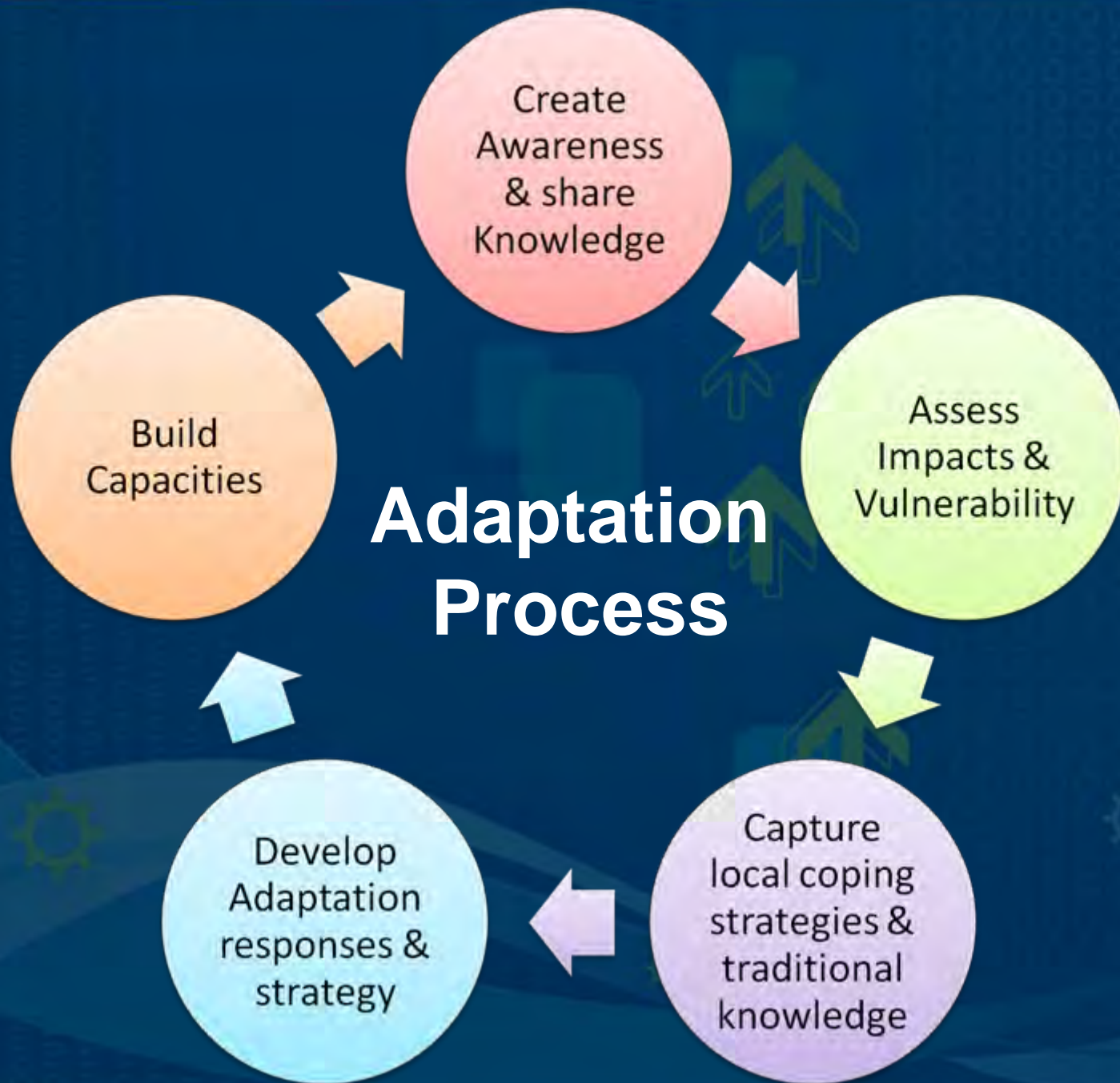
Climate Change – A Reality



Adaptation is necessary



Additional adaptation measures would be required to reduce the adverse impacts of projected climate change and variability, regardless of the scale of mitigation taken in the next 2-3 decades.



Adaptation Process

Create Awareness & share Knowledge

Assess Impacts & Vulnerability

Capture local coping strategies & traditional knowledge

Develop Adaptation responses & strategy

Build Capacities

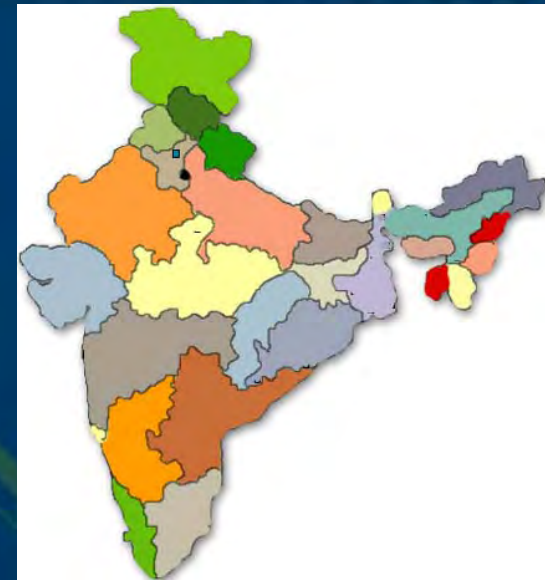
Need for proactive approach



Planned anticipatory adaptation has the potential to reduce vulnerability and realize opportunities associated with climate change

India

- Population of over a billion people
- Nearly 65% in rural India- over 700 million
- Nearly 40% is illiterate
- Nearly 56% of rural households still un-electrified
- Nearly 26% of the population lives below the poverty line
- Over 7000 km of coastline



Key climate sensitive sectors



Agriculture



Health

Water



Key challenges in India

- **Agriculture vital to India's development**
 - Provides food to over 1 billion people, contributes significantly to the GDP
 - Source of livelihood to many
- **Nearly 2/3 rd of land under agriculture still rainfed**
- **Water-scarcity**
- **Over-stressed natural resources**
- **Lack of primary health facilities**
- **High level of illiteracy and poverty**

Poor & Rural communities

Especially vulnerable
to climate change



Unaware about the looming threat which Climate Change imposes

- **Low adaptive capacities**
- **Direct dependence on climate sensitive sectors and natural resources for livelihood and sustenance**

Agriculture

Impacts

- Decreased crop yield
- Irrigation demands
- Cropping pattern
- Pests and diseases
- Malnutrition
- Food security
- Prices

Adaptation

- Erosion control
- Development of early warning system, tolerant/resistant crops
- Conservation & management of soil and water
- Diversification & intensification of food & plantation crops

Water

Impacts

- Stress on existing water resources
- Reservoirs and wells would be affected-increase in salinity
- Reduced water supplies would place additional stress on people, agriculture, and the environment

Adaptation

- Integrated Water resource management
- Water re-use
- Desalination
- Irrigation Efficiency

Health

Impacts

- Increased deaths, disease and injury due to heat waves, floods, storms and droughts

Adaptation

- Disease surveillance and control systems
- Access to better health facilities
- Emergency relief systems

Opportunities for ICTs

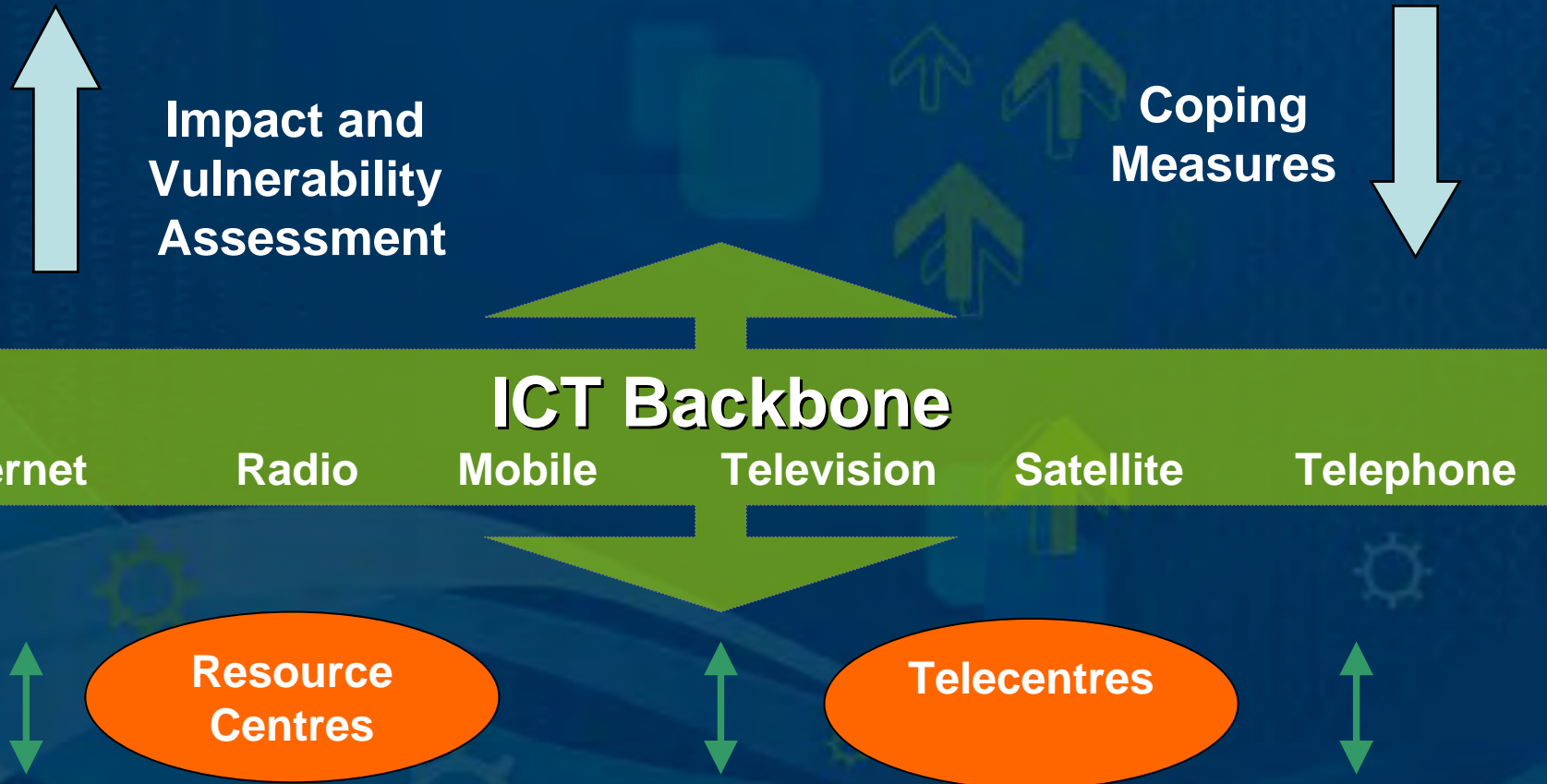
- **Integrated natural resource management**
- **Early warning models**
- **Surveillance system**
- **Disaster response and relief systems**
- **Decision Support Systems (DSS)**
- **Knowledge and information networks**
- **Capacity building tools**
- **Advisory services**
- **Awareness creation and communication**

Opportunities for ICTs

- Options for last mile connectivity
- Mobile/ portable devices
- Smart mobile telecentres
- Smart cards
- Low cost technologies and rugged solutions
- Energy efficient equipment
- Alternate sources of energy

Integrated approach

Multi-Stakeholder Involvement- PPP Model



Rural Communities

Pilot project

**Develop Information Sharing System (ISS)
to Enhance Coping Capacities of Farming
Communities in Dealing with Climate Variability
and Climate Change in drought prone region in
Northern India**



Agriculture Council



Met Department



Research Institutes



Local bodies

TERI



Agriculture Knowledge Centre



**Climatic Info
Cropping Pattern
Soil Condition
Pest and Disease
Ground water status**

Farming Community



Long way to go...



Reach the bottom of the pyramid

Develop coping measures for the rural poor

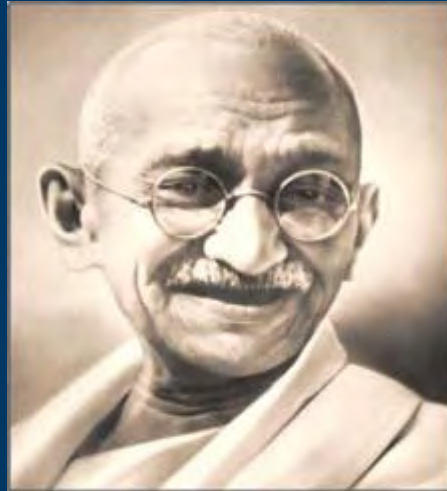
Build capacities among the vulnerable communities

Create an information and knowledge exchange for wider awareness



It is not time to think...

It is time to act... and fast



***"A technological society has two choices:
First it can wait until catastrophic failures expose systemic deficiencies, distortion and self-deceptions.
Secondly, a culture can provide social checks and balances to correct for systemic distortion prior to catastrophic failures"***