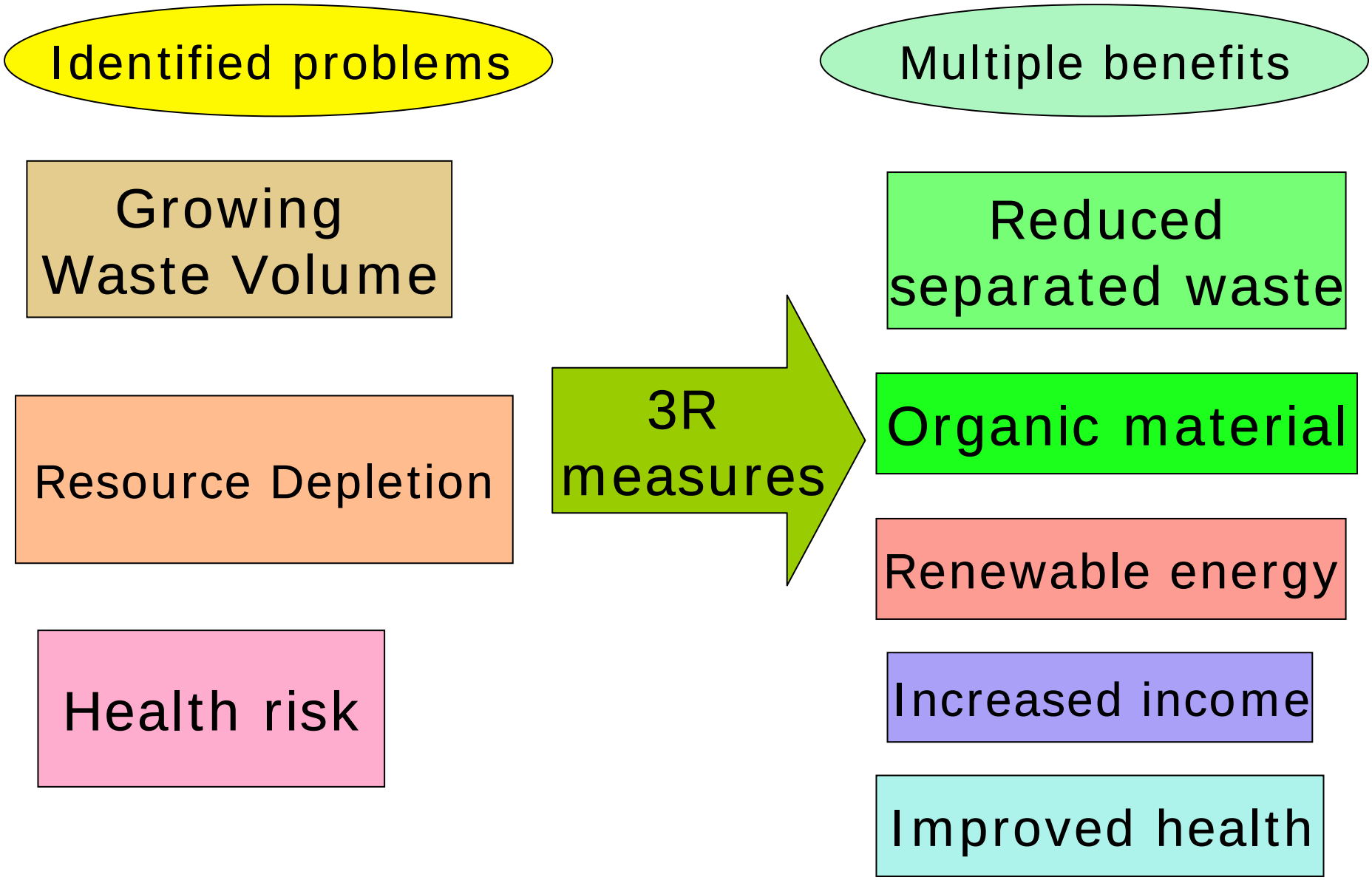
# Lessons and findings from APFED for promoting partnership and empowerment aimed at sustainability

Movement of network on social innovation
with WBCSD and IGES

Masanori Kobayashi
Coordinator

TEI, Bangkok
30 April 2009

# APFED Showcase Projects for the 3Rs



# Youth Leaders for Waste-Wise Communities, Fiji

**Live & Learn**

**Environmental Education**

## Impacts

- Improved dialogue
- Strengthened relationships
- Establishment of waste wise committees
- Support for communal waste management
- Community resolutions for plastic free communities
- Community composting initiatives

Ravai (2009)

TBCSD

SCG
SIAM CEMENT GROUP

สถาบันสิ่งแวดล้อมไทย (สสท.)
Thailand Environment Institute (TEI)

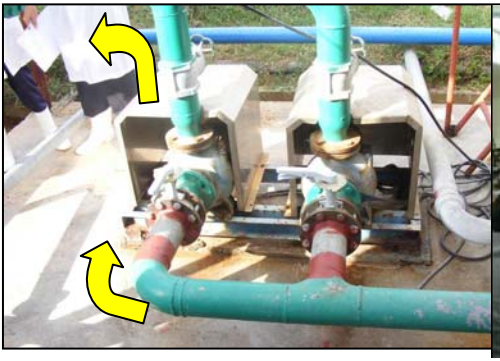
# Eco-efficiency improvement

## Capacity building for workers in all levels

- Environmental Management System (EMS)
- Cleaner Technology (CT)
- Total Energy Management (Thermal /Electrical)
- Pollution Control

## Corporate Social Responsibility

- Planting mangroves and trees




Dumrongsak (2009)

# Promotoing 3R in Kathumandu Valey, Nepal

**MARDO**

✓ Solid Waste management training at household level and compost bin distribution

Until now 49 households provided SWM trainings and distributed 200L compost bins

Shrestha (2009)

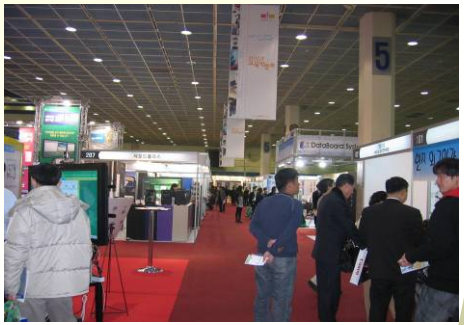
# Green Consumer Initiatives, R of Korea

Korea Eco-Products Institute

## Agenda 4 Raising Consumers' Awareness

### Eco-Product exhibition

- Joint host with other countries or organization



### Green Marketing

- Green Retailers' Campaign (2009)
- Eco-Wedding Campaign (2009)

### Education

- Public : policy & law
- Student : from the early stage


※ Under Planning

Myunjung (2009)

# E-waste Collection scheme – Basel Convention Regional Centre, China

- **Pilot activities on E-wastes collection in selected sites**
  - **Xintai community and Xinsheng community were selected.**

电子废物回收
E-WASTE RECYCLING

- **Designing PCs treatment in Suzhou cooperated by TES-AMM (Suzhou) E-Waste Solutions Co., Ltd.**

Dismantling plant

① LCD module

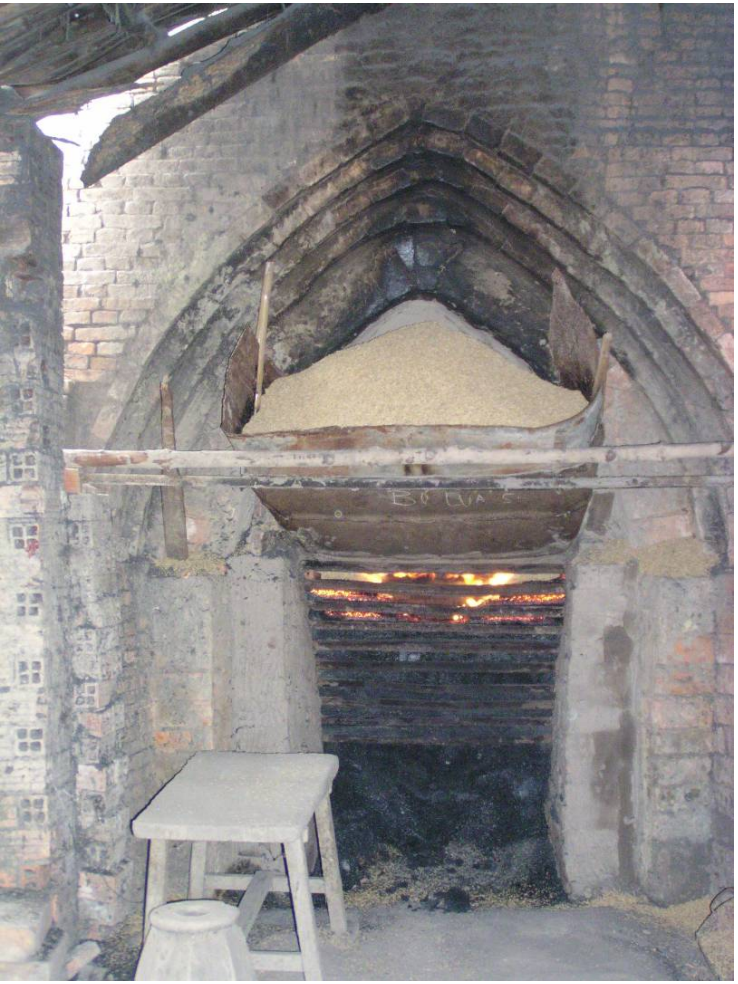
② Low-temperature thermal shock to remove the **polarizing film**

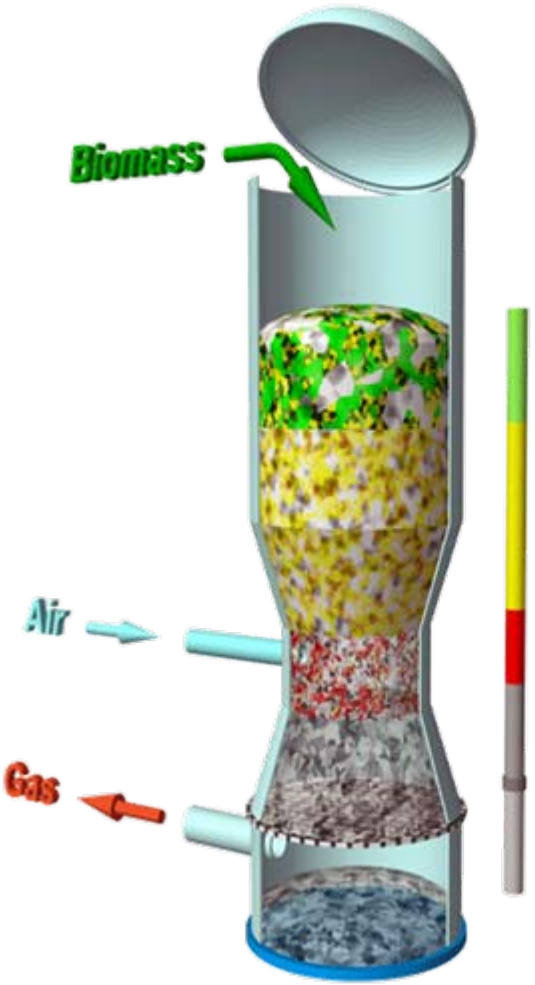
④ To prepare for recovery the Indium metals

Liu (2009)

# Rice husk gasification in Viet Nam

Energy Conservation R&D Center (ENERTEAM), VIỆT NAM







Reactor

Direct burning of rice husk Low efficiency, Polluting, difficult to control temperature

Lê Hoàng VIỆT (2009)

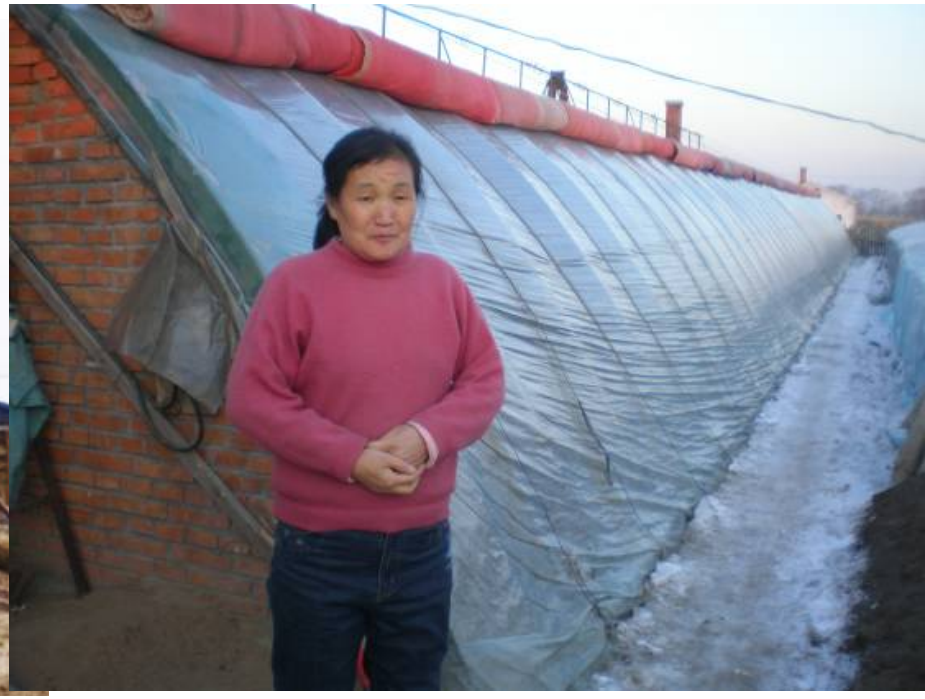
Introduce new technology: Rice husk gasification - low fuel price, flexible control, neutral in GHG emission

# APFED Ryutaro Hashimoto Award
# PT Gikoko Biogas in Landfill in Indonesia

Achievements: CDM registration

Challenges: Emission credit (CER), Power generation, marketing, social safety net for scavengers

# APFED Ryutaro Hashimoto Award
## Sustainable Construction in Heilongjiang Province, China

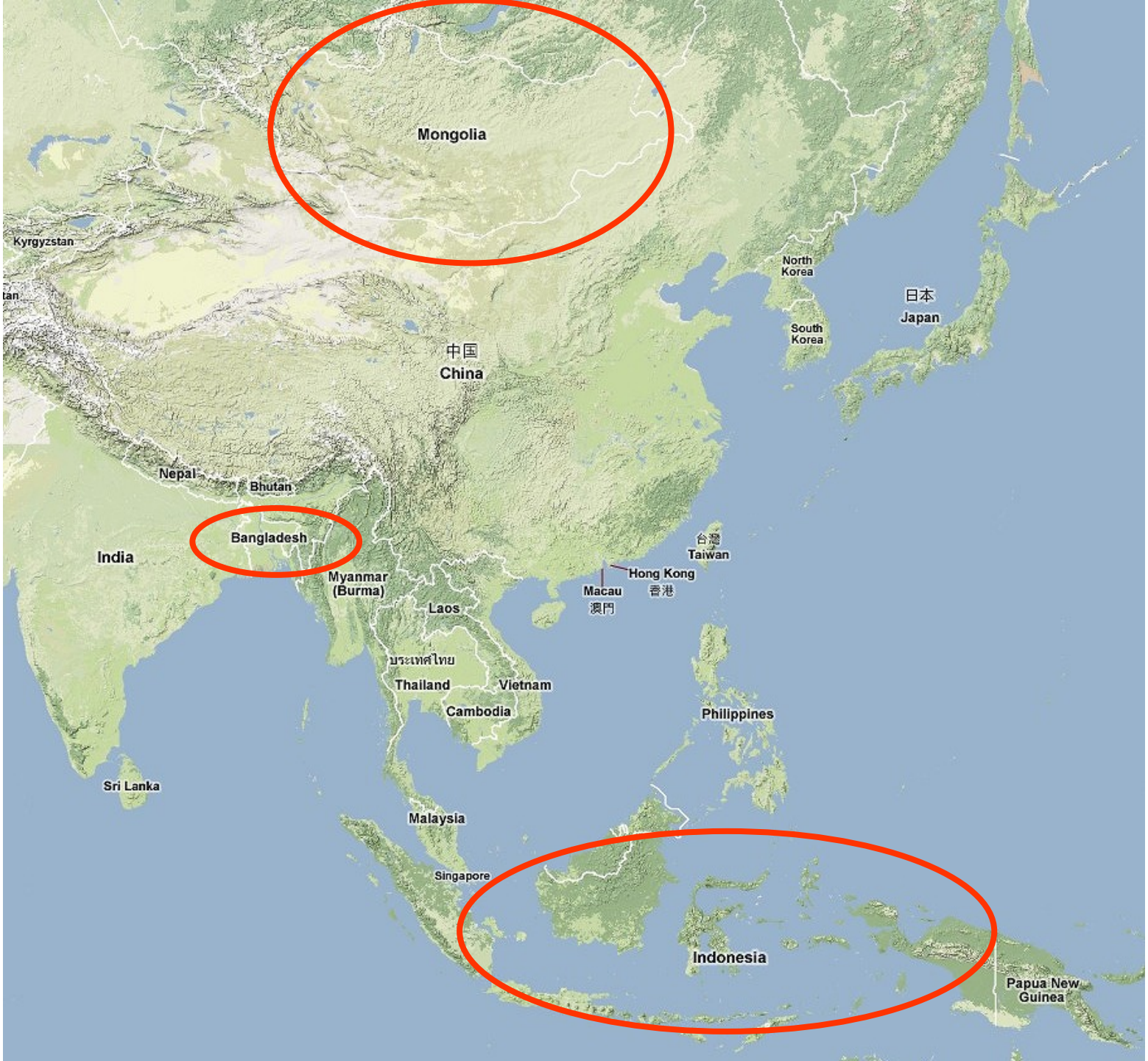


Achievements:

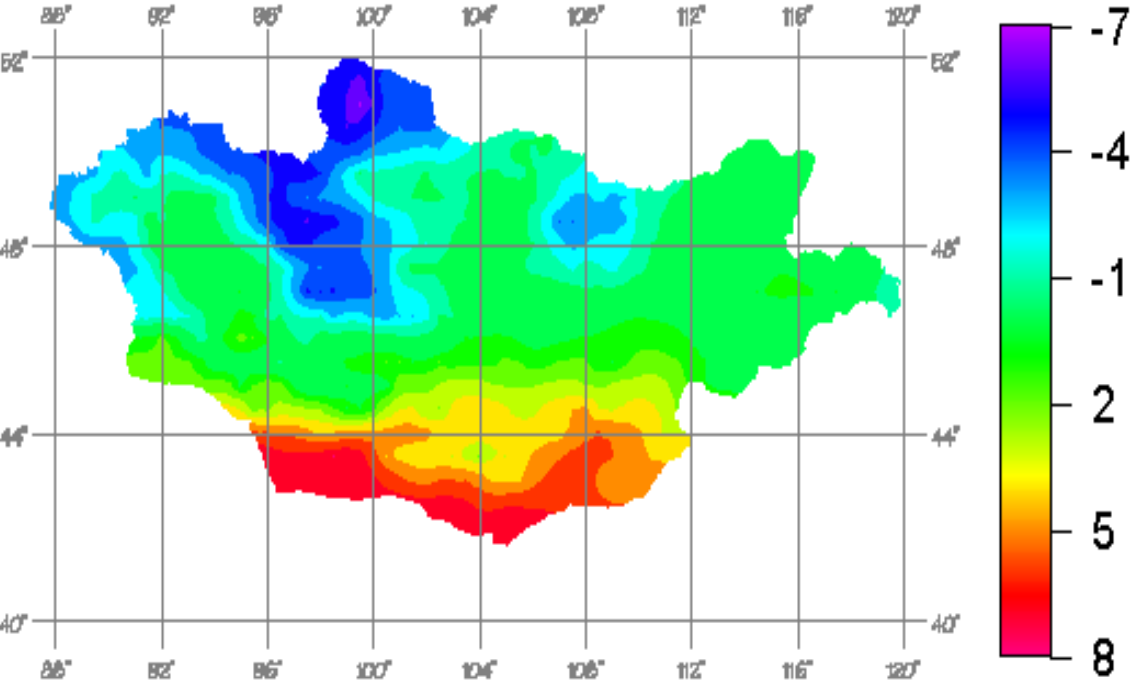
Enhanced energy efficiency, coal and brick substitution, reduced health risk, investment in agriculture, land degradation prevention

Kikusawa (2009)

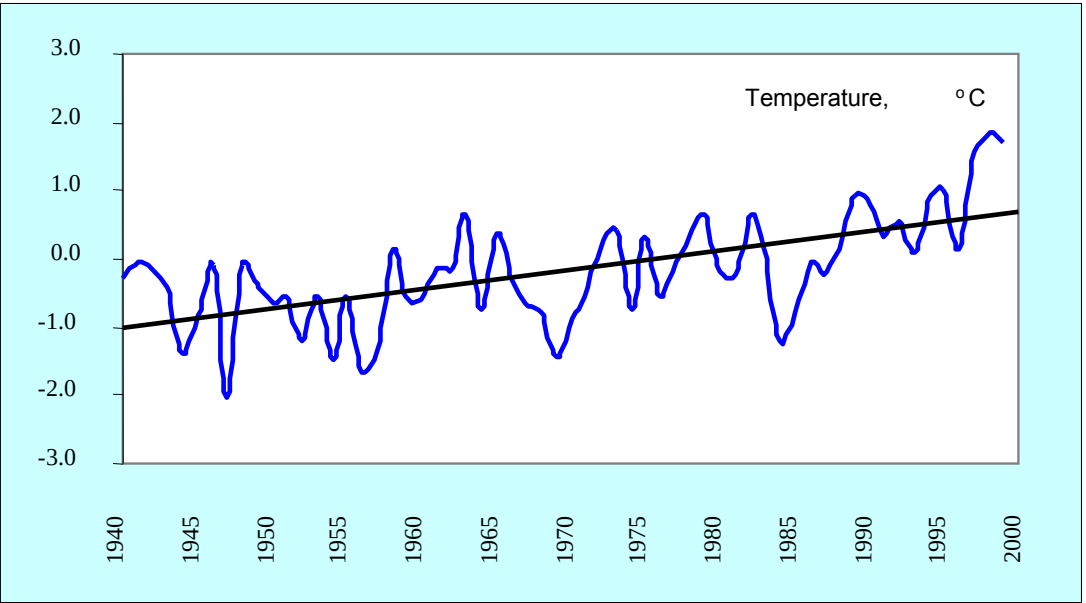
# APFED Showcase Projects for tackling climate change


Mongolia
Kyrgyzstan
North Korea
日本
Japan
South Korea
中国
China
Nepal
Bhutan
Bangladesh
India
台灣
Taiwan
Hong Kong
香港
Macau
澳門
Myanmar (Burma)
Laos
ประเทศไทย
Thailand
Vietnam
Cambodia
Philippines
Sri Lanka
Malaysia
Singapore
Indonesia
Papua New Guinea

# Fig.1: Climate Change in Mongolia

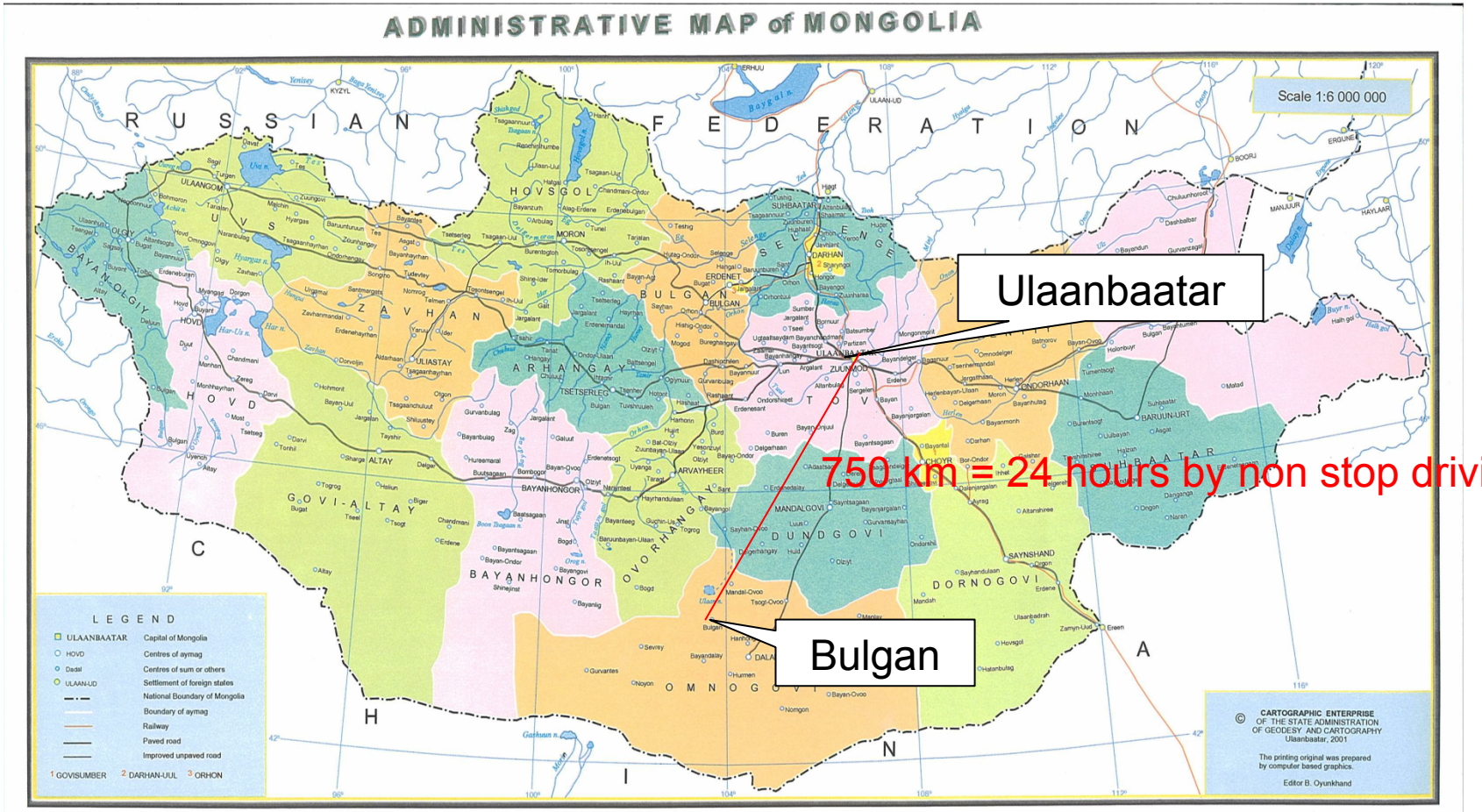



- Temeprature increase in Monglia: 1．66C
  breakdown：
  Winter 3．61
  Spring1．5
  Summer 0．3 decrease



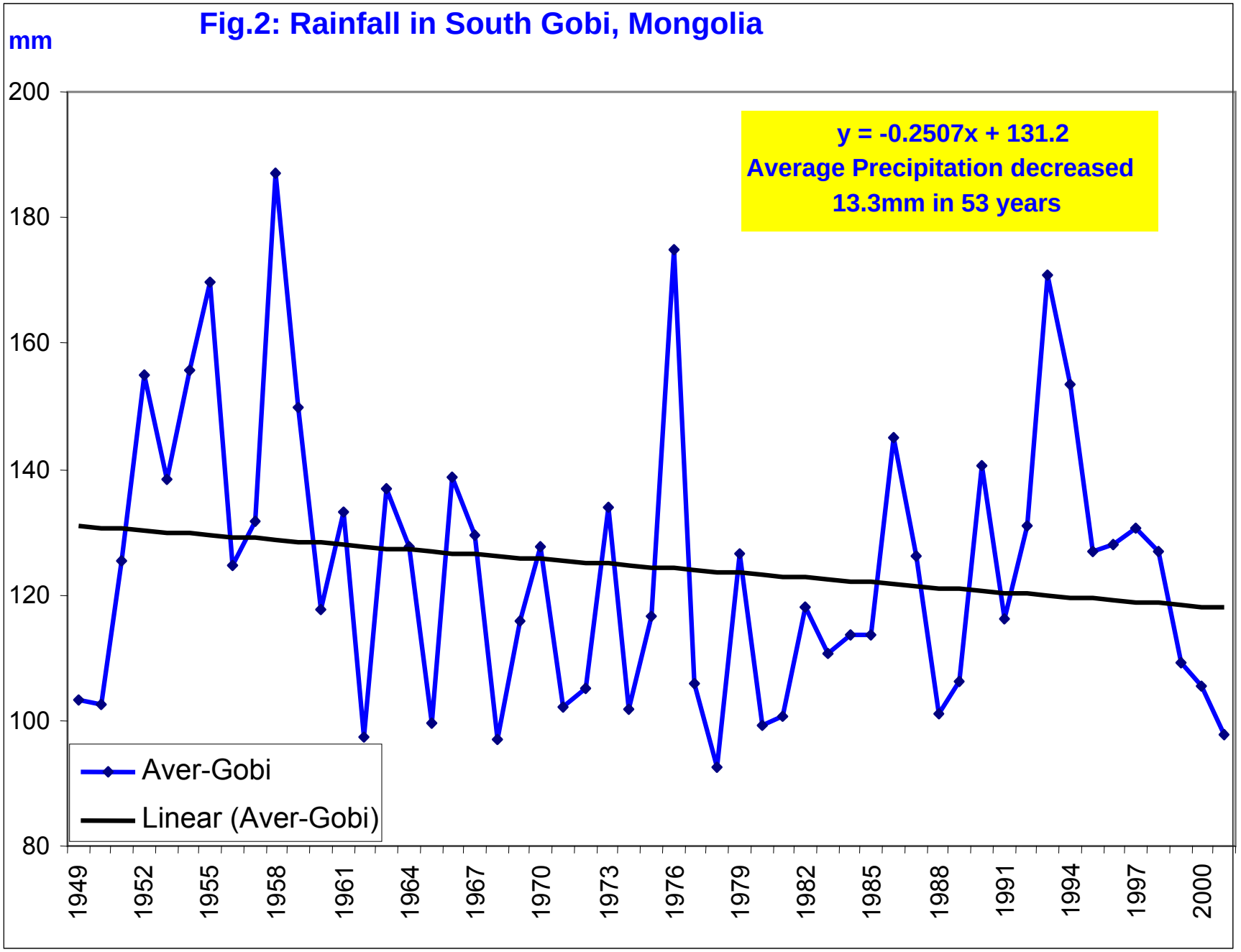

Institute of Metrology and Hydrology, Mongolia (IMH) 2004

# Site location of project “Alternative livelihood development in protected areas and peripheral zones”




Geo-ecology Institute (2008)

## Fig.2: Rainfall in South Gobi, Mongolia




Institute of Metrology and Hydrology, Mongolia (IMH) 2004

# Protecting Saxaul forest areas

Livestock and illegal *goyo* (fungi) collectors threatens saxaul forests

Degrading forests and releasing carbons

# Demonstrating saxaul regeneration and raising public awareness



Fencing saxaul forest areas and placing a sign board explaining the significance of saxaul forest

Measuring saxaul regeneration rate and peple’s perceptual changes

# Creating income generation alternative to livestock farming


- Establishing fenced farmed land,
- Using pipes for irrigation

- Need investment for drip irrigation
- Limited agricultural returns

Project – Disaster management and development in Bangladesh

Project sites

Dinajpur

Gaibandha

Jamalpur

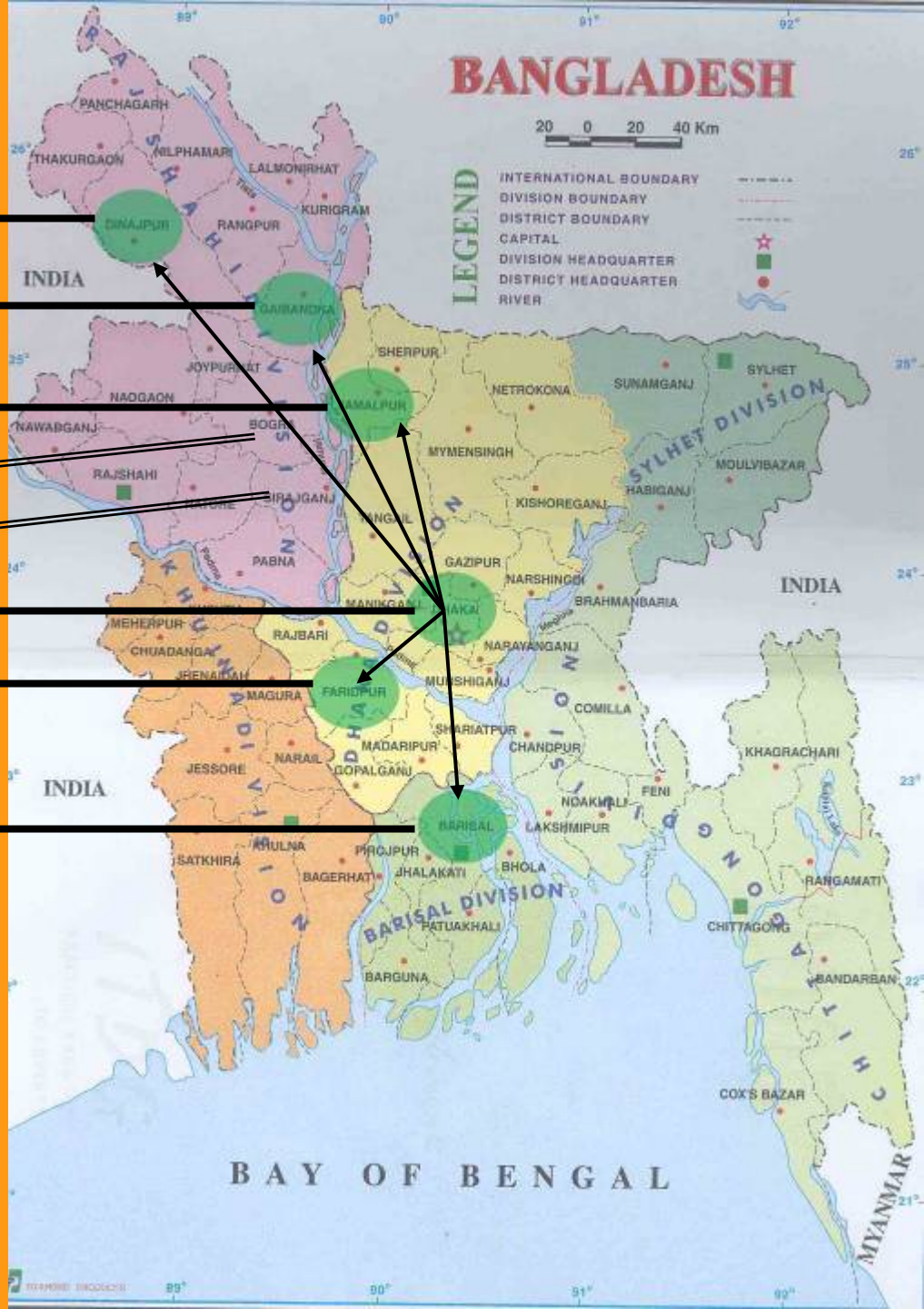
Bogra

Sirajganj

Dhaka

Faridpur

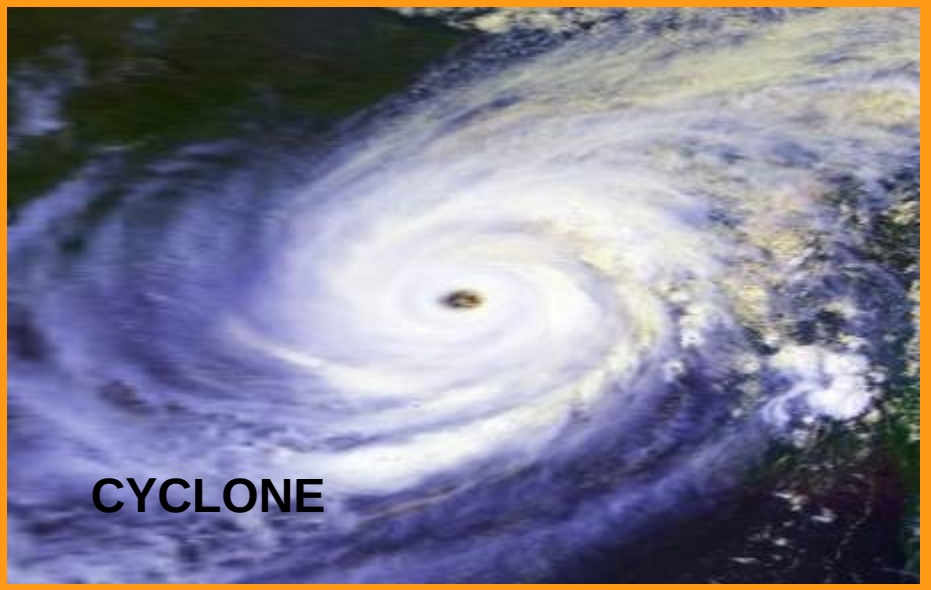
Barisal




2007 Ryutaro Hashimoto APFED Award Gold Prize

Source: Practical Action

# MAJOR DISASTERS and CHALLANGES IN BANGLADESH




Source: Practical Action

# PROGRESS TO DATE

## AGRICULTURE

Reached to 5836 (F- 4508 M- 1328) beneficiaries through training and demonstration activities with the following options

PRODUCTION ON FLOOD PROTECTION EMBANKMENT

Source: Practical Action

# FLOATING VEGETABLE GARDEN MEANS OF SURVIVAL

Source: Practical Action

# FISHERIES

Trained 2030 to date on different technology options and has provided demonstration support to show the impact



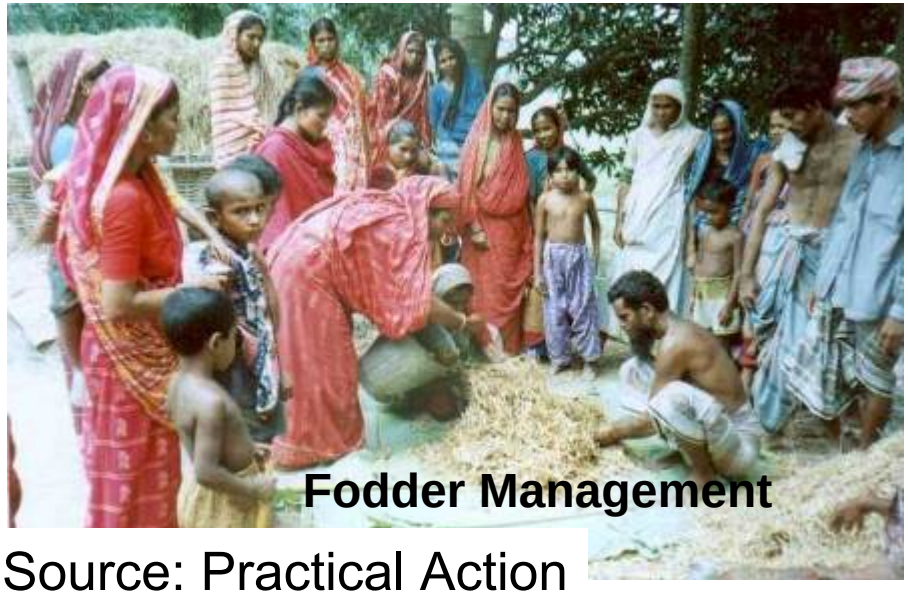


Source: Practical Action

# LIVESTOCK

## Trained 2460 to date and Demonstrated technologies for improve income







Source: Practical Action

# Empowering stakeholders in flood prone areas in Bangladesh

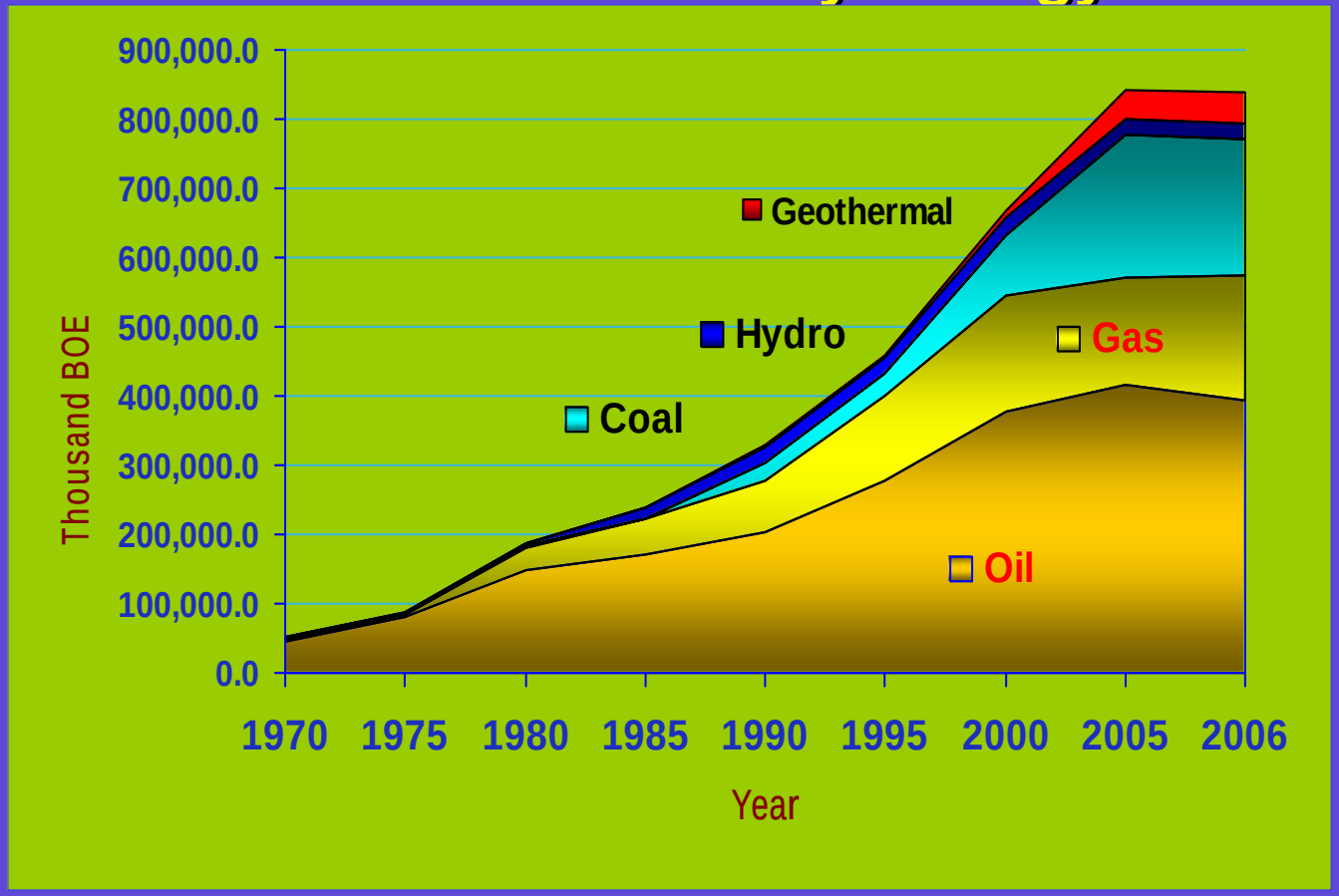
- Increased income from diverse sources,
- Confidence to varying climate conditions including floods,

- Need to further clarify causal relations between the changes in precipitation patters, other anthropogenic causes, and flood frequency and impacts,
- Need to have holistic viewpoint on ecosystem management for increasing agricultural productivity and strengthening preparedness to flood

# Micro-hydro promotion in Indonesia
# Growth of Primary Energy

**1970**

Oil : 88%
Gas : 6%
Coal : 1%
Hydro : 5%
Geothr : 0%




**2006**

Oil : 46,9%
Gas : 21,8%
Coal : 23,5%
Hydro : 2,4%
Geothr : 5,5%

→ Average Growth of Primary Energy **1970-2006 = 7%/year**

Source: DGEEU, 2005

Source: LIPI

**Community-based Educational and Partnership Actions - Carbon Neutral Initiative for Community Empowerment and Climate Change Mitigation in Indonesia**

*Lombok and Bogor, Indonesia*

- Raising awareness on climate change issues,
- Introducing micro-hydro as a renewable energy source,

- Check dams or water reservoirs called "*embung,*" a traditional practice to prepare for drought/water shortage

- The project demonstrates useful lessons on how to promote mitigation and adaptation in agriculture/rural community development

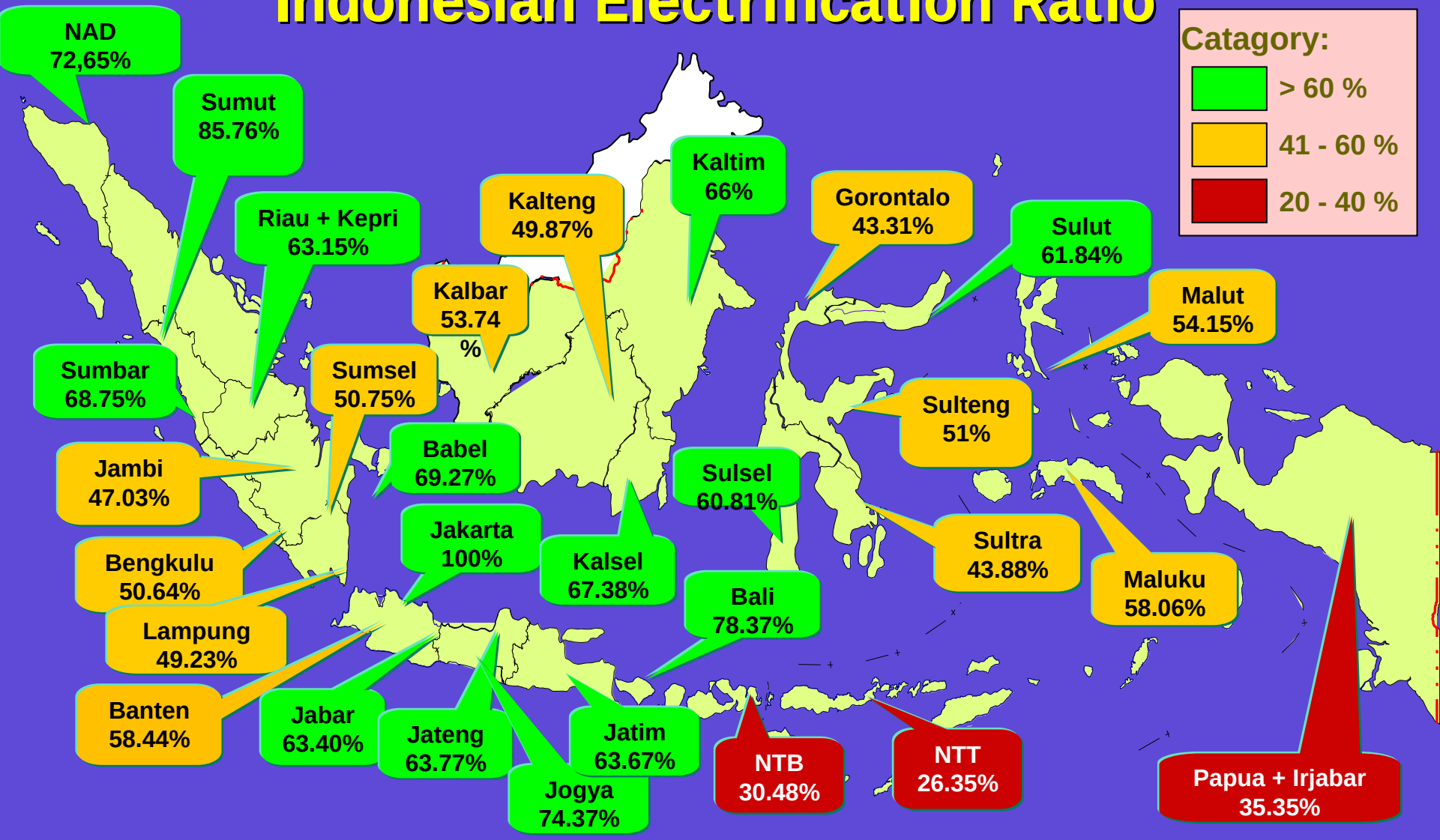
# Renewable Energy Potential

| Non Fossil Energy | Potential | Equivalent | Utilization | Installed Capacity |
|---|---|---|---|---|
| Water | 845 million BOE | 75,67 GW | 6.851 GWh | 4.200 MW |
| Geothermal | 219 million BOE | 27 GW | 2.593,5 GWh | 1045 MW |
| Mini/Micro hydro | 500 MW | 500 MW | | 84 MW |
| Biomass | | 49,81 GW | | 445 MW |
| Solar Power | | 4,80 kWh/$m^2$/day | | 12 MW |
| Wind Power | | 3-6 m/second | | 0,9 MW |



Source: LIPI

# Indonesian Electrification Ratio



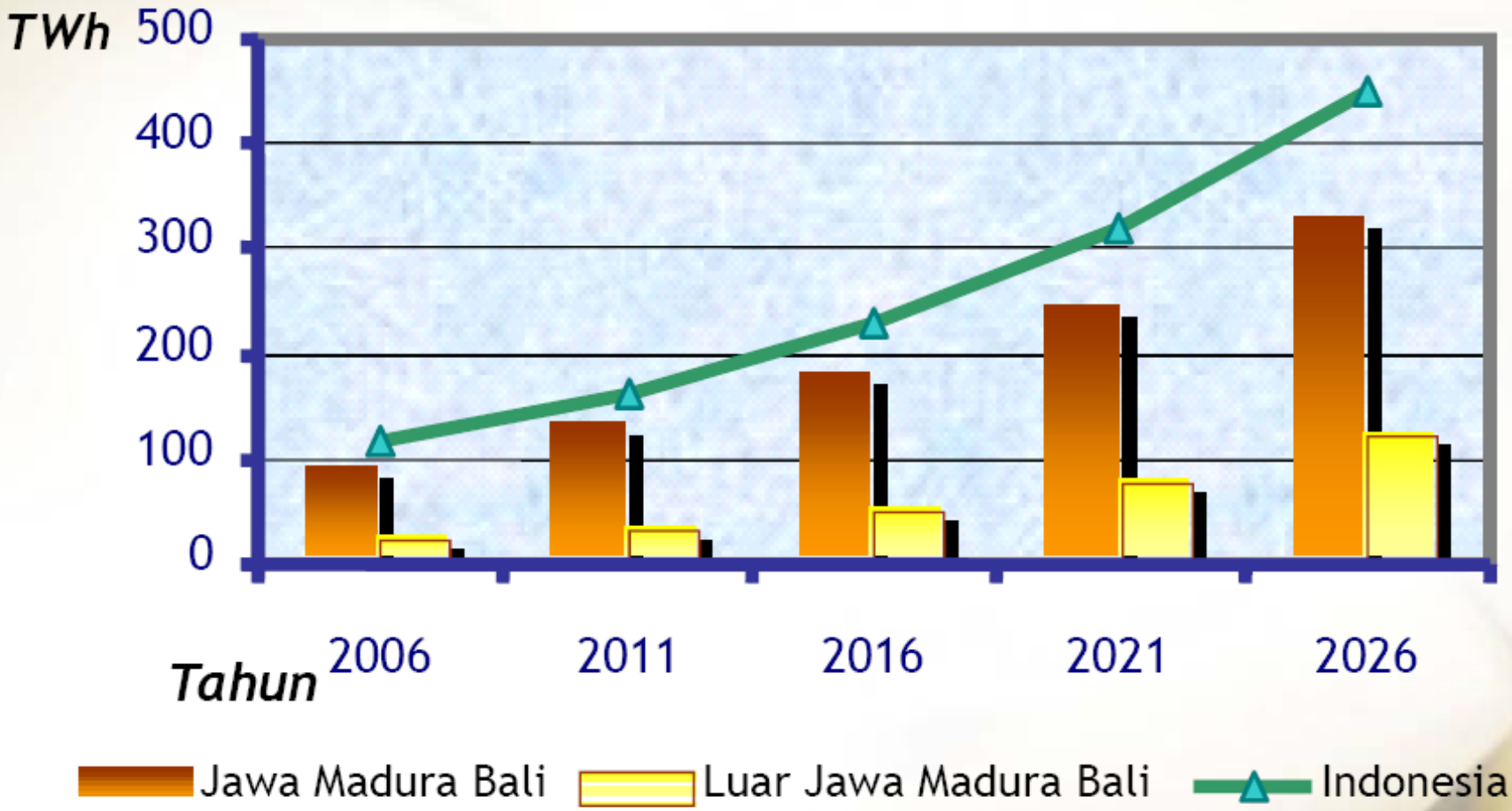

| | Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2006 | 2007 |
| Electrification Ratio | 8% | 16% | 28% | 43% | 53% | 62% | 63% | 64% |



Source: LIPI

# National Electicity Demand

## (National Electricity Plan 2006-2026)






Source: LIPI

# Bogor, West Java


Source: LIPI

Photo 1: A stream runs in Village Sukaharja

A stream runs in Village Sukaharja

licro-hydro turbine manufactured in the country

Hole where a micro-hydro turbine will be installed

Paddy land in Village Sukaharja

# Lombok Island


Source: LIPI

- Southern part
- Encountering water shortage and no grid access
- Dry/rainy season

Solar/hydro hybrid desired

- Northern part
- Abundant water from mountains
- Rice cultivation
- Affluent communities connected with grid

# Observations

1. Shared perception of climate change,
2. Lack of climatic data – Increasing temperature, declining precipitation, increase in disasters
3. No technical skills and knowledge for measuring carbon sequestration,
4. There is always a weighted emphasis on either of mitigation or adaptation,
5. Poor and marginalized communities have less mitigation options and adaptation capability,
6. Optimal use of land and water is a key,
7. Legislative and market reforms haven’t been promoted in a way to promote investment

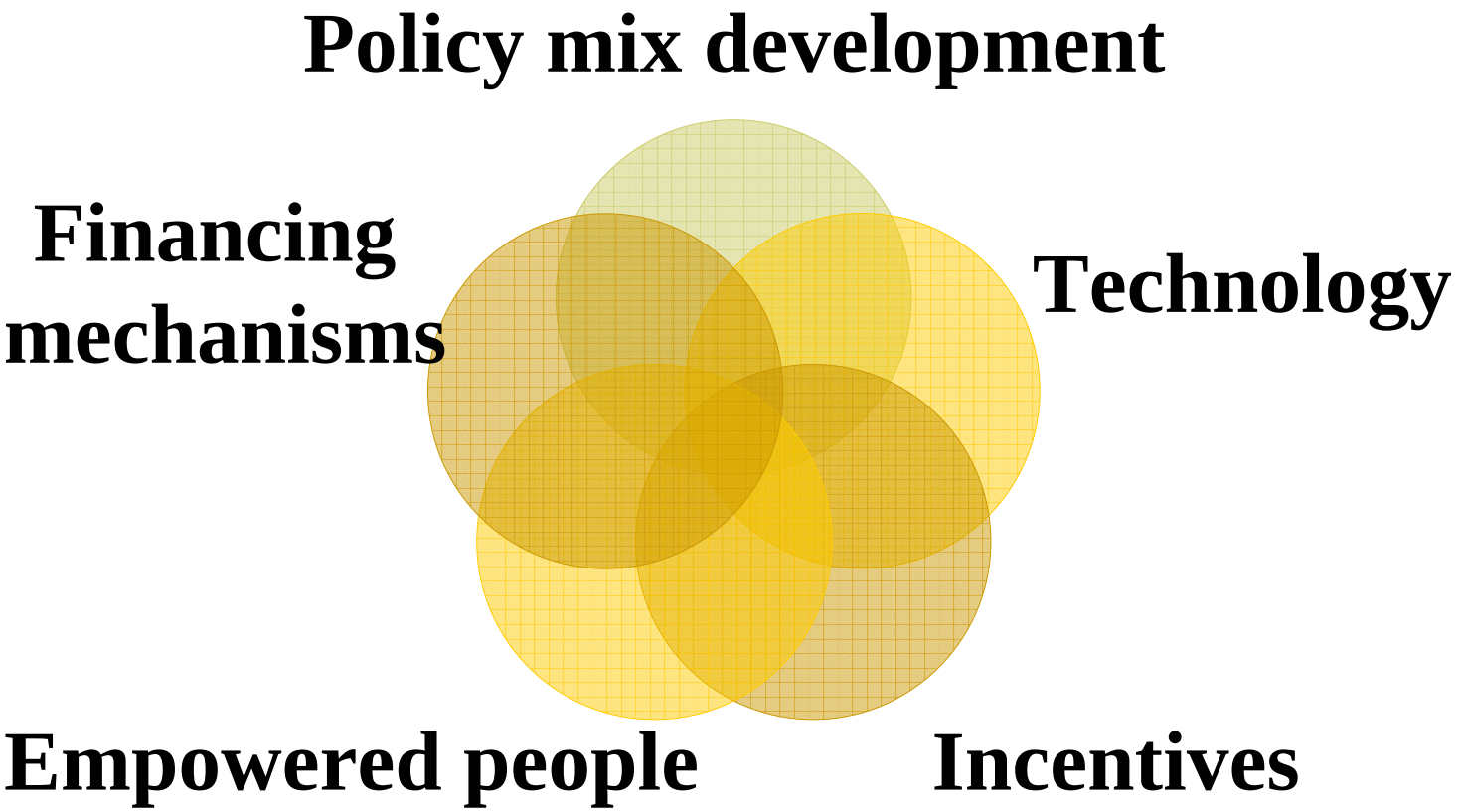
# Future challenges

1. Verifying the people's shared perception of climate change,
2. Quantifying mitigation and adaptation potential and impacts,
3. Assisting poor and marginalized communities in obtaining mitigation options and developing adaptation capability,
4. Identifying legislative and policy gaps and market deficiency, and proposing changes/reforms to promote investment in mitigation/adaptation measures in agricultural sector,
5. Sharing good practice on co-benefit activities for tackling climate change in agricultural sector

# Findings and recommendations

1. Need to assist stakeholders of local communities in obtaining and analyzing climatic variability and its impacts,
2. Useful to involve external experts as facilitators in discussing with local stakeholders on options for enhancing ecosystem productivity,
3. Useful to undertake demonstration actions with local technology or practices and to show concrete benefits of intervening actions,
4. Important to integrate incentive measures for local stakeholders to continue activities,
5. Important to maintain a lifecycle approach and holistic viewpoints to the assessment of options,
6. Essential to employ proper monitoring measures manageable by local stakeholders

# Factors for success




**APFED Showcase Programme**

- Demonstrating practical solutions through concrete actions and stakeholder empowerment

# www.apfed.net

## Asia-Pacific Forum for Environment and Development


HOME

About APFED

APFED II (2005-)

- Plenary Meetings
- Policy Dialogue
- Knowledge Initiative
  - Awards
  - Good Practice
- Showcase
- NetRes

APFED I (2001-2004)

Links

Contact


**Asia-Pacific Forum for Environment and Development (APFED)**, a regional group of eminent experts operating since its establishment in 2001, aims to address critical issues facing Asia and the Pacific region and to propose new models for equitable and sustainable development of the region.

### Plenary Meetings

#### APFED II Fourth Plenary Meeting

The APFED II Fourth Plenary Meeting was held at Waterfront Insular Hotel, Davao, Philippines from 25 - 26 July 2008. The Meeting was sponsored by the Ministry of the Environment, and co-organised by the Department of Environment and Natural Resources (DENR), Philippines, Davao City Government and the Institute for Global Environmental Strategies (IGES) in collaboration with Earth Council Asia-Pacific. more

### Policy Dialogue / Knowledge Initiative / Showcase

#### APFED Showcase Programme

A grant of up to US$30,000 will be provided under the programme to support the showcasing of innovative policies, approaches, measures and

### Call for applications for The 2009 Ryutaro Hashimoto APFED Awards

The call for applications for the 2009 Ryutaro Hashimoto APFED Awards is now launched. The deadline for submission is 31 May 2009, 5 pm Tokyo time.

### APFED Policy Dialogue on Biodiversity

APFED Policy Dialogue on "Conserving biodiversity and promoting sustainable development -Key agenda for the CBD/COP10 in 2010 and future challenges-" was held on 25 January 2009, Tokyo, Japan

### 2008 showcase projects were selected

The 13 proposals were selected from more than 350 entries received