

# Technological paths to sustainability: Opportunities for climate adaptation

*ITU Symposium on ICTs and Climate Change  
17-18 June 2008, London*

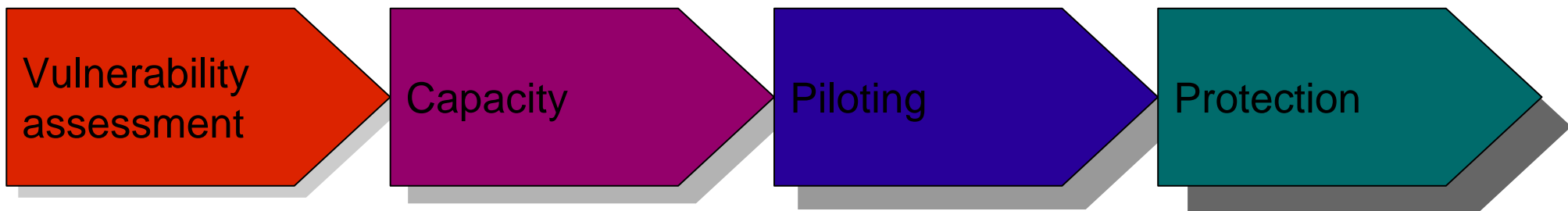
*Thomas E. Downing  
with  
Rasmus Klocker Larsen (SPIDER), Fernanda Zermoglio (SEI),  
John Corbett (AWhere)  
and colleagues*



- Adaptation as a socio-institutional process
- Emerging case studies
  - Awhere: spatial information
  - Climate Change Explorer
  - weADAPT wiki
  - Adaptation as social networking
  - M-PESA
- Conclusions

# Adaptation processes

- Value of information is in making a decision
- Capacity to 'add' climate adaptation is limited in many vulnerable regions
- Learning by doing and pilot actions
- Can we protect everything?

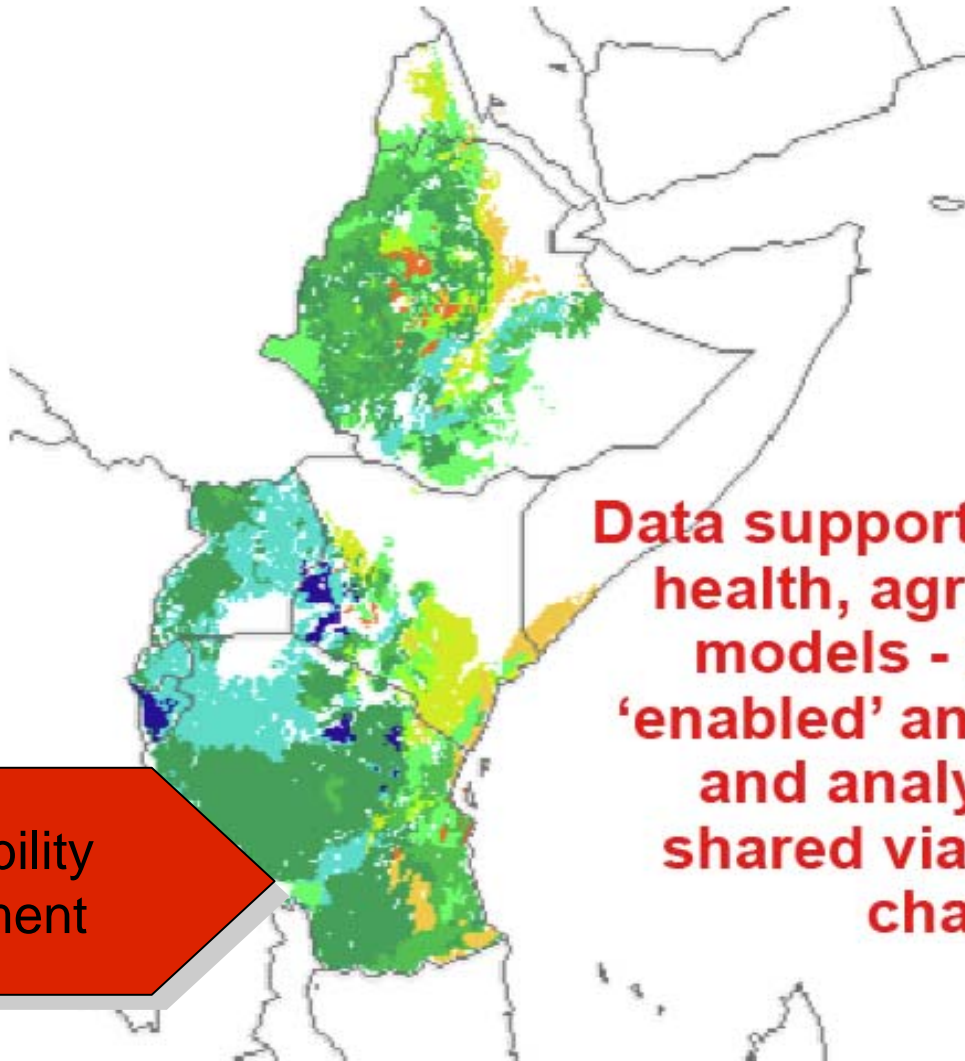


# Providing spatial information

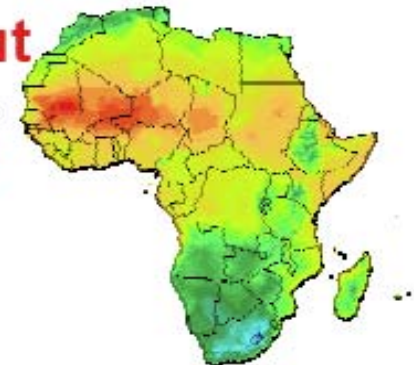
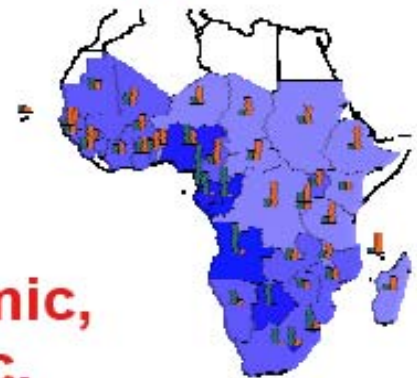


## *Integration & Consolidation*

**On-the-ground survey to climate change, location is one characteristic that enables integration**



**Data supporting economic, health, agricultural etc. models - all location 'enabled' and thus output and analysis can be shared via same 'data' channel.**



Vulnerability assessment

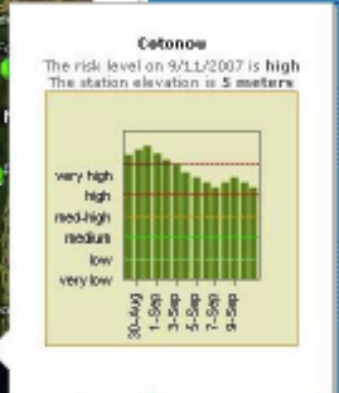
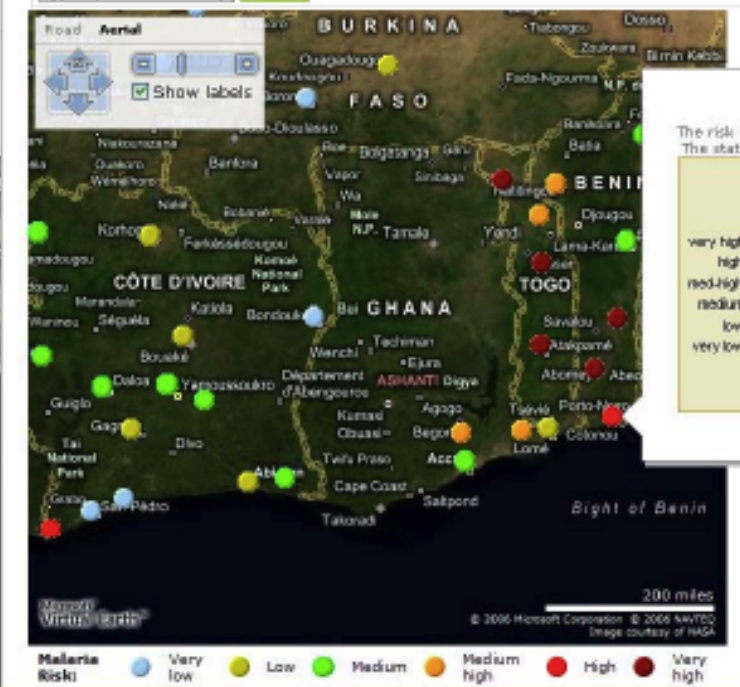
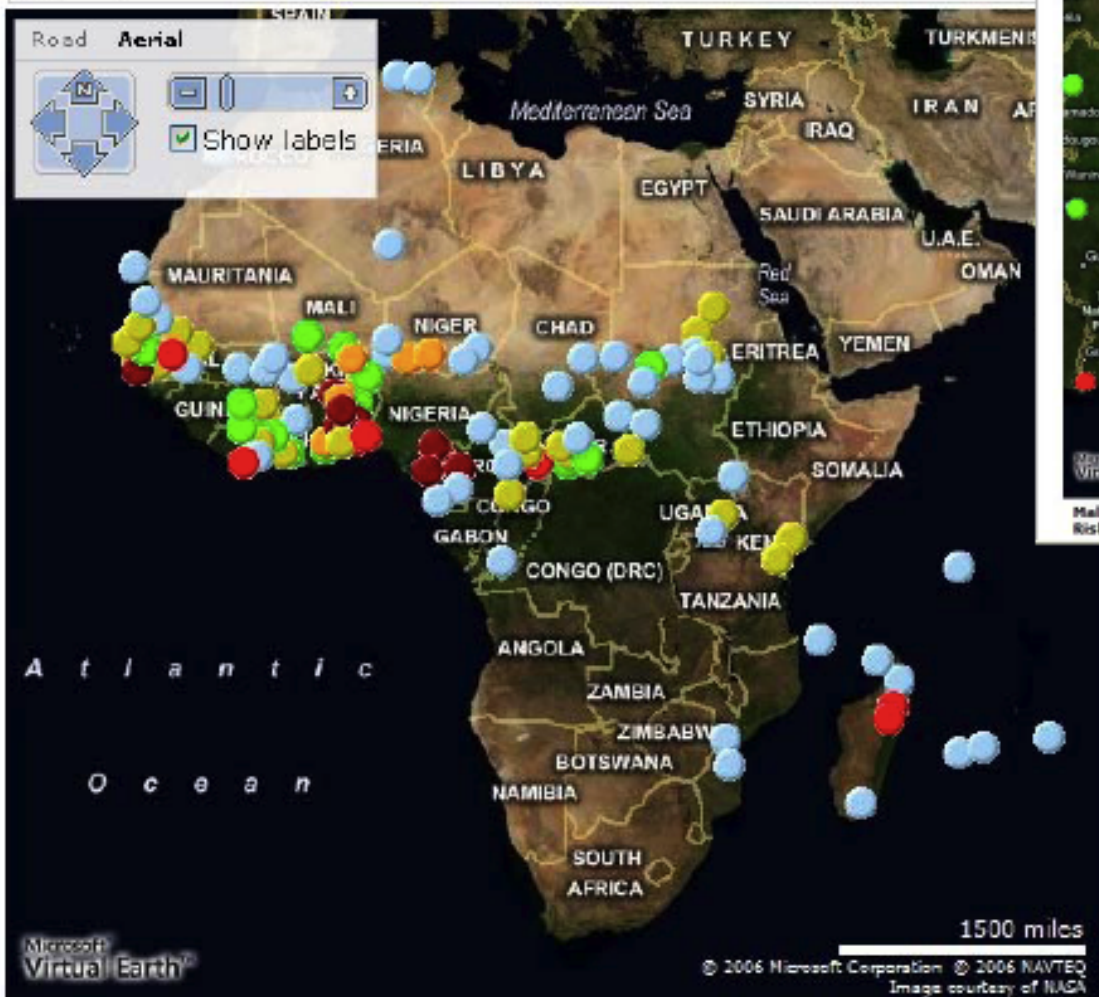
# Malaria Mapper

## Instructions

To utilize this tool, simply zoom to your area of interest using the navigation tools in the top left corner of the map or type in a place name below and click Search. You can see the current risk levels mapped as circular symbols (see the legend below the map). By holding your mouse over each icon you can see a chart of predicted transmission risk for the next two weeks. For more about Malaria mapper click [here](#)

Find a place:

Type a place name or zip



On-line tools to the desktop –  
To further utilize available data.

Have you ever wanted  
the data that was used  
in the online 'map'?

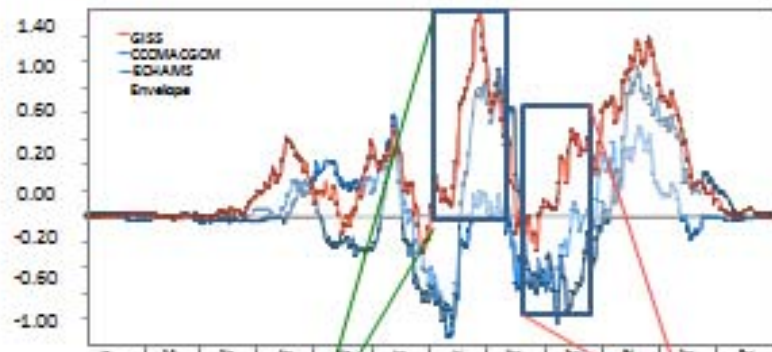
With AWhere's  
Location Intelligent  
Platform – you can!

Malaria Risk: ● Very low ● Low ● Medium ● Medium high ● High ● Very high

# Providing climate change ranges

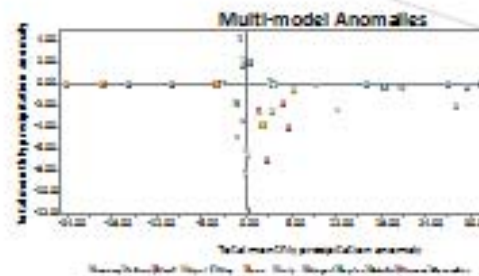


Daily rainfall anomaly for Bamako Station, 2045 to 2065



Model agreement

Model disagreement



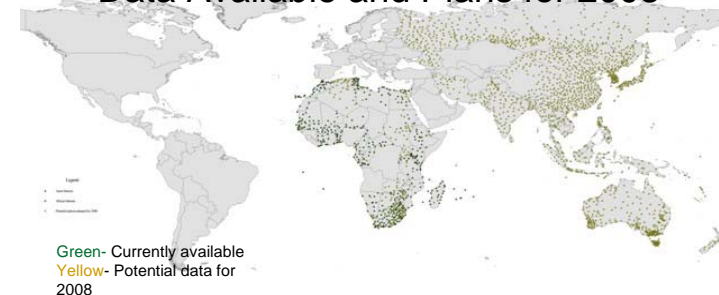
## Multiple models

- Examine seasonal, multi-annual and **spread** of climate behavior

## Compare and explore

- Import, download, graph, difference the data (look at expected changes)

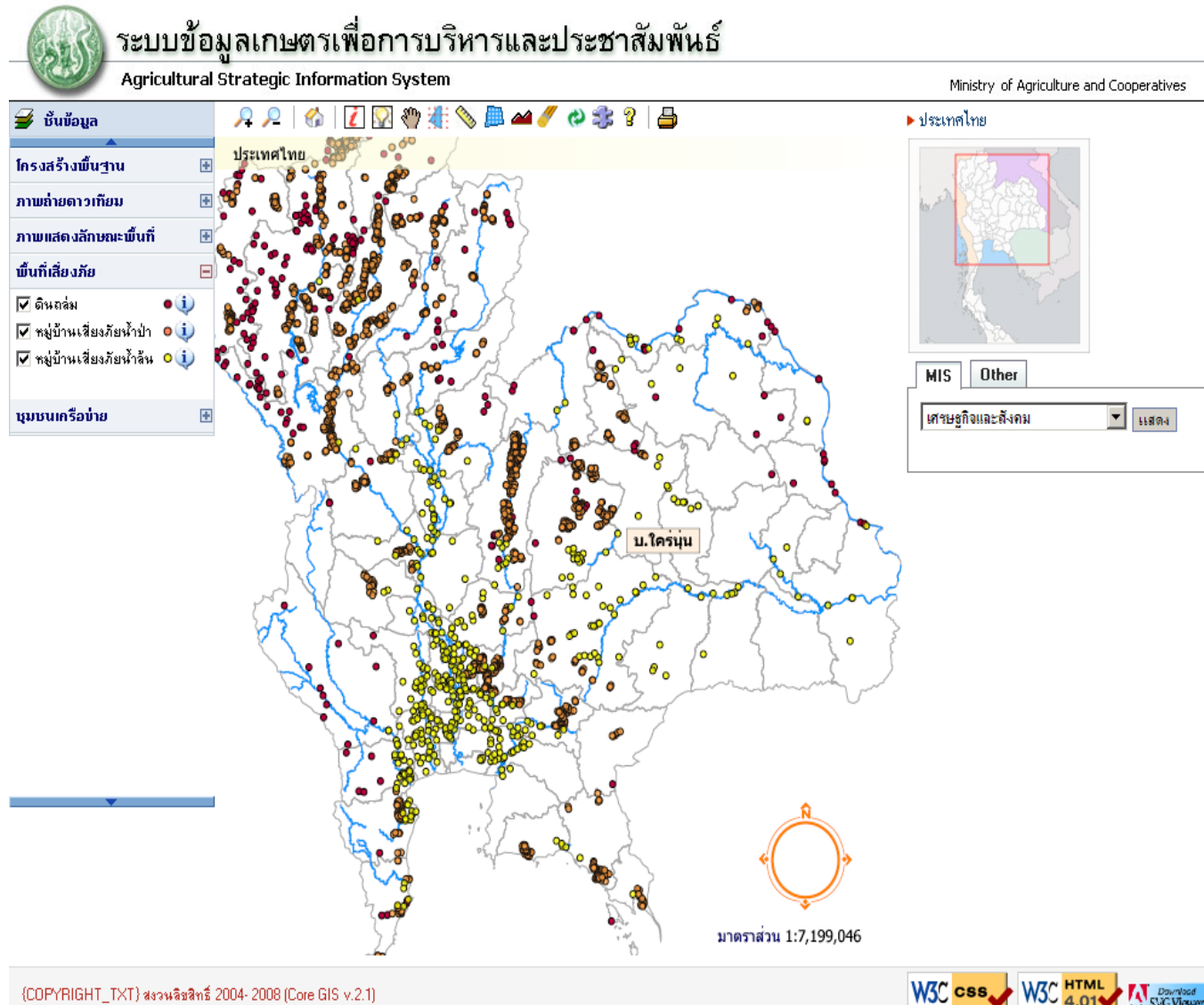
Data Available and Plans for 2008



Vulnerability assessment

# Environmental reporting systems

- 300 automated weather stations
- Central web site (free access)
- HAI provided added-value services



Source: Royol Chitradon, Hydro and Agro Informatics Institute, [www.haii.or.th](http://www.haii.or.th)

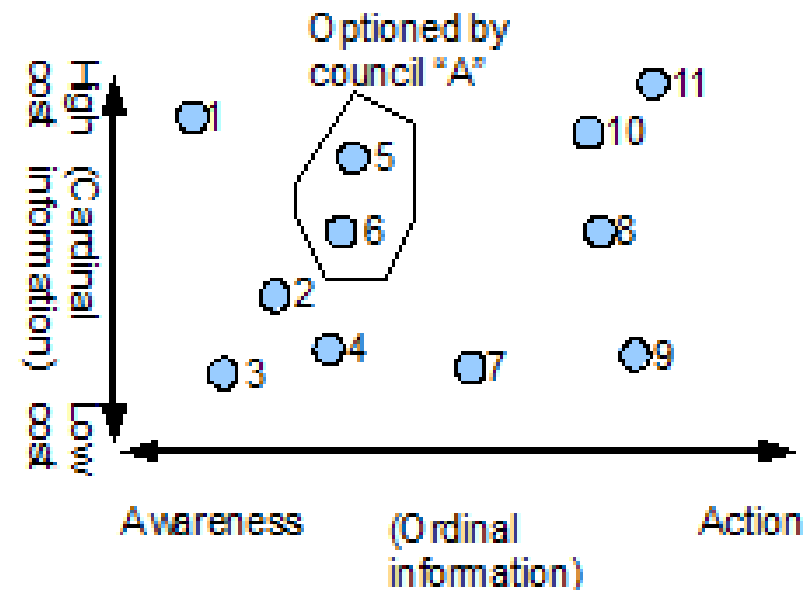
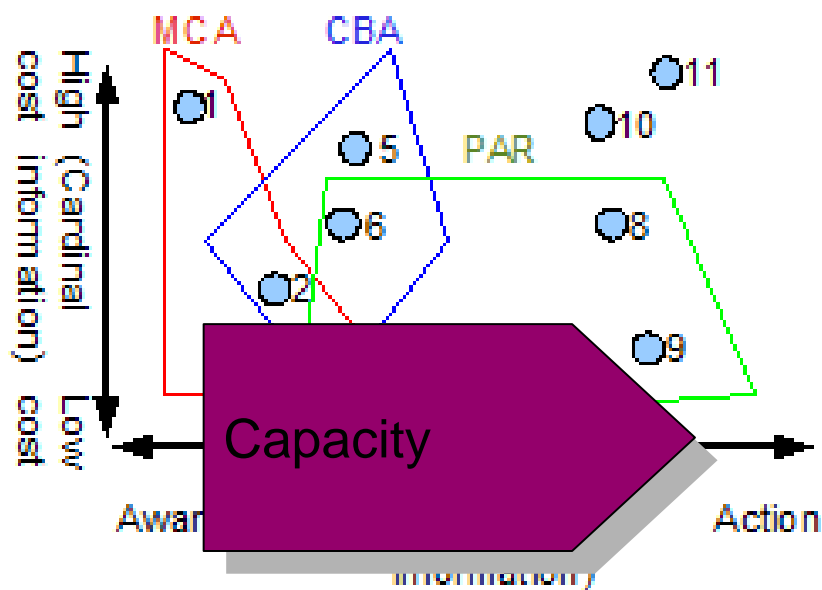
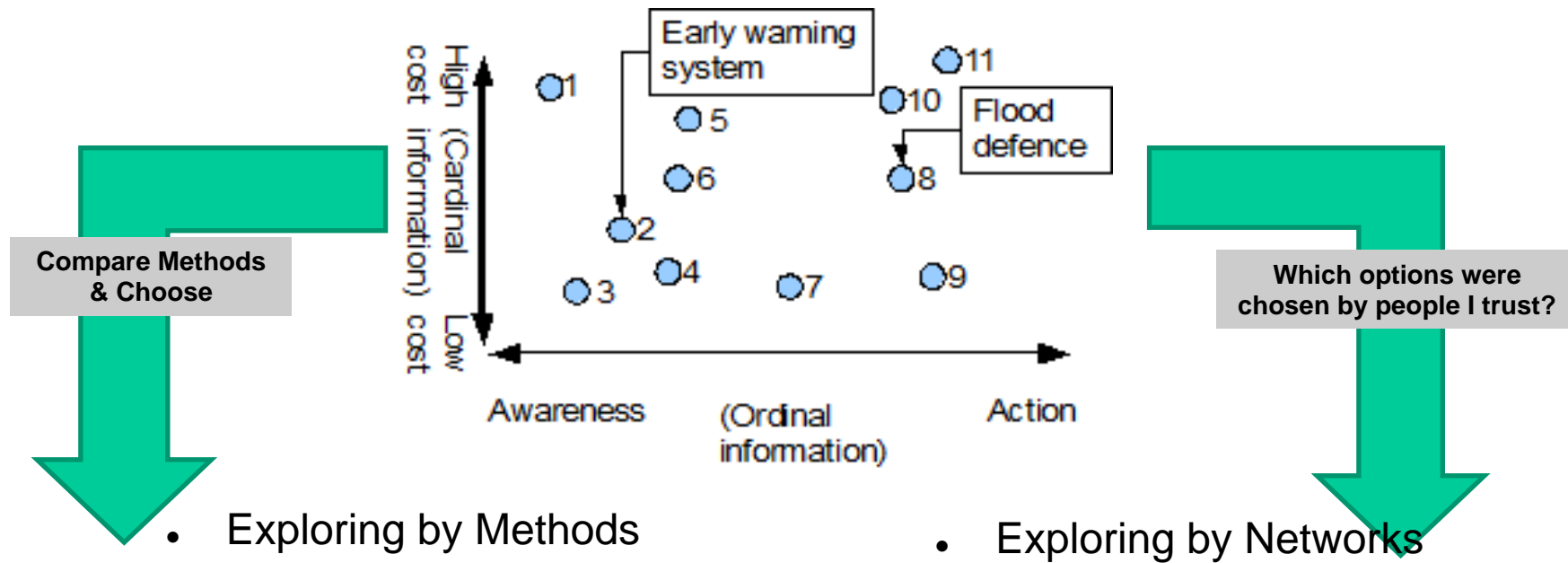
Note: UNEP plans to use long term environmental monitoring networks

- Self-organizing
- Engaging in collaborative communities
- Ceding control, sharing responsibility

The screenshot shows the weADAPTwiki interface. At the top right, there are user links: Sei admin, my talk, my preferences, my watchlist, my contributions, and log out. The main header features the 'wiki ADAPT' logo and a navigation bar with buttons for article, discussion, edit, history, protect, delete, move, and watch. On the left, there are three navigation sections: '\* navigation' with links for LOG IN, REQUEST ACCESS, Main Page, Guides to wikiADAPT, Recent changes, and Page Categories; '\* introduction' with links for Why use a Wiki?, First Steps, wikiADAPT tutorial, FTP for big files, FAQ, Editing Templates, and Help; and '\* search' with a search box and Go/Search buttons. Below these is a '\* toolbox' section with links for What link, Related, Upload file, Special page, Printable version, and Permanent link. The main content area displays the title 'Mali Conditions and Trends- an assessment of vulnerability and climate change' and a list of contents: 1 Project Information, 2 Conditions and Trends, 3 Study Sites, 4 Identify Climate Vulnerability Exposure, 5 Assessing Conditions and Trends, 6 Identifying Hazards, 7 Analyzing the Impacts of Climate Change, and 8 Understanding Trends. A section titled 'Project Information' is visible, with a purple arrow pointing to it from the word 'Capacity' written in a purple box. The page also includes a photo gallery of people and a description of the project's focus on water management in Mali.



# Adaptation as social networking



# Micro-transfers in risk management

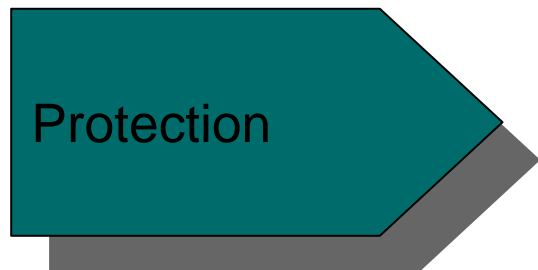


- Response to emerging crises: micro-insurance
- Risk diversification
- Social networking

Piloting

# Climate protection

- Promises?
- Hard vs soft technology?
- Open vs. closed systems of working?
- Anticipating surprise?



# Conclusions

- Role of local information networks
- Swedish Programme for ICT in Developing Regions (SPIDER)
  - Link between ICT and poverty alleviation is not so clear cut
  - Issues of history, power, gender and governance in the development process
- User engagement at all steps in development cycle
- Role of private sector in driving adaptation
- Getting to maybe: Role of social entrepreneurs in navigating transitions