African Union Commission

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ANALYSIS OF THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTs) IN CLIMATE CHANGE AWARENESS IN SEKE AND MUREWA DISTRICTS OF ZIMBABWE

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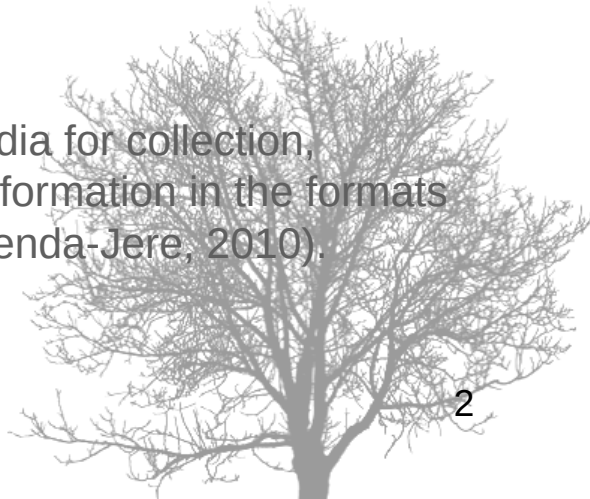
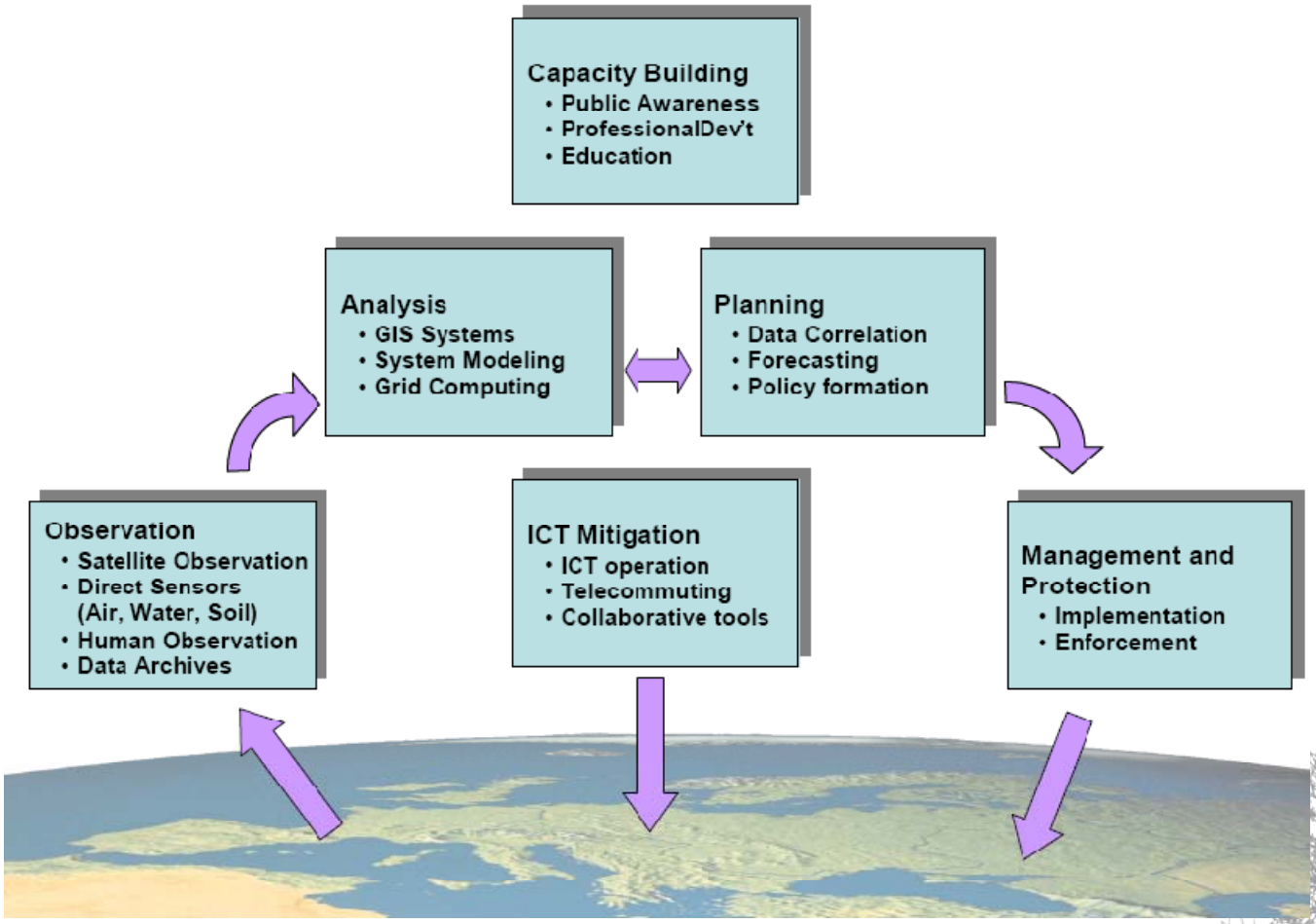
Introduction

- For meaningful adaptation to and mitigation of climate change,
  - individuals, households, and communities should be aware and have the necessary knowledge on what should and should not be done in addressing the problem.
- If rural households, communities have access to information,
  - it will enhance their awareness and adaptation capacity
- How do we enhance climate change awareness?
- There are various ways in which technologies both old and new can help in reducing the negative effects of climate change.
- ICTs can play an important role as a medium of information and communication in climate change awareness; adaptation and mitigation strategies.
- Information and Communication Technologies (ICTs)
  - is used to refer to hardware, software, networks and media for collection, storage, processing, transmission and presentation of information in the formats of voice, data, text and images (World Bank (n.d.) ; Nyirenda-Jere, 2010).



ICTs application categories in the Environmental & Climate sector



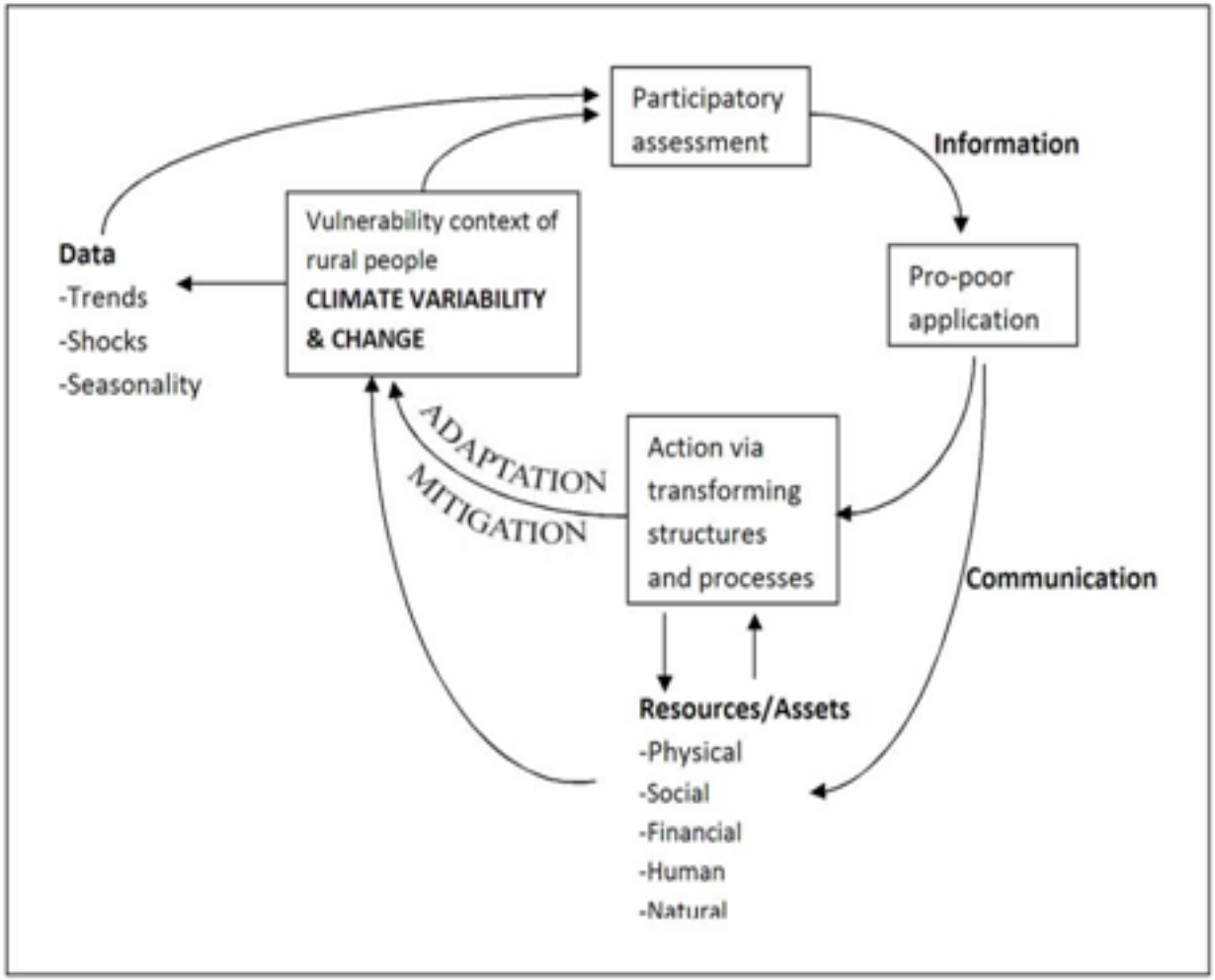
Source: ITU (2008)

Objectives of the research

- 3 distinctive strands of research on the links between ICTs and climate change.
  - research that addresses broad issues concerning ICTs, sustainable development and the environment from a global perspective.
  - the emergence of more topic-specific and technical research covering aspects of climate change mitigation,
    - driven primarily by developed countries' priorities in the field.
  - Research characterized by an increasing acknowledgement of developing countries' needs and priorities in the climate change field (Ospina and Heeks, 2010)
    - This strand is characterized by emerging evidence on the use of ICT applications in vulnerable contexts and adaptation strategies of developing countries

- **Objectives**
  - Analyse the level of climate change awareness amongst rural people in Seke and Murewa districts of Zimbabwe,
  - Analyse the significance of information and communication technologies (ICTs) in contributing to climate change awareness in the two districts.

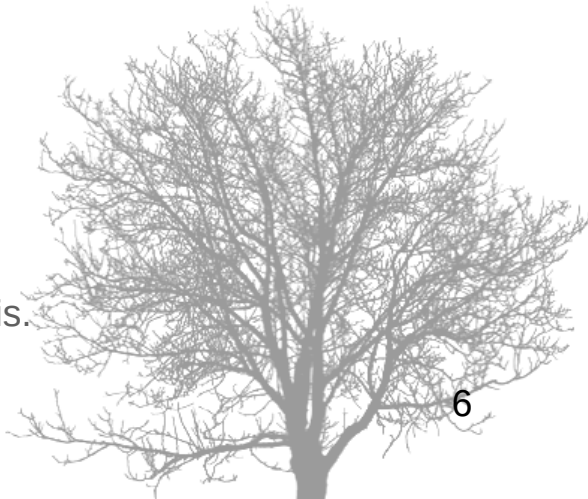
Conceptual Framework: Climate change information and communication processes in the livelihoods framework



Source: Adapted from Duncombe (2006) who adapted it the information chain by Heeks (1999)

Research Methods

- Zimbabwe has 10 provinces, population of about 11 634 663 people
- Mashonaland East province was selected.
  - total population - 1 127 413 people.
  - total number of households - 309 198.
  - It has 11 districts
    - 2 districts were selected purposively- Seke and Murewa districts.
- A multi-stage sampling approach was used.
- The data collection was conducted from May to August 2011.
- The sample size - 300
  - 150 respondents were selected from each of the two districts.
  - Gender disaggregated sample
    - female-headed- 32.1%
    - male-headed- 67.9%
- Data handling and analytical packages
  - SPSS and STATA.
- Various analytical tools were used,
  - descriptive statistics; correlation analysis; and regression analysis.



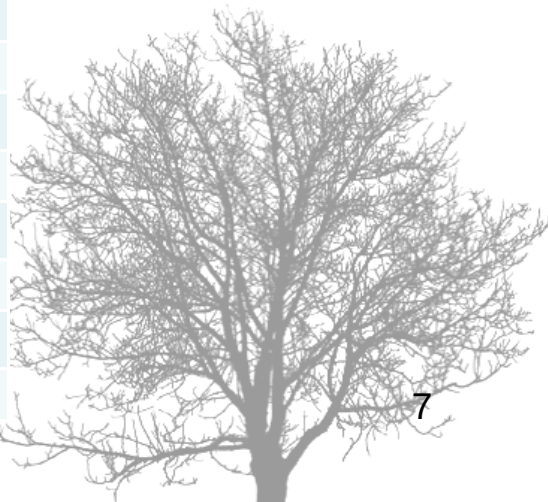
Results

- Aware of climate change

	Seke	Murewa	Combined	T-test results
Aware of climate change (Yes)	78.5%	94%	86.3%	0.0000***
Climate change awareness index	0.48	0.59	0.54	0.0028***

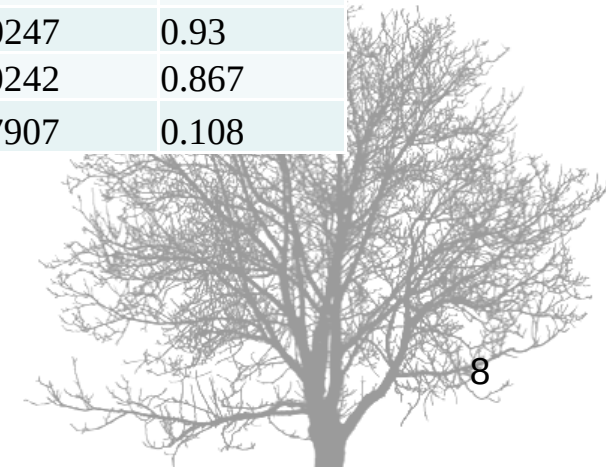
- ICT knowledge & Ownership

ICT	Know %			Own %		
	Murewa	Seke	Total	Murewa	Seke	Total
Radio	98.7	97.3	**98**	77.9	71.8	**74.8**
Television	86.7	92.6	**89.6**	40.7	51.7	**46.2**
Satellite decoder	65.3	60.4	**62.9**	8	13.4	**10.7**
Video Cassette Recorder	63.3	61.1	**62.2**	8	14.8	**11.4**
Digital Video Disc player	65.3	60.1	**62.7**	15.3	14.1	**14.7**
Fixed Telephone	76	65.8	**70.9**	2	2	**2**
Mobile phone	94.7	95.3	**95**	70.7	85.2	**77.9**
Computer	65.3	60.4	**62.9**	2	4.7	**3.3**
Internet connection	52	45	**48.5**	1.3	2.7	**2**



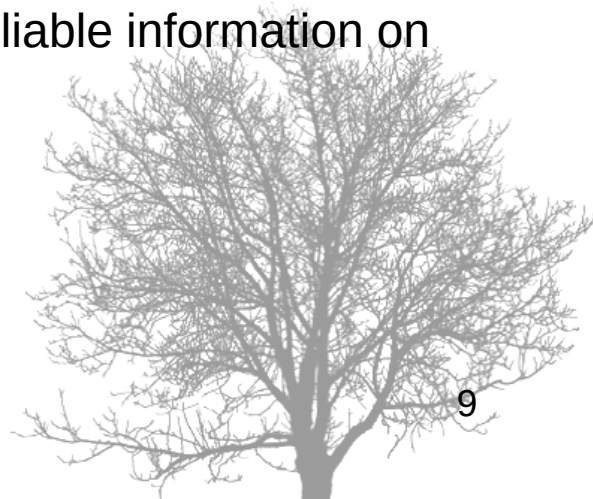
Correlation & Regression results

	Correlation Analysis		Logistic regression	
Variable	**Coefficient**	**2-tailed sig. level**	**Odds Ratio**	**Sig. level**
Radio ownership	0.2065	0.0004***	3.4226	0.003***
Television ownership	0.041	0.4819	0.2915	0.009***
Satellite decoder ownership	0.0451	0.4383	0.7651	0.776
Video Cassette Recorder ownership	0.1178	0.0419**	11.4425	0.185
Digital Video Disc player ownership	0.0815	0.1596	1.8946	0.48
Mobile phone ownership	0.181	0.0018***	1.8269	0.011**
Computer ownership	-0.0534	0.3584	0.144	0.14
Internet connection	0.0468	0.422		
Newspapers	0.0294	0.6139	0.8841	0.456
Farming/environmental magazines	0.1408	0.0150**	1.6723	0.022**
Business magazines	0.0771	0.1836	0.8754	0.657
Entertainment magazines	0.0731	0.2073	1.0247	0.93
church magazines	0.0749	0.1966	1.0242	0.867
Posters	0.004	0.9459	0.7907	0.108



Policy Implications

- Besides other sources of information on climate change e.g.
  - Extension; formal & informal schooling; own observation; other people/ farmers
  - ICTs play an important role
    - As tools to **gather** information
    - As a tools to **disseminate** information
  - they can reach other segments of the population that might not have access to sources of information such as extension
- The majority of respondents in the 2 districts were aware of climate change
- However, on further probing some of them were not sure of the causes of climate change e.g.
  - the effect of carbon emissions
  - Ways to mitigate climate change
- This necessitates the need to provide accurate and reliable information on Climate change
  - What is climate change?
  - What are the causes?
  - What are the effects?
  - How can people adapt to and mitigate it?



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