Building good climate services for adaptation:
Lessons learned

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Richard Jones - UK Met Office
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Facilitator: Aaron Atteridge – Stockholm Environment Institute
What are climate services?

Climate services is an emerging field that aims to bridge the gap between climate science, policy and practice.

Involves the **timely production, tailoring, translation** and **transformation** of climate information.

Packaging information to ensure that the **most relevant knowledge** is **effectively communicated, easily accessed** and **interpreted**.
Response to various challenges

1. No awareness of issue: outreach
2. Lack of quality information: feedback to producers of information
3. Hidden information: finding & interfacing
4. Untailored information: contextualising & synthesising
5. Too much information: filtering

Informed and aware users of tailored climate knowledge, making better decisions.
Climate Service users

- national decision-makers
- technical advisors
- sectoral planners
- city and district-level authorities
- businesses (global to local)
- households
- farmers
Heatwave Plan for England

• Public Health England wrote the plan for:
  – The NHS, local authorities, social care, and other public agencies.
  – Professionals working with people at risk
  – Individuals, local communities and voluntary groups
  – Heath-Health Watch System
  – 1 June-15 September
Rapid urban growth in a changing climate

- **Decision maker:** Urban planner for a fast-growing city

- **Decision context:** Planning for big changes in development paths and climate trends with limited resources to address them.

- **Time-scale:** 5-40 years

- **Examples of information needed:**
  How will climate change affect our city infrastructure?  
  Who and what will be most impacted, and how can I find out?  
  What will these changes mean for our current rates of growth and development?  
  Will the infrastructure investments we are making now withstand these changes?  
  Who has the missing data I need to answer these questions?  
  How reliable is the data I already have?
How do we deliver this?

Ideally climate services draw on a **variety of sources** from scientific research, meteorological, hydrological and climate models, to practical experience and local / indigenous knowledge.

They should also involve the process of **co-producing** knowledge.

Building the necessary skills and **capacities** of different user groups to integrate climate information in their decision-making.

Using **intermediary organisations** or “**knowledge brokers**” to do the translating, tailoring, packaging and communicating…. “adding value” to the information for users.
SEI Initiative on Climate Services

Major gaps

– Inability to identify and understand user needs

– Relationship-building and lack of feedback between users and providers

– Misinterpretation of climate information
SEI Initiative on Climate Services

Taking an integrated holistic approach

Narrowing the “climate information usability gap”
- moving from “useful” → “usable” and “actionable” information and the processes required to do this.

- This will be achieved through research on the effectiveness of different methods of co-exploration and co-production, decision-making methods, communication and capacity building.

- E.g. innovative use of ‘learning labs’ to bring decision-makers and climate scientists together to **co-explore** climate information needs.
SEI Participatory Framework for Climate Services (PFCS)

• A research framework will be developed for:
  the improved *design, use and interpretation* of climate services applying
  a *user-oriented, decision-driven and science-informed* approach.

• This will also be translated into online guidance with *training and
capacity building* for users, intermediaries and providers.

• This is being supported by a community of climate services research
  and practice on weADAPT and its online space, “Using climate
  information” [www.weadapt.org/using-climate-information](http://www.weadapt.org/using-climate-information)
Climate Services at WFP
Building long-term resilience and food security

Katiuscia Fara, WFP Climate Services Advisor
November, 2016
WFP AND CLIMATE CHANGE

**WFP CLIMATE RESILIENCE INNOVATIONS:**

- Analyse the links between climate change and hunger for better policy and programming
- Help people diversify their livelihoods
- Protect assets, incomes and crops with insurance and savings
- Improve access to markets
- Help governments and communities make more informed decisions with better climate forecasts

**IN 2015...**

- 14.5 million people received WFP food as an incentive to build assets that reduce the risk of climate disasters and build resilience

**IN THE LAST FIVE YEARS...**

- 40 percent of WFP’s operations included activities to reduce disaster risk, build resilience or help people adapt to climate change

**IN THE LAST DECADE...**

- Almost half of WFP emergency and recovery operations were for climate disasters and had a combined budget of USD 23 billion

www.wfp.org/climate-change
Responding to the climate challenge

- Climate services are crucial to WFP climate resilience work
- Better climate information for **planning, early warning** and informed **early action** are essential for achieving food security and building resilience
- WFP is both a producer and user of climate information
- Translation of complex climatic information into easy-to-understand information that is accessible and actionable to help governments and vulnerable communities
WFP and climate services

- WFP Seasonal monitor
- Early Warnings - short-term and seasonal weather hazard information to field staff
- Global and National level Analysis work
- **GFCS Adaptation Programme for Africa initiative** - in Tanzania and Malawi
- SAPARM - piloting the use of custom grazing maps developed through the LEAP platform in Ethiopia
- R4 – Rural Resilience Initiative
- **FoodSECuRE** - early action by using seasonal climate forecasts to trigger funding for community-level activities
A Window into the Future

Food Insecurity & Climate Change

Future Scenarios

Emissions
- HIGH
- Adaptation
- NONE

Key
Vulnerability to food insecurity

LOW - HIGH

2080s

PRESENT DAY
WFP work – climate services
FoodSECuRe – responding to El Nino

- Strengthening farmers resilience before climate shocks occur through early action
Need to strengthen dialogue between the generators and users of climatic information

Better understanding of climate change impacts on nutrition and food security

Better understanding of users’ needs - different users need different information and at different times/scale
Lessons Learnt

• It starts with the users...how do they make decisions?

• Gaps in basic CS provision at community level – need for information that is reliable & easy to understand

• Traditional knowledge remains central for decision making, but it is becoming increasingly unreliable. **Farmers trust farmers first**

• Importance of taking into account gender, cultural norms
You need an integrated approach.

WFP is working to help farmers, like Katalina, become food and nutrition secure.

Increase Resilience through:
- Reduced losses
- Adaptive capacity
- Flexibility
Partnerships are key – it is not a one organization job

Formal processes or mechanisms are needed to inform CS and enable a two-way dialogue

Importance of co-production of knowledge and information: need to create space for this to happen

Monitor and evaluate uptake and usefulness is crucial
Thank you!

https://www.wfp.org/climate-change
Participatory Integrated Climate Services for Agriculture

PICSA

Graham Clarkson, Peter Dorward, Roger Stern
- Zimbabwe
- Tanzania
- Kenya
- Malawi
- Ghana
- Rwanda
- Lesotho
Farmers
- Challenges
- Opportunities

Climate Information
- Historical Records
- Forecasts

Options
- Crops
- Livestock
- Livelihoods

Participatory Decision Making Tools

‘The Farmer Decides’

‘Options by Context’
Farmers compare and decide which options to try

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Cash Balance

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Some initial results

• In Ghana 97% of farmers had made changes in either their crops, livestock or livelihood enterprises

• In Rwanda 97% of female farmers stated that they felt better able to cope with ‘bad seasons’ following the training

• In Balaka, Malawi, 88% of trainees had shared the PICS training with their fellow farmers

• Continuing to learn and adapt approach
Impact

• Through qualitative work farmers are able to describe impacts such as:
  – Paying for children’s school fees
  – Enough food for the family all year
  – Animals are healthy
  – Increased income
  – Able to look after myself and not rely on others
  – Invest profits in agriculture, livestock and livelihood
  – Able to store food to cover for the next season
  – Improved social status in household and community
  – My family is happier
Thank you

Graham Clarkson

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500 million smallholder farmers worldwide
Remote, isolated & highly susceptible to the effects of climate change

2 problems
Reach & Communication
Until WeFarm...

Using SMS to harness the power of the crowd
This is Victor.

His tea farm is being attacked by a pest he’s never seen before.
He sends a **SMS free** to the WeFarm number …

WeFarm’s smart, crowd-sourcing technology gets his question to other WeFarm users that can help
This is Doris
A tea farmer in Uganda who receives the question
She’s dealt with this pest for 20 years.
Who better to share useful advice?
105,000 users
15 million interactions since 2015
**Monthly Active Users**

- **WeFar**: 45%
- **m**: 22%
- **Twitter**: 78%

**Questions Answered**

- **WeFar**: 78%
- **m**: 77%
- **Quor**: 77%

**90 Day Retention**

- **WeFar**: 85%
- **m WhatApp**: 77%
Resilience through grassroots innovations

**El Niño Case Study**

“Construct boreholes to harvest excess water which we can use during dry season”  
**Michael**

“Terrace their land so as to guide their soil against soil erosion.”  
**John**

“Plant short term crops e.g beans, peas that do well in heavy rains”  
**Rosemary**
Actionable insights through real-time data
What are farmers already talking about

Farmers as information providers: over 90% of our weather related questions are proactive

- 34% Temperature (‘temperature’, ‘hot’, ‘heat’, ‘cold’, ‘frost’)
Dr. Richard Jones
Science Fellow, Climate Information: Met Office Hadley Centre
Visiting Professor, School of Geography and Environment, University of Oxford
Development and delivery, what have we learnt?

From Science to Service: A continuous dialogue between users, producers and intermediaries

This needs to happen at the scale relevant to the user
- spatially from local to national to regional
- temporally from daily to seasonal to multi-decadal
Building climate resilience in the Pyanj River Basin, Tajikistan – climate related disasters include heavy rain induced mudflows and floods.

Community-level vulnerability

Unstable hill-sides prone to mudflows and landslides

Land suitable for cultivation prone to flooding
Predictions of increases in heavy rainfall used to justify adaptation funding in Tajikistan

Graphs show range of increase in heavy rainfall in climate models assessed in IPCC AR5
Lusaka-FRACTAL dialogue to define city “burning issues”

Theme champions propose 8 city problem topics for discussion e.g. Greening Lusaka; Urban flooding; Institutions and practice

Participants from Lusaka and FRACTAL split into 4 groups for two sets of 1 hour discussions to unpack the proposed burning issue

Summary of relevant aspects of city issues: physical/institutional attributes; impacts; relevance of climate; entry points for action etc.