Closing actionability gaps

of climate services for farmers, agriculture planners and advisors

Elisabeth Simelton, Climate change scientist, CCAFS Project leader

Tam T Le, Tuan M Duong, Hoa D Le, Johanna Gammelgaard
World Agroforestry Centre (ICRAF Vietnam); Email: e.Simelton@cgiar.org

APEC Climate Symposium, Papua New Guinea, August 21-23 2018

- Do you understand the agroadvisory?
- Yes, because I made it …

Outline

Champion farmer who set up a Zalo-group with fellow farmers to exchange knowledge, Vietnam

- Context: CCAFS climate service projects
- Starting point : Vietnam, Laos, Cambodia
- Climate services – the value chain
- Actionability
- ACIS – five models how bottom-up met top-down
- Lessons learned

Context: CCAFS Flagship projects on climate services

- **Projects across Southeast and South Asia, Africa and Latin America**
  - Climate services, risk and insurance, hazard planning - different degrees of participatory processes, mobile phone services
  - Gender and youth focus

  https://ccafs.cgiar.org/flagships/climate-information-and-advisory-services-farmers
- **Tools, approaches & capacity**
  - **CRAFT** Crop model software realtime spatial monitoring/forecast for 28 crops https://ccafs.cgiar.org/flagships/climate-services-and-safety-nets/model-tools-and-data
  - **PICSA** Particpatory Integrated Climate Services for Agriculture http://www.walker.ac.uk/projects/participatory-integrated-climate-services-for-agriculture-picsa/
  - **ENACTS** Enhancing National Climate Services https://iri.columbia.edu/resources/enacts/
  - **ACToday** Support to Met offices in Bangladesh & Vietnam https://iri.columbia.edu/topics/actoday/

Starting point for ‘ACIS’

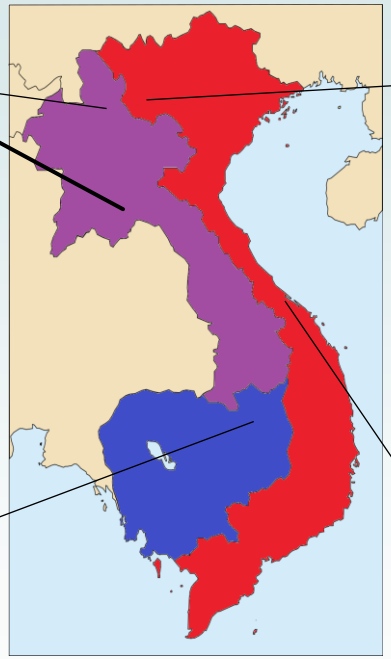
Agro-Climate Information Systems for women and ethnic minorities in Southeast Asia

weather

TV 31%
neighbours 40%

agroadvice

NGO, village leader, or extension 93%



weather

TV 97%

agroadvice

TV 88%
village leader 65%

weather

radio 49%
local knowledge 32%

agroadvice

extension 87%

weather

TV 96%, loud speaker 64% extension 54%

agroadvice

Farmers Union 87%
village leader 85%
extension 66%

Source: Coulier, Baseline studies for ACIS (2015-16) n=1333 households

Starting point for 'ACIS'

Agro-Climate Information Systems for women and ethnic minorities in Southeast Asia

weather

TV 31%
neighbours 40%

agroadvice

NGO, village leader, or extension 93%

weather

radio 49%
local knowledge 32%

agroadvice

extension 87%

LIMITATIONS

- ✓ **Not detailed enough (large scale)**
- ✓ **Available for few crops**
- ✓ **Too late** (0-50%)
- ✓ **Difficult to understand (too technical)** (30-69%)
- ✓ **Not useful**

weather

TV 97%

agroadvice

TV 88%
village leader 65%

weather

TV 96%, loud speaker 64% extension 54%

agroadvice

Farmers Union 87%
village leader 85%
extension 66%

Source: Coulier, Baseline studies for ACIS (2015-16) n=1333 households

The ‘traditional’ value-chain of climate services

Production → Translation → Transfer → Use

?

(Climate Services Partnership http://www.climate-services.org/)

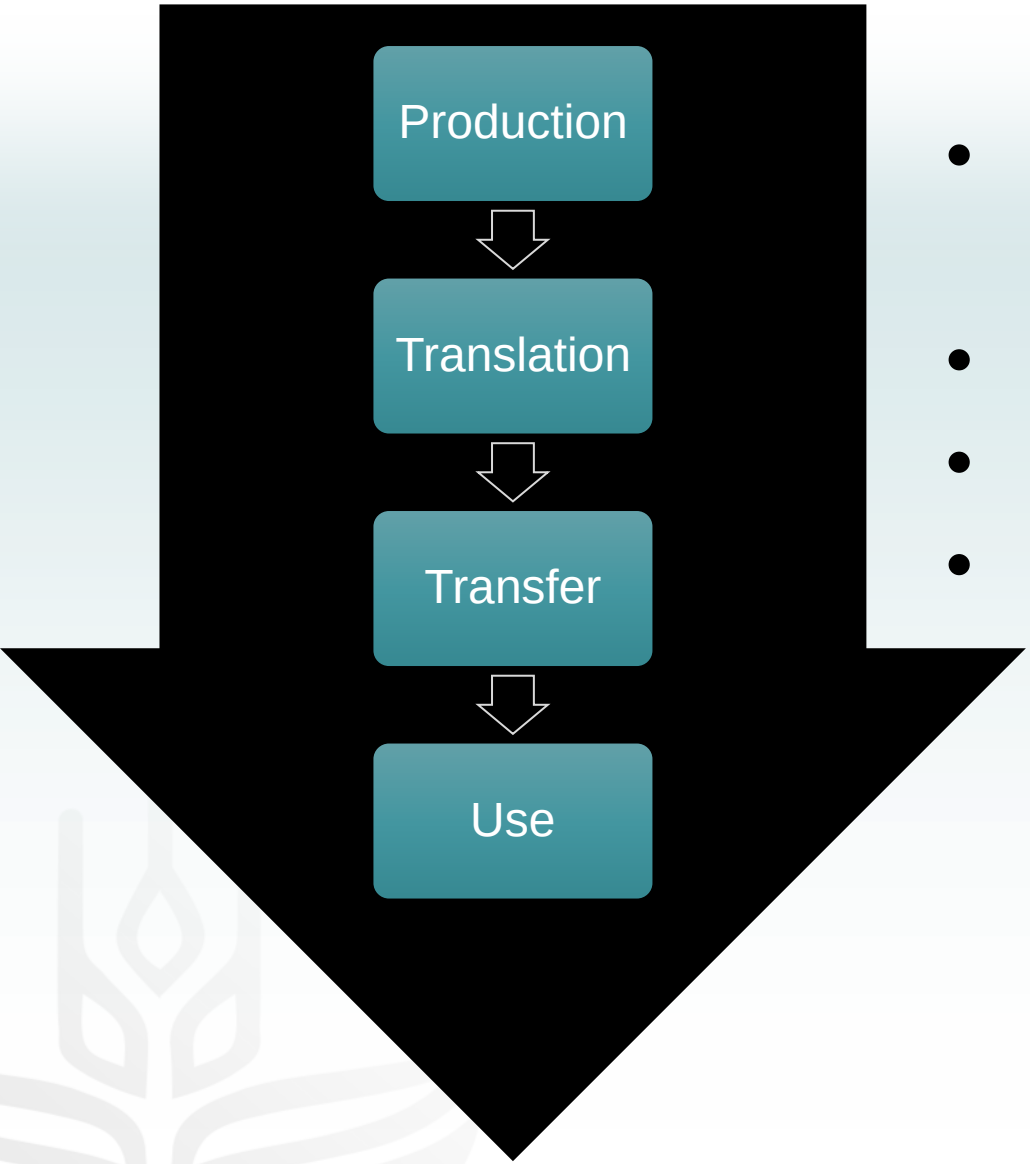
Gaps in the SEA climate service value chain

CGIAR RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security CCAFS

Production → Translation → Transfer → Use

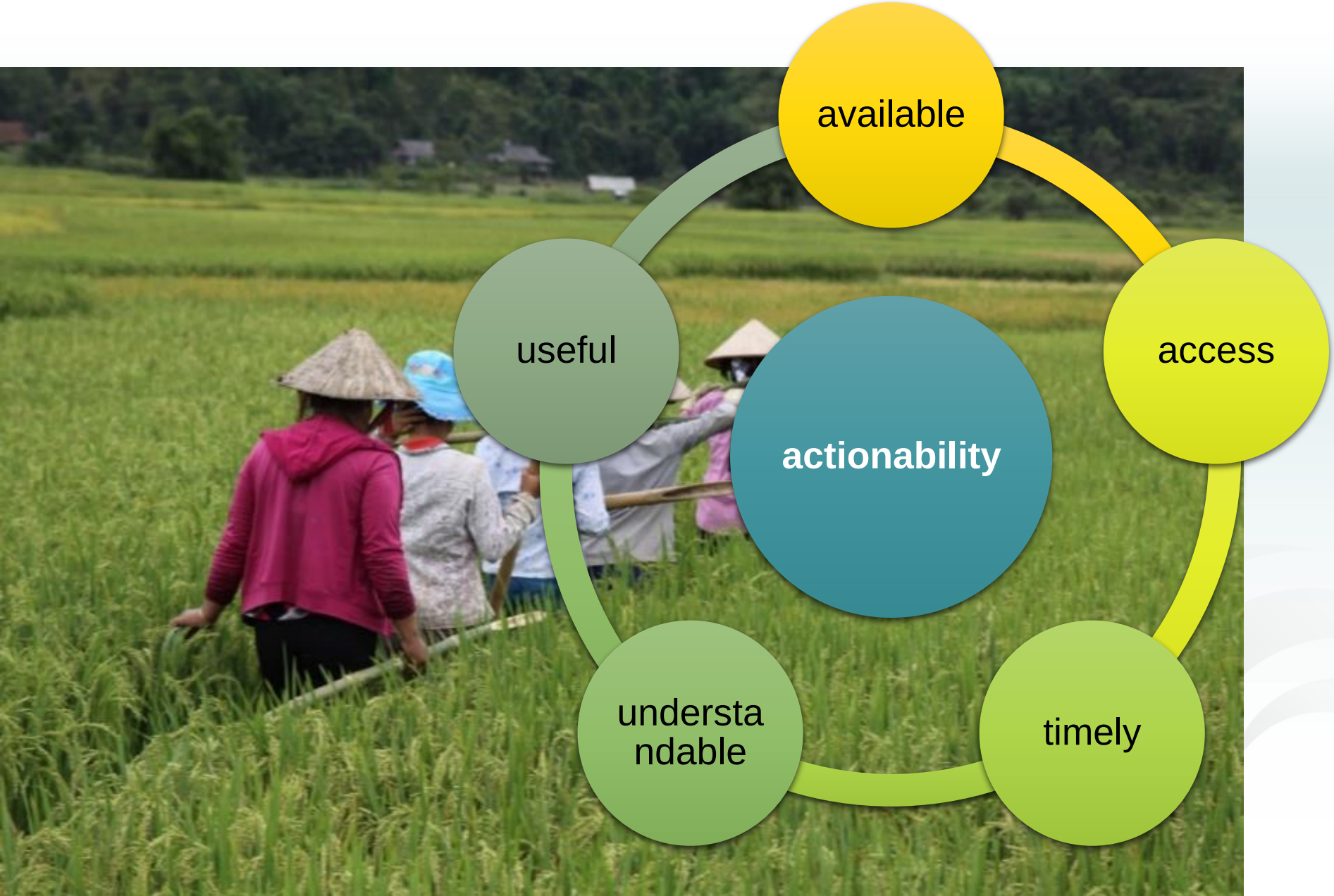
Met bureau	Ag public planners	Ag advisors, extension	Smallholder farmers
No downscaled weather information Too general indicators	Farming calendar without forecast	May (not) communicate climate information Do not reach all farmers	Too general forecast Diverse farming systems
Not trained on agronomy	Institutional disconnection	Not trained in agro-meteorology	Illiteracy Gender No phones/ electricity/ internet

Gaps in the climate service value chain

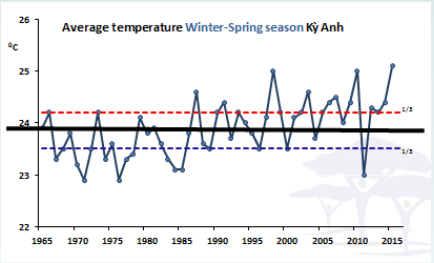


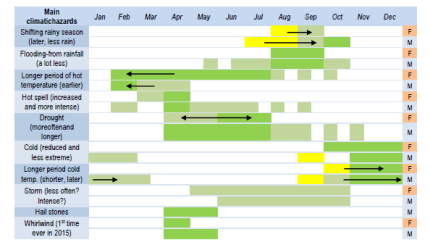
- Different & disconnected actors
- Supply-driven
- One-way = top-down
- No feedback ➔ demand / usefulness unknown

Actionability gaps from user perspective



The ACIS approach





Institutions

Climate data

Agroclimate zoning

Hazard mapping
Farming calendar
Ground truthing

Seasonal forecast

Agroadvisory

Participatory Scenario Planning

Local knowledge

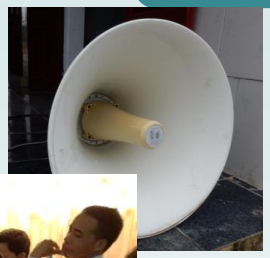
Updated forecast

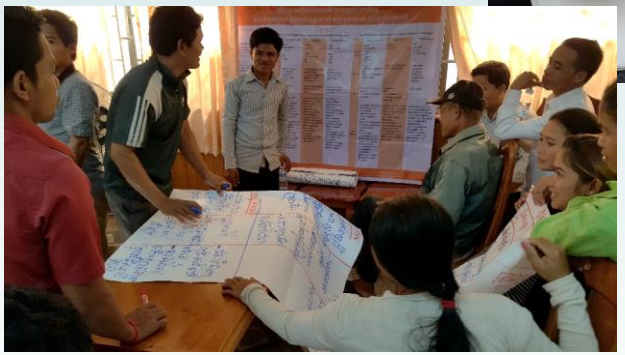
Farmer Networks

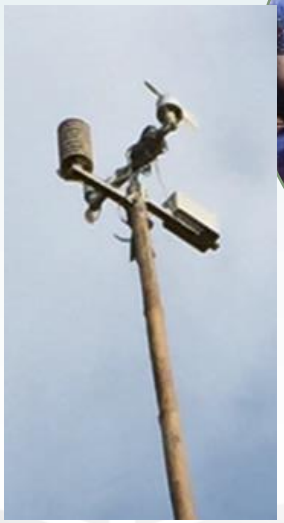
The co-production value-chain of climate services

Production ↔ Translation ↔ Transfer ↔ Use

Participatory Scenario Planning
Extension, planners and meteorologists meet in the village







Local met observations

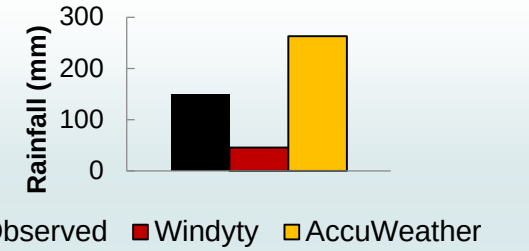
Farmers' and 'scientific' knowledge
Planning and feedback

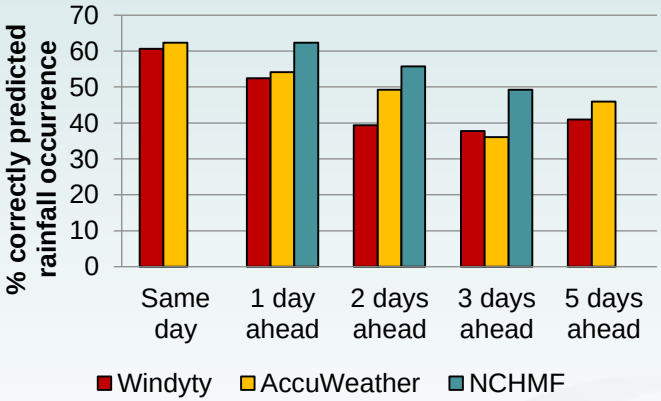
Various formats

Does it matter what forecast to use?

Rainfall

- Total rainfall during the period: Windyty underpredicted and AccuWeather overpredicted
- After 1-2 days chances are below 50:50 for correct forecast of rain or not.

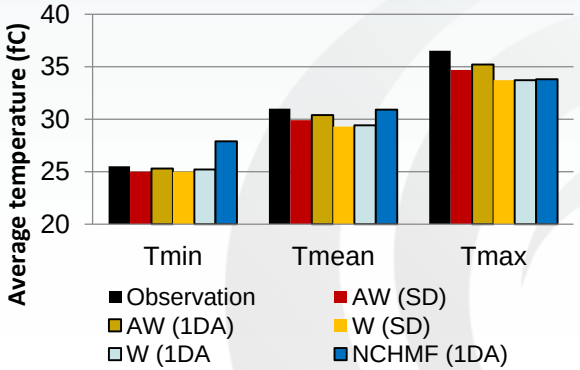




Temperature

- All forecasted temperatures were on average lower than to the observed
- AccuWeather was closest to the observed temperatures

- No systematic differences



Roy, Simelton & Quinn (2017) CCAFS InfoBrief

Co-production improved forecast skills

- **Towards demand-driven**
  - Forecast indicators changed after farmers need for indicators and timing were considered
- **Self-evaluation**
  - Provincial meteorological services test different forecast approaches and evaluate
  - Farmers feedback on forecasts included
- **Buy-in**
  - District co-investment: buy forecasts and downscale
  - Forecast distributed on province website, at district website with agroadvisory

Participatory Scenario Planning

- **Who?** Meteorologists, extension, farmer champions, leaders, farmer organization + facilitator
- **What?**
  - Previous forecast & advisory evaluated
  - Seasonal forecast and relevant response strategies discussed and agreed
  - Distribute
- **When?** 2-3 times/ crop season
- **Where?** Village/commune centre
- **How?** Joint activity with other meetings, e.g. savings & loans associations, farmer field schools

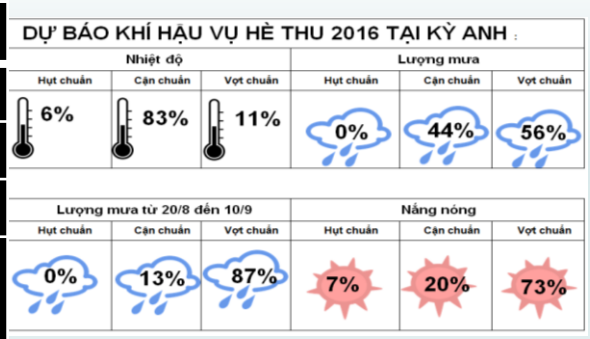
Leaders from "scaling villages" testing participatory scenario planning for the first time, Vietnam

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

Do women and men farmers have different preferences?

Indicators
Understandable
Useful
Appropriate
Take time to read



ĐẶC TRƯNG KHÍ HẬU TRUNG BÌNH NHIỀU NĂM THEO KHẢ NĂNG XẢY RA CAO NHẤT TRONG VỤ MÙA 2016 TẠI KỲ ANH

Tháng (dương lịch)	12	1	2	3	4	5
Nhiệt độ ^{0}C	19	18.2	18.3	21.1	25.1	28.9
Lượng mưa (mm)	220	95	60	60	90	148
Số ngày mưa > 50 mm (ngày)	2	0	0	0	0	1
Số ngày rét hại (ngày)	0	2	3	0	0	0
Số ngày gió tây khô nóng (ngày)	0	0	0	1	3	8

☹

Men liked

Dự báo khí hậu vụ đông xuân 2016 – 2017 tại Kỳ Anh

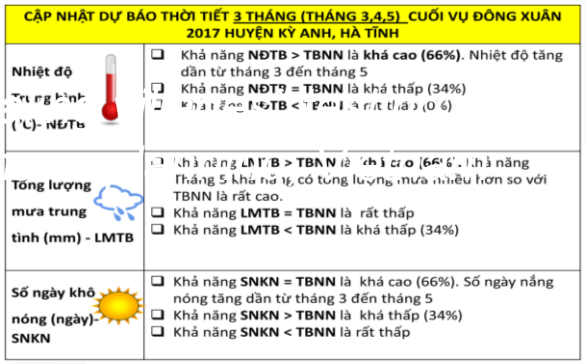
Nhiệt độ			Lượng mưa		
Hụt chuẩn	Cận Chuẩn	Vượt chuẩn	Hụt chuẩn	Cận Chuẩn	Vượt chuẩn
0%	40%	**60%**	8%	41%	52%
Rét hại			**Nắng nóng**		
Hụt chuẩn	Cận Chuẩn	Vượt chuẩn	Hụt chuẩn	Cận Chuẩn	Vượt chuẩn
0%	50%	**50%**	0%	27%	**76%**

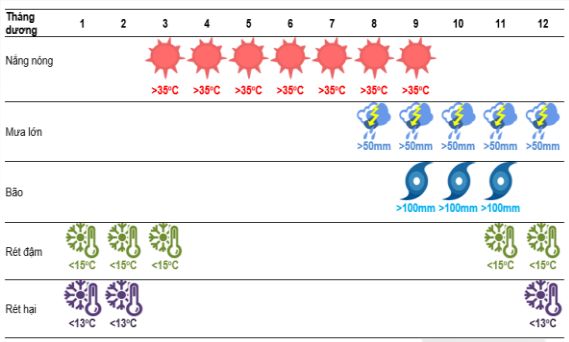
CẬP NHẬT DỰ BÁO THỜI TIẾT 3 THÁNG (THÁNG 3,4,5) CUỐI VỤ ĐÔNG XUÂN 2017 HUYỆN KỲ ANH, HÀ TĨNH

DƯƠNG LỊCH		THÁNG 3	THÁNG 4	THÁNG 5
Nhiệt độ TB (°C)	Dự báo 2017	21.2	25.4	27.9
	Thực đo 2016	19.9	25.5	28.6
	TBNN	21.2	24.6	28.2
Tổng lượng mưa TB (mm)	Dự báo 2017	65	76	200
	Thực đo 2016	23.7	51.5	89.3
	TBNN	62	67	147
Số ngày khô nóng (ngày)	Dự báo 2017	1	3 - 4	8 - 9
	TBNN	1	3	8

No. 1

Women and men



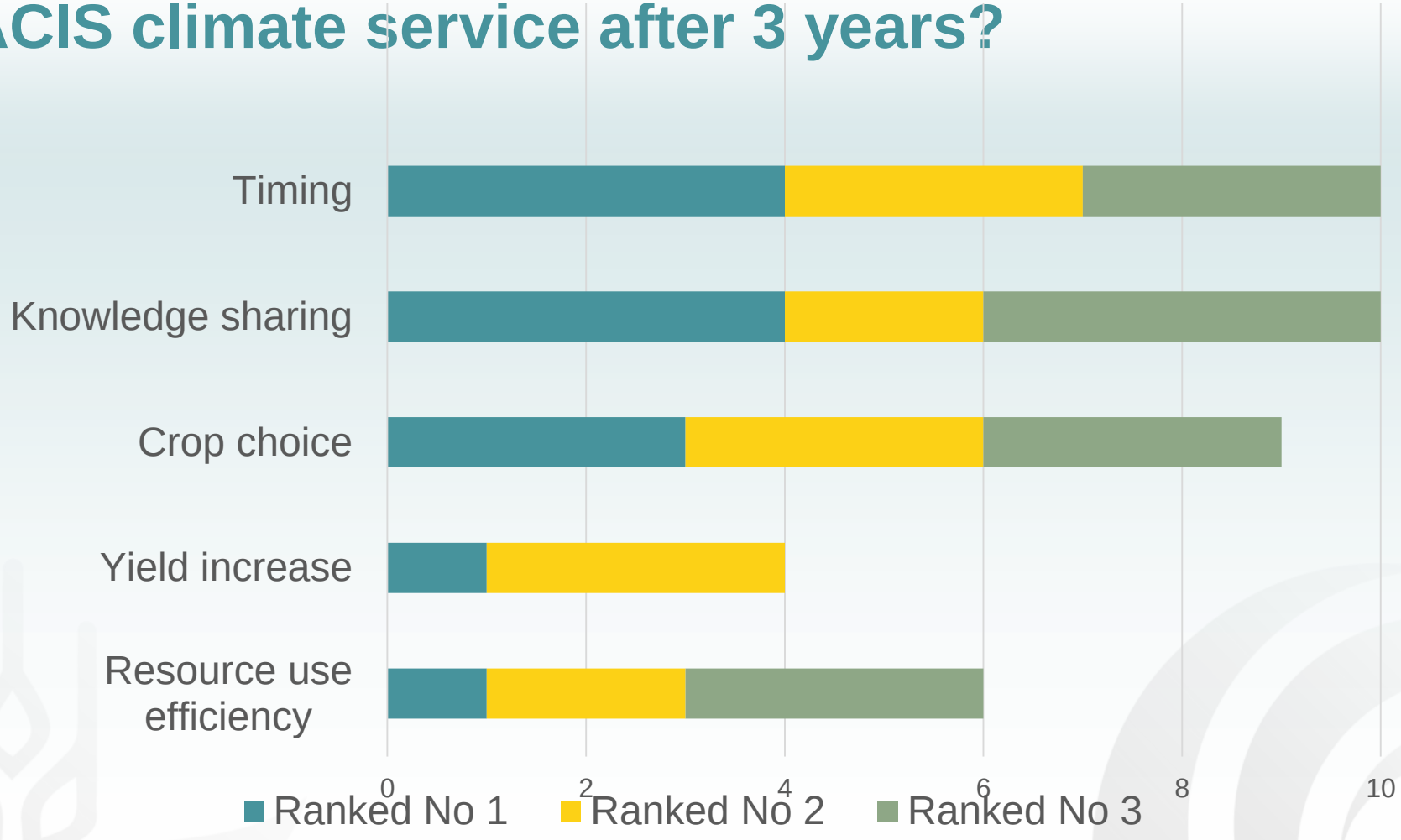


Women liked

☹ ☹

Source: Duong et al 2017

What did farmers appreciate the most with ACIS climate service after 3 years?



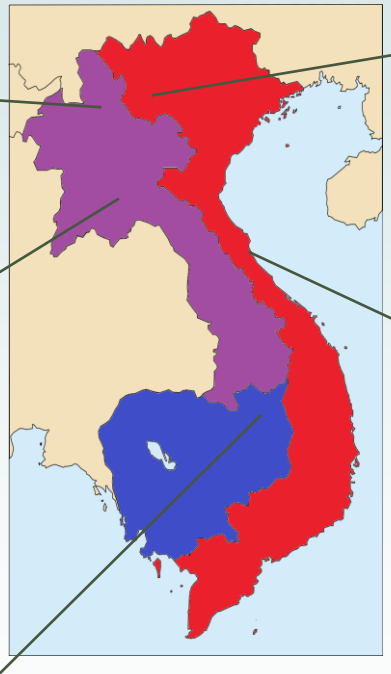
Pilot survey, Focus group discussion July 2018 n=7 men + 6 women

Five climate service models in one

Sms
Loudspeaker
VSLA

Dynamic Crop
Calendar
VSLA

Online forecasts
Rain gauge
Farmer-designed icons
Theatre
VSLA



Alo Weather (sms)
VSLA

District policy
Forecast/ bulletine
published online
Zalo-group
Community
Innovation Fund for
CSA

VSLA = Village Savings & Loans Association

Lessons learned

- No one-fits all
- **Engage local actors**
  - Put all stakeholders in one room and let them talk about their needs, expectations, priorities and what is realistic to achieve
  - Listen to female and male farmers' needs
- Have one exit strategy from the start – but **things may change**
- Explore how to **connect subnational and national forecast developers**
  - Global Framework for Climate Services, Monsoon Forum, National Adaptation Plans
  - Clarify difference between 'wrong' forecasts and 'wrong' advice and when emergency alerts take over
- **Cost-sharing models**
  - Link agroadvice with local agriculture planning & rural development programs e.g. Climate Smart Agriculture
  - Link agroadvisory development with engaging village activities, e.g. savings & loans, farmer field schools, school vegetable gardens
- **Participatory models** increase farmers awareness and ability to know where to go and what to ask for, and willingness to pay

More information

- Climate Change, Agriculture and Food Security - Southeast Asia (CCAFS)
- Enhancing National Climate Services initiative (ENACTS)
- Participatory Integrated Climate Services for Agriculture (PICSA)
- Agro-Climate information for women and ethnic minority farmers (ACIS)
- Rwanda Climate Services (RSA)

CCAFS is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit https://ccafs.cgiar.org/donors.