

Info Note

Gender-differences in Agro-Climate Information Services

Findings from ACIS baseline survey in Ha Tinh and Dien Bien provinces, Vietnam
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Key messages

- Women and men face unique challenges in terms of domestic labor which impact their participation in agricultural production activities.
- Women and men differ in a range of aspects from agricultural responsibilities and decision making to market engagement.
- Women and men perceive some weather impacts on crops differently and diverge in how they receive, share, understand, and act upon weather-related information.
- Equal opportunities to communicate needs and participate in agro-advisory designs can make the information more actionable for both genders
- Intra-household sharing of weather information can be improved by updated agro-advisory designs.

Some studies show that women and men are impacted by climate change differently due to social and economic distinctions. Constraints may exist in terms of institutional participation, information access, capital, mobility, education and asset ownership [1]. In many cultures, men farmers can access information more easily, which constrains women's participation in decision making at various levels [2].

Overview

The Agro-Climate Information Services for women and ethnic minority farmers in South-East Asia (ACIS) is a project implemented by ICRAF and CARE International in cooperation with local partners in Vietnam, Lao PDR, and Cambodia from 2015 to 2018. By providing practical agro-climatic information and guidance, ACIS will enable women farmers, ethnic minority farmers, and agricultural planners in three countries to better anticipate and respond to risks and opportunities from changes in

weather patterns, with particular attention given to the unique gendered aspects of disseminating this information [3].

This brief summarizes first, the gender-related information of a baseline survey conducted in the two Vietnam project sites: Dien Bien and Ha Tinh provinces. The survey gathered information on diverse aspects of livelihoods, food security, climate hazards and impacts, as well as access to and quality of weather and agricultural information. A total of 595 farmers (180 women and 139 men, of which 90% are ethnic minority farmers in Dien Bien and 134 women/142 men with less than 2% are ethnic minority farmers in Ha Tinh) were interviewed using a baseline survey questionnaire conducted in December 2015 [4].

Second, later into the project, in June 2017, the team conducted a survey at a Participatory Scenario Planning (PSP) meeting to follow up on the agro-advisories developed in the project. Men and women farmers were separated into two groups of 10 each and asked to rank six samples of the agro-advisory. The ranking scale ranged from 1 for 'strongly disagree' to 5 for 'strongly agree' about the following statements for each sample: (i) easy to understand; (ii) provides useful information; (iii) provides appropriate and necessary information; and (iv) takes time to read.

Results

The first section covers three themes from the baseline survey in 2015: *Labor* – identifying the intra-household gendered division of tasks in both domestic work and agricultural production; *Perception* – the differences and similarities in terms of how men and women interpret climate impacts; *Adaptation* – responses to changes in climatic patterns and extreme weather events; Information sharing – the use and exchange of information. The second part presents the farmers' preferences for the agro-advisory designs in 2017.

I. Baseline findings

Intra-Household Labor Distribution

In both provinces studied, an entrenched division of labor exists around and domestic work, with women responsible for the majority of meal preparation and raising children [4]. Women are primarily responsible for the daily care and raising of children, at a rate of 72% in Ha Tinh province. In Dien Bien, 17% of respondents acknowledged that women are primarily responsible for childcare, and 77% indicated that this task was shared by men and women. These data reflect the results of one survey, but must be contextualized within existing social biases and previous data which clearly confirms the gender-specific division of labor in both provinces. Men dominate decision-making, while women do both farming and domestic work [4].

Nonetheless, this imbalance of responsibilities has implications for agricultural productivity. Men earn significantly more, and their income streams are less weather-dependent in comparison to women who earn income mainly through agriculture [4]. According to the survey data, women are mainly tasked with purchasing agricultural inputs and selling agricultural products at the market. Selling agricultural produce such as crops, livestock, and fish at market is mainly done by women at a rate of 78% in Ha Tinh (versus 3% men) and 40% in Dien Bien (54% indicated that both men and women are responsible for the task). However, this responsibility does not always translate into decision-making autonomy. The survey answers indicate that men make the majority of farm-related decisions including which major crops to plant and loan acquisition.

Perceptions of Climate Impacts

Given the same initial information, women and men gave distinct interpretations about the severity of climate impacts related to agricultural productivity. There were generally more women than men in Ha Tinh who indicated that their crops experienced major damage from natural disasters, including prolonged rainy seasons (60% of women vs. 52% of men), flooding from the river (30% women vs. 22% men), long periods of hot temperatures (63% women vs. 54% men), and cold spells (38% women vs. 27% men) (Figure 1).

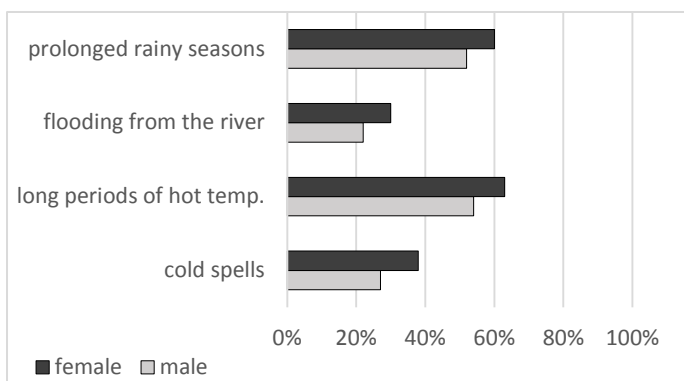


Figure 1. Percent of farmers in Ha Tinh who experienced major damage from extreme weather events, by gender.

Similarly in Dien Bien, more women than men indicated that they have been affected by different natural disasters (Figure 2). Part of the differences in response could be attributed to differences in access to information or measures of damage.

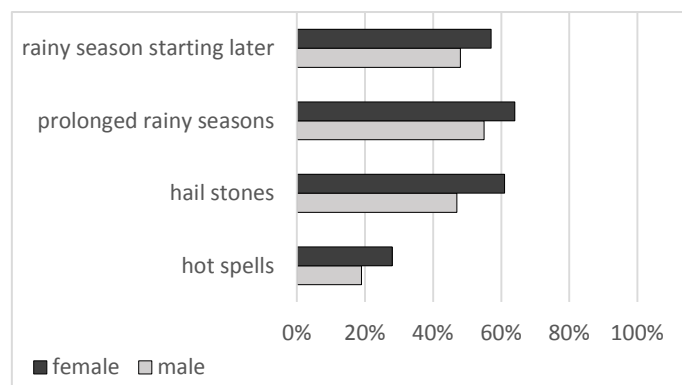


Figure 2. Percent of farmers in Dien Bien who experienced major damage from extreme weather events, by gender.

Adapting Farming Practices

In Ha Tinh, fewer women than men said they had the 'means' to prevent weather-related damages on crops, trees, and livestock. These strategies included integrating a diverse combination of crops into a previously monoculture system or intercropping (30% women vs. 44% men), investing in preventative livestock vaccinations (64% women vs. 80% men), stocking seeds and animal feed (48% women vs. 63% men), purchasing new agricultural tools or equipment (32% women vs. 49% men), and seeking advice or guidance from other farmers (43% women vs. 52% men), extension workers (51% women vs. 58% men) or Farmers' Union representatives (58% women vs. 67% men). While in Dien Bien, men and women were fairly similar in terms of adopting strategies to minimize weather-related damages.

Though survey results indicated that more men had adaptation strategies than women, women had generally received more training than men, and were often the first household recipients of agricultural information and advice. This outcome may be related to decision-making power or labor constraints.

Information Sources and Sharing

Socialization and communication practices differed between men and women, and these distinctions also impact the way agricultural information and methods are shared. The survey data drew attention to the ways weather-related information were shared and how these communication networks differed by gender. When women and men had access to the same initial forecast information, there were distinctions in how information is shared which impact how that information is acted upon.

Farmers usually received weather-related information or forecast from television broadcasts (over 75% of farmers,

both women and men, in both provinces). After receiving the weather forecast information:

- The intra-household sharing of forecast information was below 40% (Figures 3 and 4). In Ha Tinh, only 26% of women said they shared the information with their husbands while 38% of men shared the same information with their wives. In Dien Bien, about one-fifth said they shared the information with their spouse;
- In both provinces, at least 75% of women and men tended to share the weather-related information with other family members (Figure 3); and
- In Ha Tinh, farmers were more likely to share weather-related information with fellow farmers than in Dien Bien (47% of women in Ha Tinh vs. 34% in Dien Bien; 50% of men in Ha Tinh vs. 44% in Dien Bien) (Figure 3).

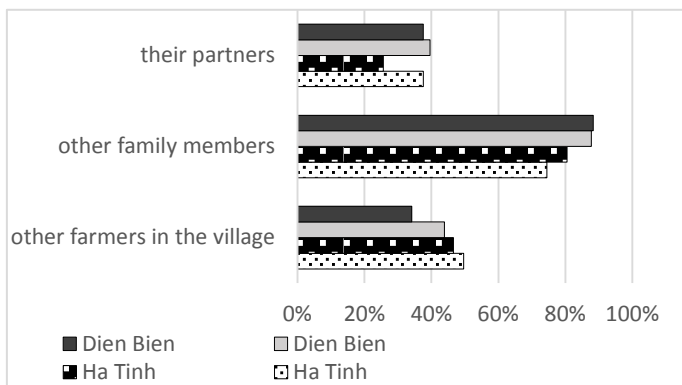


Figure 3. Who farmers share weather information with (% of respondents, by province and gender)

Agricultural technical information or agricultural guidance were mainly distributed from the village leader, Farmers' Union, and extension workers. In Ha Tinh, there were more women than men (48% women vs. 32% men) who was the first person receiving the information while in Dien Bien both women and men said they received the information at the same time. After receiving the agricultural advice:

- 29% of women versus 40% of men in Ha Tinh shared it with their spouses, while in Dien Bien, the percentage was 27% for both genders (Figure 4);
- At least 70% of women and men in both provinces tended to share the information with other family members (Figure 4); and
- More of the interviewed farmers in Ha Tinh than Dien Bien shared the agricultural technical information or agricultural advice with fellow farmers in the village; 51% women and 47% men in Ha Tinh compared to 25% women and 33% men in Dien Bien (Figure 4).

These differences could be linked to the social sharing customs of farmers in the area and opportunities for

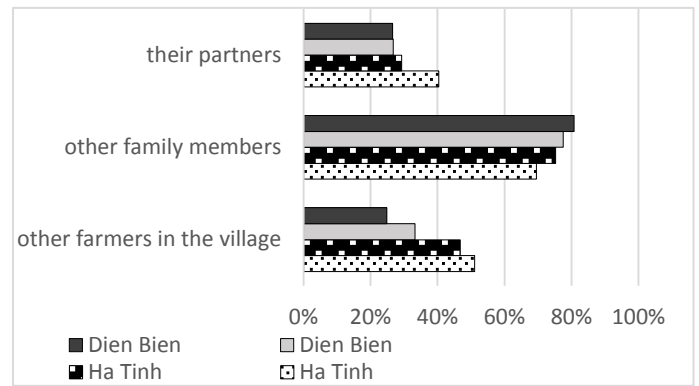


Figure 4. Who farmers share agricultural information with (% of respondents, by province and gender)

farmer-to-farmer interaction. Similarities might also be a result of trainings and official farmer networking groups.

Farming advice was currently available for rice, peanuts, and livestock with geographical variations. Most farmers primarily received this information through the Farmers' Union and village leaders. However, many viewed this advice as too technical and not tailored to their needs in terms of priority crops, livestock, and scale. Women were often selected to receive training and farming advice. As a result, more women than men (46% vs. 22% in Ha Tinh; 37% vs. 25% in Dien Bien) had participated in technical training on agricultural techniques from a government agricultural worker.

In addition to the individual networks of information exchange, there were some mechanisms in place to encourage farmer-to-farmer collaboration in a more targeted way. In Ha Tinh Province, two official groups have been instated to discuss weather hazards and farming practices: the Farmers' Union and the Women's Group. In Dien Bien Province farmers actively exchanged similar information within three groups: Women's Group, the Village Saving and Loan Association, and the Farmers' Union. These networks create opportunities for farmers to share their own experiences and access some information.

II. Agro-advisory content and design

Project interventions in response to the baseline

To gain insight about the agro-advisory design and content, we followed the men and women involved in Participatory Scenario Planning (PSP) for the summer–autumn season of 2017. The PSP process spans before, during, and after the crop season and includes forecasting and weather tracking to enable farmers to effectively anticipate, adapt, and respond to weather patterns. It has been implemented in both sites since early 2016.



Farmers discussing in a Participatory Scenario Planning workshop. Photo: ICRAF/ Tuan Minh Duong

The results of all the six samples (see Annex) clearly show that men and women have some differences in how they understand and act upon the information.

♂ Sample A included comparatively complex terminology and meteorology icons. Women said it was difficult to understand the scientific terms related to climate information forecasting. Therefore, the majority of women did not find this sample helpful in providing the appropriate and necessary information that they needed, while most men were of the opposite opinion.

♂ Sample B, which included fewer icons than Sample A, showed the same trend of women's and men's comprehension. Both genders agreed that the information was more accessible with all meteorology icons omitted. Both men and women mentioned that too many icons were a distraction.

♀ Sample C included a clearer explanation of technical terms, which the women found useful and easy to understand. In contrast, men said that the acronyms in this sample could be a barrier for farmers who had not participated in climate forecast trainings. Both groups agreed that this sample provided the most accessible and useful information for seasonal forecasts. However, respondents lacked clarity on how to apply this information to specific actions and decisions on the farm.

♀♂ Sample D provided monthly details on rainfall, temperature, and number of cold and hot spells for the current annual forecast. Sample E presents this same information comparing both the current and previous years. The inclusion of data from 2016, as well as 2017, supplies farmers with a relative baseline for interpreting the forecast. Sample E included a clear table comprised mainly of numbers with simplified terminology and

reduced text. This level of detail enabled farmers to plan weather changes and take action. Both women and men said the sample E was the most comprehensive, useful, and appropriate for their purposes.

♀♂ Sample F included numerous meteorology icons with the period of time in the year that might have extremely hot, heavy rain, stormy, or cold spell days. Farmers indicated that the icons were excessive and did not provide enough detailed and actionable information.

The design of agro-advisories also needs to consider the time and frequency that farmers had time to read them. Farmer collaborators in Ha Tinh spent about 30 minutes reading the agro-advisory. One woman said her children were reading the agro-advisory while she was doing housework. Hence, the agro-advisory needs to be easy enough to enable intra-household sharing that may also encourage shared decision making.

In summary, women and men had similar preferences for how the agro-advisory information was presented based on the six samples prepared in this study. These group preferences help informing the final design of agro-advisory information tools to maximize understanding and facilitate action. The process requires continual revision and testing to ensure actionable information reaches the needs of stakeholder groups. A similar test is underway in Cambodia with largely illiterate audiences.

Conclusions and policy implications

The baseline study and the testing of different agro-advisories show that women and men farmers' needs and preferences must be considered in order to most effectively disseminate agro-climate information. The ways in which gender impacts farm-level adaptations and market transactions has implications for farm planning, managing, monitoring, and marketing of products. The study confirms the importance of considering gendered factors, among other, in climate information services [6]. Empowering women and men with access to information that they can understand, act upon, and share, can augment the productivity and resilience of these systems. It is important to note that gender dynamics, social sharing, and adaptive knowledge may vary geographically and over time.

Understanding the nuances of unique gendered challenges and opportunities in terms of labor distribution, information dissemination, and collaboration is essential for identifying actionable adaptation strategies. Specifically, opportunities exist to improve intra-household information sharing. Gender factors must be integrated into project design, policy formulation and implementation at all levels.

Annex

	1 - Strongly disagree	2 - Disagree	3 - Neutral	4 - Agree	5 - Strongly agree
Sample A	Men		Women		
Easy to understand		4			1
Provide useful information			3		1
Provide appropriate and necessary information		4			1
Time consuming to read				1	1
Sample B	Men		Women		
Easy to understand			3		1
Provide useful information		4			2
Provide appropriate and necessary information	5				2
Time consuming to read			2		2
Sample C	Men		Women		
Easy to understand			1		5
Provide useful information			2		5
Provide appropriate and necessary information		3			5
Time consuming to read		4			5
Sample D	Men		Women		
Easy to understand			2		3
Provide useful information		3			3
Provide appropriate and necessary information			2		3
Time consuming to read		3			3
Sample E	Men		Women		
Easy to understand	5				5
Provide useful information	5				5
Provide appropriate and necessary information		4			5
Time consuming to read	5				5
Sample F	Men		Women		
Easy to understand			1		1
Provide useful information			2		1
Provide appropriate and necessary information			1		1
Time consuming to read		3			1

DỰ BÁO KHÍ HẬU VỤ HÈ THU 2016 TẠI KỲ ANH

Nhiệt độ			Lượng mưa		
Hạt chuẩn	Cận chuẩn	Vượt chuẩn	Hạt chuẩn	Cận chuẩn	Vượt chuẩn
6%	83%	11%	0%	44%	56%

Lượng mưa từ 20/8 đến 10/9			Nắng nóng		
Hạt chuẩn	Cận chuẩn	Vượt chuẩn	Hạt chuẩn	Cận chuẩn	Vượt chuẩn
0%	13%	87%	7%	20%	73%

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

Nhiệt độ			Lượng mưa		
Hạt chuẩn	Cận Chuẩn	Vượt chuẩn	Hạt chuẩn	Cận Chuẩn	Vượt chuẩn
0%	40%	60%	8%	41%	52%

Rét hại			Nắng nóng		
Hạt chuẩn	Cận Chuẩn	Vượt chuẩn	Hạt 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

Nhiệt độ

Trung bình (°C) - NĐTB

- Khả năng NĐTB > TBNN là khá cao (66%). Nhiệt độ tăng dần từ tháng 3 đến tháng 5
- Khả năng NĐTB = TBNN là khá thấp (34%)
- Khả năng NĐTB < TBNN là rất thấp (0%)

Tổng lượng mưa trung bình (mm) - LMTB

- Khả năng LMTB > TBNN là khá cao (66%). Khả năng Tháng 5 khả năng có tổng lượng mưa nhiều hơn so với TBNN là rất cao.
- Khả năng LMTB = TBNN là rất thấp
- Khả năng LMTB < TBNN là khá thấp (34%)

Số ngày khô nóng (ngày) - SNKN

- Khả năng SNKN = TBNN là khá cao (66%). Số ngày nắng nóng tăng dần từ tháng 3 đến tháng 5
- Khả năng SNKN > TBNN là khá thấp (34%)
- Khả năng SNKN < TBNN là rất thấp

ĐẶC TRƯNG KHÍ HẬU TRUNG BÌNH NHIỆU 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 (°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

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

Tháng dương lịch

Tháng dương lịch	1	2	3	4	5	6	7	8	9	10	11	12
Nắng nóng												
Mưa lớn												
Bão												
Rét đậm												
Rét hại												

This brief summarizes findings among the initiatives to address climate-related risks under the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). The study was conducted as a part of the project Agro-climate Information Services for Women and Ethnic Minority farmers in South-East Asia (ACIS), implemented by World Agroforestry Centre (ICRAF) and CARE International in Vietnam, Lao PDR, and Cambodia. It is hoped that the research will contribute to co-investments in improved agro-climate information systems.

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Further reading

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CCAFS and Info Notes

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is a strategic partnership of CGIAR and Future Earth, led by the International Center for Tropical Agriculture (CIAT). CCAFS brings together the world's best researchers in agricultural science, development research, climate science and Earth System science, to identify and address the most important interactions, synergies and tradeoffs between climate change, agriculture and food security.

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