CIP-APART Potato Value Chain Program

Opportunities and constraints for women: Recommendations for building gender-responsive potato Value chains in Assam, India

Improving Farmer’s Livelihood through Sustainable Intensification and Diversification of Agri-Food Systems with Climate-smart Potato Technologies

April 2019

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Submitted by: International Potato Center (CIP)
CIP-APART Potato Value Chain Program

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## Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATMA</td>
<td>Agricultural Technology Management Agency</td>
</tr>
<tr>
<td>PVCP</td>
<td>Potato value chain program</td>
</tr>
<tr>
<td>PVS</td>
<td>Participatory variety selection</td>
</tr>
<tr>
<td>VCS</td>
<td>Value chain school</td>
</tr>
</tbody>
</table>
Summary

Women and men have different roles, capacities and interests across potato value chains. Gender consideration is therefore critical for developing appropriate interventions and scaling up agricultural technology for women and men, respectively. Although women play significant roles in household potato production, women’s roles, interests and concerns are rarely documented in value chain analyses as women are underrepresented in formal potato value chain systems. To recognise women’s roles and identify potential opportunities for women, a rapid gender analysis in the potato value chain was conducted in six potato-growing districts in Assam.

Four key findings are highlighted in this report. First, women are not directly connected with formal institutions, which deliver agricultural technology and information, such as farmers’ associations, local government authorities and agricultural input suppliers. In the study sites, women have never participated in agricultural training. To involve women in project activities, it is important to link the existing women’s social organisations such as self-help groups with the existing agricultural dissemination systems.

Second, there are significant knowledge gaps between women and men. However, women are not passive, rather they are very active, interested in trying new practices and new crops. If women have as much knowledge and information as men do, the management of household potato production be far better as women can ensure their husbands to follow appropriate practices, and the husband and wife share responsibilities, thus also reducing men’s pressure.

Third, women are capable for agribusiness, but they have gender-based preferences, interests and constraints. This report highlights the conditions enabling women to take part in agribusiness. It is our responsibility to design agri-business plans that are feasible and attractive to women and acceptable their husbands in a given social context.

Fourth, women diverse social groups in Assam and gender norms differ significantly among the different religious, age and socio-economic groups. For some social groups, physical mobility is extremely limited and their involvement in agriculture is marginal. In some villages, women have significant decision-making power in agriculture and household financial plans. In this project, we shall consider the diversity among women whose capacity, mobility and interests are different from each other, and try to encourage and support women at different levels according to their social and gender norms.

Based on these findings, this report concludes proposing recommendations for gender-responsible interventions. Detailed long-term and short-term objectives and action plans for women should be discussed and developed with various leaders of the project modules and their teams.

Key words

Gender, value chains, potato
1. Introduction

The Assam Agribusiness and Rural Transformation Project (APART) considers gender as an important component to scale up new technology and agricultural innovation. This report describes the gender dimensions of the potato value chain through example cases from six potato-growing districts. The term ‘value chain’ is defined in this report as ‘the full range of value adding activities required to bring a product or service through the different phases of production, including procurement of raw materials and other inputs’ (World Bank 2014). This study follows the guidelines developed by the CGIAR Research Program on Roots, Tubers and Bananas in the integration of gender perspective in value chain development.

Gender-integrated value chain analysis is an approach used to explore the social constraints and opportunities for socially marginalised groups, such as women, youth and tribal people. Its focus is therefore on people instead of commodities. In Assam in general, women are a marginalised social group in relation to agriculture and agribusiness, and therefore our assessment specifically looks at women’s opportunities and constraints. Given the experienced time constraints, this study has many limitations and the information cannot be generalised. However, it brings some ideas for developing gender-responsive intervention designs, and the gender strategy for the CIP-APART Potato Value Chain Program (PVCP) is built on this study.

The objective of our study was to elaborate and describe women’s roles and opportunities in the potato value chain, the social conditions enabling women to take part in agricultural training and events, and to propose recommendations for each Module of the CIP-APART PVCP to integrate gender perspectives in the planned interventions.
2. Methods

This study employed qualitative participatory approaches in which the participants are involved in ice breaking activities, exercises and informal discussions. In collaboration with the Agricultural Technology Management Agency (ATMA), we visited the districts Kamrup, Barpeta, Nalbari, Darrang, Nagaon, and Sonitpur in January 2019. In each district, one or two potato-growing villages were selected, and we spent around two hours with women farmers for informal discussions. Table 1 below presents the list of villages and the numbers of participants in each village.

Table 1: List of participants

<table>
<thead>
<tr>
<th>District</th>
<th>Block</th>
<th>Village</th>
<th>The number of female participants</th>
<th>Religious groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kamrup</td>
<td>Hajo</td>
<td>Bamundi</td>
<td>22</td>
<td>Hindu</td>
</tr>
<tr>
<td>Barpeta</td>
<td>Barpata</td>
<td>Kawaimari</td>
<td>18</td>
<td>Hindu</td>
</tr>
<tr>
<td></td>
<td>Mandia</td>
<td>Kandapara</td>
<td>12</td>
<td>Muslim</td>
</tr>
<tr>
<td>Nalbari</td>
<td>Barkhetri</td>
<td>Loharkatha</td>
<td>14</td>
<td>Muslim</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mukalmua</td>
<td>8</td>
<td>Muslim</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bartola No.4</td>
<td>8</td>
<td>Hindu</td>
</tr>
<tr>
<td>Darrang</td>
<td>Sipajhar</td>
<td>Bacha Chuba</td>
<td>14</td>
<td>Hindu</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Haida</td>
<td>9</td>
<td>Hindu</td>
</tr>
<tr>
<td>Nagaon</td>
<td>West Kaliabor</td>
<td>Sivasthan</td>
<td>1</td>
<td>Hindu</td>
</tr>
<tr>
<td></td>
<td>Kaliabor</td>
<td>Dalibari</td>
<td>1</td>
<td>Hindu</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Madhatari</td>
<td>1</td>
<td>Hindu</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hatibamatha</td>
<td>2</td>
<td>Hindu</td>
</tr>
<tr>
<td>Sonitpur</td>
<td></td>
<td></td>
<td>5</td>
<td>Hindu</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>Muslim</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>148</strong></td>
<td></td>
</tr>
</tbody>
</table>

Understanding gender-based constraints requires specific skills of facilitation to enable women farmers to recognise gender norms that are invisible and very natural to them. Exercises and informal discussions were therefore carefully designed. Furthermore, the facilitation team kindly asked male villagers to maintain distance in order to create a comfortable space for women to speak. The data collected from women include: gender divisions of labour in potato farming and domestic work; detailed practices, knowledge and perceptions on potato planting, pests and diseases, post-harvest technology and selling; gender norms and decision-making power; social organisations of women; their information sharing systems.

Given the limited time, this study was conducted only in a few villages from each district and men are not involved in this study. With this limitation, the aim of this rapid gender analysis is not to generalise women in Assam but rather to give ideas of gender matters in potato value chain development by demonstrating an example case.
3. Key findings

3.1 Women’s roles in the potato value chain

In the study sites, men are usually the primary decision-makers and managers of potato production, but women have certain roles in potato value chains and potential areas have been identified in which women can benefit from agricultural training (Table 1).

<table>
<thead>
<tr>
<th>Areas in the potato value chain</th>
<th>Women’s roles</th>
<th>Current level of role of women</th>
<th>Potential areas to increase the role and interest of women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed potato preparation</td>
<td>Husband purchases seed potatoes from a local market (using table potatoes as seed potatoes).</td>
<td>Low</td>
<td>Inviting women to the training for seed producers.</td>
</tr>
<tr>
<td>Input management (fertiliser)</td>
<td>Husband purchases fertiliser. Many women do not go to a retail shop. Women know the name of the fertiliser, but they do not know how to use it.</td>
<td>Low</td>
<td>Knowledge on appropriate use of fertiliser but there is a significant gender gap in knowledge as this is a male domain.</td>
</tr>
<tr>
<td>Pest and disease management</td>
<td>Husband sprays. Women know symptoms but do not know how to respond to those symptoms. Spraying is associated with masculinities (physical strength, health risk exposure, technical knowledge). Women do not have any pressure from their husband to help with spraying.</td>
<td>Medium</td>
<td>Knowledge on pests and diseases biology and symptoms. Knowledge and use of biopesticides as it is less associated with masculinities.</td>
</tr>
<tr>
<td>Labour input</td>
<td>Women participate in planting and harvesting more or less equally to men. Potatoes are considered as labour-intensive and are therefore not a women-favoured crop.</td>
<td>Medium</td>
<td>Providing labour-saving technology for women Involving women in the assessment of different practices (e.g. zero-tillage) to understand social feasibility for them.</td>
</tr>
<tr>
<td>Storage management</td>
<td>Women are the managers of storage (all crops including potatoes). Women remove rotten potatoes affected by potato tuber moths from their storage. The husband is usually a decision-maker for investing in the storage.</td>
<td>High</td>
<td>Appropriate storage management practices at the household level. Men’s involvement is essential if new practices require financial investment and additional labour.</td>
</tr>
<tr>
<td>Selling</td>
<td>Husband sells potatoes. Women know the prices and names of buyers.</td>
<td>Low</td>
<td>Information of market prices is relevant to women too as they are often joint financial managers in the household.</td>
</tr>
<tr>
<td>Variety selection</td>
<td>Women have particular preferences in potato taste and size as a cook in the household. Husbands usually purchase potatoes at a local market.</td>
<td>High</td>
<td>Participating in varietal selection events.</td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td>There is no entrepreneurship with potatoes, but some self-help groups engage in farming such as bananas, lemons and flowers and sell them with support from their husbands and/or male members.</td>
<td>Low</td>
<td>In their gender norms, women do not do small business outside their households. Women have options for earning incomes (silk textile weaving at home).</td>
</tr>
<tr>
<td>Crop management and planning</td>
<td>The husband is the major decision maker on which crops to grow and how much to spend on agricultural inputs and labour for each crop, but there are some communities (Muslim and tribal groups) where women are significantly involved in decision makings.</td>
<td>Medium</td>
<td>Participating in planning (crop calendar) to have appropriate knowledge on the timing of planting, spraying and harvesting.</td>
</tr>
</tbody>
</table>
3.1.1 Women and pest and disease management

Women emphasise that they do not spray pesticides not because they cannot do it but because men assume that it is their duty. While there is no need to change this gender role, it is concerning that women are excluded from information sharing systems in which input suppliers play a significant role. Women have very limited knowledge on pests and diseases. For example, some women perceive the green skin colour of tubers as disease. Many women cannot identify the causes of pests or diseases from the symptoms. Unlike men, women also do not use scientific names. However, they very well understand the characteristics of a good potato crop which can potentially produce good yields from their own experiences. It is therefore important to connect scientific knowledge with women’s concepts and experiences so that the knowledge can be practically used by them.

3.1.2 Women and labour input

Women have preferences for certain crops. For example, they like growing mustard, ginger, garlic and marigold as these crops require less labour in planting and harvesting (Photos 1). In this respect, the potato is, unfortunately, not a women-favoured crop as it is labour-intensive, especially during harvesting. Labour-saving technologies for women would be required to reduce their work load and burden. If the project introduces machineries for planting and harvesting, the impact of those on men and women should be monitored. The social feasibility of zero-tillage and other practices should be evaluated by women as well as men.

Photos 1: Women have preferences for crops that are less labour intensive such as mustard (left), marigold (center) and peas (right). Photo credit: CIP/ N.Kawarazuka

3.1.3 Women and post-harvest technology

Potato storage is an area where women have autonomy, as potatoes are stored in their houses where women spend most of their time. Storage practices vary, such as putting potatoes into a bamboo basket and hanging it in a room or putting potatoes under a bed (either concrete or soil) (Photos 2). Training on good storage management practices is highly relevant to women if the practices are within the current storage system. However, if the new practices need any financial investments, men’s involvement in training is essential as men are the decision-makers on household expenditure. A small modification of current storage practices may be more acceptable than building a new store as the latter requires not only financial costs but also negotiations in gender roles in monitoring the store.

Photos 2: from left: 1) Rice storage 2) Potato storage (a loft in the kitchen) The smoke from the kitchen protects potatoes on the loft 3) A bamboo basket to store potatoes. 4) Potatoes are consumed three times a day and therefore potatoes are always in the kitchen. Photo credit: CIP/ N.Kawarazuka
3.1.4 Women and entrepreneurship

Entrepreneurship is defined as a new business in which the product or service will be delivered, or technology will be developed. In the study sites, many women are involved in silk textile production at home. For some religious groups in Assam such as Muslim, earning cash to support the family is an important responsibility for women. For some Hindi social groups, women are not forced to earn extra income by their husband but do it for pleasure and to have a notion of economic independence. Many women are proud of earning incomes through silk textile weaving as they have full autonomy in this activity. Silk or cotton textile weaving is attractive for women as men do not interfere and they can earn income in their house and the working time is flexible (Photos 3). In gender norms in Assam, selling something outside their houses is a men’s domain (Photos 4). Developing agri-business entrepreneurship for women is not impossible but given this gender norm, women’s involvement may be on the production side instead of on the marketing side as it is practiced in mushroom production and poultry and fish farming (Photos 5).

Photos 3. Women’s entrepreneur domain: silk and cotton weaving and food processing. Photo credit: CIP/ N.Kawarazuka

Photos 4: Men’s entrepreneur domain: horticulture with high technology such as greenhouses to grow strawberries, labour-intensive sugarcane molasse making, and selling agricultural produce. Photo credit: CIP/N.Kawarazuka

Photos 5: Joint entrepreneur work between men and women: mushroom, poultry and fish farming. Photo credit:CIP/ N.Kawarazuka
3.2 Social organisations for women and opportunities for entrepreneurship

In the study sites, women are not directly connected to formal institutions that deliver agricultural technology such as the farmers’ association, the local government authority and agricultural input suppliers, which are dominated by men. If our project aims involving women in agricultural training, it is recommended to approach the existing women self-help groups. There are several self-help groups in one village and one group consists of around 10 female members. Some self-help groups may also have few male members. In female only groups, their husbands are indirectly involved in self-group activities for providing labour inputs, selling their agricultural produce and acting as a gate keeper to communicate with the government authority. Men thus have some important roles in women’s group activities. Therefore, when the project works with self-help groups, we need to consult men to avoid unintended consequences by creating tension between men and women. Below we describe some cases of agri-business activities conducted by self-help groups, which give us some ideas about the approaches used to introduce potato-related agri-business.

Example 1: Ms. Rinku Mahanta, from the Hajo block Kamrup district, is a very active woman who has a lot of interest in agriculture. She always works with her husband together through which she gained farming knowledge and practice. She is particularly interested in organic farming. 90% of her crops are naturally grown without chemical inputs and her family’s agricultural produce is sold at a higher price as it is organic defined by trust. She is an active member of a women’s self-help group. Her self-help group produces and sells bananas, lemons and marigold. The members use their own family farms, but they work together. Most production activities are done by women, except for the fertiliser input and pest and disease management which require men’s labour support. While there are 10 self-help groups in her village, it is only her group that conducts collective agricultural production activities, as other groups are satisfied with income earning from silk weaving. This shows that women can manage agricultural production and women can potentially benefit from agricultural training, although men’s involvement is essential at the starting point as there are some gender domains to which women do not have access, and women taking over men’s domains may create tension.

Photos 7: Ms. Kanchan Nehen and Ms Adarjan Nessa (left) share their experience of and aspiration for agriculture. Photo credit: CIP/ B. Goswami

Example 2: Ms. Kanchan Nehen and Ms Adarjan Nessa (Photo 7) from the Kandapara village in the Barpeta district are very active women who have a lot of interest in agriculture. Last year, they grew garlic and their husbands successfully sold the produce in the local market. The profit from garlic was quite significant and other women started growing it too. The two ladies are aware that if many people from the same village grow and sell garlic, its price will go down. Therefore, this year, they grew peas. They have never participated in agricultural training and they always learn from their own trial experiences. Even with garlic, they started little by little and managed to expand the production. Those women’s cases show that women are capable of and interested in entrepreneurship. Nevertheless, their husbands’ involvement is essential.
Example 3: The Labluita self-help group in the Narbari district was established in 2014. The group has 10 female and 2 male members. Apart from money lending which is the main activity, they organise some collective production activities such as cotton weaving and fish farming. In fish farming, the group rents a piece of land from one of the group members. Women feed fish while their husbands purchase, fry and sell matured fish. They recently started mushroom cultivation through the National Livelihood Mission (NLM) (Photo 8). The initial investment was made by the group while the government provided training and also guaranteed the market. Those agricultural activities help women have additional income, but the activities are jointly done by their husbands who play certain roles such as selling agricultural produce, talking with the government and procuring tools and agricultural input. The fact that the government provides a guarantee for the market was critical for them to start this activity.

As shown by the three cases above, some self-help groups have experience of collective agricultural production and selling. On the other hand, there are many other self-help groups who are reluctant to conduct entrepreneurial activities apart from weaving. The main reason for this is that unlike weaving, the agribusiness requires additional time and labour, which are not flexible. Weaving allows them to work individually at home, which is an essential condition for them. This shows that women are active agents, carefully choosing income-generating activities according to their interests. Forcing women to have additional activities is harmful for them instead of empowering them.

3.3 Other gender aspects in agriculture and entrepreneurship

3.3.1 From men to women: a challenge of technology dissemination

The Bacha Chuba village (Photo 10) has a very innovative man who has a green house, attended more than ten agricultural training sessions and is growing various vegetable and fruits which require technology, investment and knowledge. On the other hand, women’s self-groups’ activities remain with low technology traditional crops. While those innovative men are essential to improving agriculture at the village level, there is a challenge as to how this new technology and information can be shared with women, which leads to transforming the community. Currently, the activities of the self-help groups in this community remain with weaving and poultry. Income streams from women’s self-help group activities could be increased when technology is shared with women. Specific technological and institutional support from the government is essential to achieve it.
3.3.2 Mechanisation and its impact on women

“Nowadays, women’s position is much better than before. We are economically independent from our husband because we have income from weaving. Women can hire agricultural machines (and a male driver) to cultivate the family farm”, a woman in the Kamrup district told us. Before, women’s wealth was subject to their husband as women’s own physical labour was limited to managing the family farm, but nowadays women can also earn income and use it for hiring a tractor. Thus mechanisation has a potential to further facilitate women’s autonomy in family-farm planning and cultivation.

A self-help group in the Mukalmua village, Barkhetri block in Nalbari district proudly told us that they own a tractor for which the money from the self-help group was used (Photo 11). Although it is men who use the tractor, women have a notion of ownership, which is a first step towards women’s empowerment.

Photo 11: A tractor owned by the Mulalma village, subsidized by the local government. Photo credit:CIP/ B. Goswami
3.4 The social conditions enabling women to take part in agricultural training and events

In the study sites, unlike men, women have never participated in agricultural training. Women have gender-based social constraints to participate in training. For five major constraints we propose practical solutions:

i) Engage with men first as women need husband’s approval: Unlike men who freely participate in community events, meetings and training, in the study communities, women have to get permission from their husband to attend training and meetings. In order to convince their husbands, the project should be explained to men and the benefit of their wife’s participation in training. Furthermore, men may feel jealousy when their wives are learning new things without their knowledge. Therefore, the contents of the training should be open to men. The husband’s approval is also required for financial and labour investments. If the project introduces a new technology/practice which requires men’s and/or women’s additional labour and/or financial inputs, it is essential to involve men as they are household decision-makers.

ii) Provide women-only training: Women are concerned that male participants can dominate the training and women may be sitting behind with silence. To avoid this situation, women prefer to have women-only training. The advantages of women-only training are that the CIP-APART PVCP can offer tailor-made training for women according to their interests and needs and they can be more comfortable to ask questions and say their own opinions.

iii) Arrange training/events with appropriate time and venue for women: Housework is a top priority for women. Attending training by compromising housework is unacceptable in many study villages. The most convenient time for women is afternoon, for example, 3pm for a few hours. Women also have limited physical mobility. If the training is organised outside their village, many women cannot participate due to time and mobility constraints. Training for women should be in the village and should be in a two-hour training instead of a whole-day training, except occasional special events that take a whole day.

iv) Address gender-based needs and interest: As it is clear from the previous section, women’s knowledge and interests are different from men’s. The contents and methods of training should be differentiated according to gender-based needs. For example, women are not familiar with technical terms such as the names of the fertilisers, potato varieties and diseases. Post-harvest technology and variety selections are highly relevant to women. Visual information is needed for women. Also, women in the study sites tend to learn new things through verbal communication instead of written documents. Those should be reflected in methods of training and development of materials. Materials need to include images of women as well as men. Additional consideration may be needed for some minority social groups (e.g. Muslim groups).

v) Engage with youth: Young women, both married and unmarried, have specific age-based challenges in participating in agricultural training. During the field work, we found that unmarried women were very shy to attend the meeting that were dominated by their mother’s generation. Young married women have the least bargaining power in the household and in the community. They are also overburdened with domestic work. However, involving the young generation is very important to transform agricultural practices, and we need to provide specific incentives for young people to participate such as giving youth awards and using mobile phones for disseminating technology and information.
4. Recommendations for gender-responsive interventions

4.1 Gender strategies

1. Women farmers are ready, are you ready too?
   All project members have equal responsibility for caring about gender in all dimensions of our project activities to address women’s real needs and interest.

2. Visualise women’s contribution
   Put wives’ names too in the board like this.

3. Let’s plan community events to have fun and give them awards!
   Change from top-down to bottom-up by fun events such as participatory videos, men’s potato cooking contest and women’s play.

4. Approaches matter
   - Women are busy: think twice about time and venue for training.
   - Women are active when men are not around.
   - Women like to be in the field with visual information – don’t put them in the class room with text books.

5. Don’t forget about men
   Men can be strong supporters for their wives and daughters. Consult with men as they are gate keepers and decision makers.
4.2 Action plans for modules B to E

Based on the findings above, this section provides practical recommendations for planned activities in Modules B to E.

**Module B: Varietal selection, introduction and seed production**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Recommended sub-activities</th>
<th>Possible outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1.3 and 1.5 Demonstrations in farmers’ fields and participatory variety selection</td>
<td>Identify women’s self-help groups through which 50% of women farmers participate in PVS events. Consider women-friendly approaches in PVS events as women do not know the names of potatoes (e.g. Kufri Jyoti). Document gender differences on variety preferences and the reasons behind this.</td>
<td>Women’s preferences are heard and reflected in potato variety development.</td>
</tr>
<tr>
<td>B3.1 Potato seed system study</td>
<td>Identify areas where women are involved in the seed-potato value chain (public and private sectors). In the case some women are involved, their gender-based challenges should be taken into account.</td>
<td>Women’s needs and interests are reflected in interventions and policies.</td>
</tr>
<tr>
<td>B5.1 Development of training materials</td>
<td>Develop women-friendly training materials (language, visual information, using women’s images) and methods (time, venue, husband’s agreement). Include gender considerations in the manual.</td>
<td>Extension workers understand gender-sensitive approaches. Women farmers gain knowledge on seed potatoes (at least 30% of participants will be women farmers).</td>
</tr>
</tbody>
</table>

**Module C: Demonstrating sustainable and climate resilient production practices**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Recommended sub-activities</th>
<th>Possible outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2.2 Establish on-farm comparative demonstrations</td>
<td>Involves women’s groups in demonstration activities (at least 30%). Identify the social feasibility of different practices (e.g. impacts on male and female labour).</td>
<td>Social and gender aspects of practices (feasibility) are assessed and included in the recommendation.</td>
</tr>
<tr>
<td>C3.1 Development of training materials</td>
<td>Develop women-friendly training materials (language, visual information, using women’s images) and methods (time, venue, husband’s agreement). Include gender considerations in the manual.</td>
<td>Extension workers understand gender-sensitive approaches. Women-friendly materials are distributed and used.</td>
</tr>
<tr>
<td>C3.3. Training of farmers</td>
<td>Involve women’s groups for training (at least 30%).</td>
<td>Women farmers obtain the knowledge of sustainable intensification and practice them through the existing self-help groups.</td>
</tr>
<tr>
<td>C3.5. Interactions with local media</td>
<td>Proposes media to make a program on the roles of women in potato production, highlighting how women benefit from this project.</td>
<td>Women are recognised and acknowledged in public.</td>
</tr>
</tbody>
</table>
### Module D: On-farm post-harvest management

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>D2.2 Use of different low-cost potato harvesters</td>
<td>Assess how the harvesters can contribute to saving the labour of women as well as men.</td>
<td>Women’s labour and time for harvesting are reduced.</td>
</tr>
<tr>
<td>D3.1 Design and test low cost stores</td>
<td>Reflect women’s opinions in designing and testing (women are responsible for store management in their gender norms).</td>
<td>Low-cost stores are designed by reflecting women’s needs. Low-cost stores are accepted and supported by men.</td>
</tr>
<tr>
<td>D3.2 On-farm testing of the use and farmers’ acceptance of Bt-based biopesticides</td>
<td>Invite women farmers, as well as men farmers, in biopesticide uses.</td>
<td>Women gain knowledge and practices of biopesticide. The benefit of biopesticides for women farmers is documented. Biopesticides are scaled up through women’s social networks.</td>
</tr>
</tbody>
</table>

### Module E: Enterprises development

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>E1.3. Training of VCS facilitators (to be identified by ARIASS)</td>
<td>Provide gender-awareness trainings to all facilitators in ToTs. Involve women as trainers.</td>
<td>Both male and female facilitators have the capacity to run trainings in gender-sensitive ways (women’s needs, capacity and interests are considered in training methods).</td>
</tr>
<tr>
<td>E1.4. Implementation of VCS by local facilitators to bring identified new products on the market</td>
<td>Identify the communities where there is a demand for entrepreneurship for women. Design curriculum and contents that suit women’s capacity and needs.</td>
<td>Women are involved in entrepreneurship Men support women’s entrepreneurship.</td>
</tr>
</tbody>
</table>
References


CIP is a research-for-development organization with a focus on potato, sweetpotato and Andean roots and tubers. It delivers innovative science-based solutions to enhance access to affordable nutritious food, foster inclusive sustainable business and employment growth, and drive the climate resilience of root and tuber agri-food systems. Headquartered in Lima, Peru, CIP has a research presence in more than 20 countries in Africa, Asia and Latin America.

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RESEARCH PROGRAM ON
Roots, Tubers
and Bananas

Opportunities and constraints for women:
Recommendations for building gender-responsive potato Value chains in Assam, India

Improving Farmer’s Livelihood through Sustainable Intensification and Diversification of Agri-Food Systems with Climate-smart Potato Technologies

CIP-APART Potato Value Chain Program

Submitted to: Assam Agribusiness & Rural Transformation (APART) Project
Submitted by: International Potato Center (CIP)

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