

## **USAID Advancing Nutrition India**

Technical Brief: Promoting Improved Nutrition through Private Sector Engagement in Assam, India



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# Acronyms

ASRLM	Assam State Rural Livelihoods Mission
FPC	farmer producer company
FSP	financial service providers
FAO	Food and Agriculture Organization of the United Nations
GST	Goods and Services Tax
JSI	John Snow, Inc.
KII	Key Informant Interview
NDTV	New Delhi Television
PSE	private sector engagement
PG	producer group
SBC	social and behavior change
USAID	U.S. Agency for International Development
WSHG	women's self-help group

# Executive Summary

Over the course of USAID Advancing Nutrition's implementation in Assam, India between 2021 and 2023, the project reflected on the challenges to and opportunities for engagement with private sector and other supporting actors to drive increased agricultural productivity, particularly among female producers, for improved diets. In Assam, India, increased agricultural productivity is crucial for improved nutrition outcomes. USAID Advancing Nutrition's 2022 social and behavior change (SBC) research found that women's self-help group (WSHG) members overwhelmingly agreed that improving local productivity of nutritious crops was the primary way communities could improve their diets. However, producers face critical constraints to improved productivity, including limited access to required inputs like water, quality seeds, and bio-inputs, compounded by challenges in information dissemination and access to output markets.

USAID Advancing Nutrition aimed to understand how the private sector could be engaged to alleviate these producer-level constraints. Through a series of district and state-level consultations, as well as key informant interviews, we found that private sector actors encounter obstacles in reaching rural producers effectively. They consider market opportunities to be limited due to low adoption of improved practices and inputs at the village level, fragmented markets, and significant distances from commercial centers. Their hesitancy to invest in rural procurement also stems from concerns over productivity, aggregation, and food storage practices.

Government and donor-funded programs and activities can help address these concerns. Specifically, governments and donors can invest in capacity strengthening efforts for producer groups (PGs) and other community institutions, targeted technical support for input manufacturers and retailers, better linkages between private sector input and output market actors and PGs, and support for financial service providers to reach rural producers. Looking ahead, it is imperative that future investments prioritize addressing these constraints to drive sustainable agricultural development and foster healthier, more resilient communities across Assam.

# Introduction

## USAID Advancing Nutrition India

USAID Advancing Nutrition India provides technical assistance to government and public sector partners in Assam to demonstrate the potential for community-led nutrition-sensitive agriculture to achieve our goal of improving diets while engaging with potential private sector partners to identify pathways for sustainable, scalable actions. We implement activities under three specific objectives:

- Strengthen women-led nutrition-sensitive agriculture practices and business opportunities
- Strengthen partnerships among multi-sectoral and multi-interest nutrition stakeholders to implement nutrition-sensitive agriculture activities
- Document lessons learned and best practices and disseminate them through a learning platform

## Objective

This brief documents opportunities and challenges and outlines potential approaches to foster private sector engagement (PSE) to promote increased productivity and growth of the horticulture and aquaculture sectors in the target districts in Assam, India. The technical brief is informed by a 2023 Rapid Market Assessment, district- and state-level PSE consultations as well as the 2022 SBC formative research.

# Background

## Nutrition Situation in India and Assam State

Despite considerable economic progress in recent decades, 224.3 million people in India are undernourished (FAO 2022). *The 2022 Global Hunger Index* ranks the country as 107 among 121 countries, placing it at the level of “serious hunger” (von Grebmer et al. 2022). In 2020, findings from the *National Family Health Survey (NFHS-5)* showed an increase in stunting among children under five years old in 13 of 22 states and union territories reported through December, as well as an increase in wasting in 12 of 22 states and union territories (Chatterjee 2021). The COVID-19 pandemic worsened food security and nutrition globally (FAO 2022). The Indian Women and Child Development Ministry estimated 927,606 children from six months to six years were “severely acute malnourished” across the country as of November 2020 (NDTV 2021). Potential reasons for the declines in progress include worsening economic and socioeconomic conditions, which often impact livelihoods (Chatterjee 2021).

Among Indian states, Assam is one of the poorest. It is home to 34 million people, one-third of whom live in poverty (NITI Aayog 2021). At the state level, 36 percent of children under five years are stunted, which has remained relatively unchanged since the fourth National Family and Health Survey (NFHS), conducted in 2015 (NFHS-5 2021). Among children in the same age group, wasting increased from 17 to 22 percent between the fourth and fifth NFHS (NFHS-4 2016).

## Private Sector Engagement to Support Increased Agricultural Productivity and Economic Opportunities for Improved Nutrition

Nutrition-sensitive agriculture offers dual pathways to improve diet quality and nutrition through activities that increase diverse, nutritious foods for consumption and economic opportunities that increase income for purchasing diverse, nutritious foods. The USAID Advancing Nutrition project supported activities to increase productivity within the horticulture and aquaculture sectors in Assam, India to increase the availability of nutritious foods for home consumption, as well as to increase incomes and empower women. However, additional resources are required for these activities to succeed. Female producers must have access to the necessary agricultural inputs and services, information, output market opportunities, and financial resources that enable them to invest in their livelihoods. Private sector can play an important role in enabling increased productivity by acting on the aforementioned opportunities.

# Context of the Private Sector in Assam

## Agricultural Productivity in Assam

Agriculture is an extremely important sector in Assam, making up 53 percent of the jobs in the state (ASRLM 2023). However, agricultural productivity in Assam trails behind national averages in all but a few crops. For example, though rice is one of the most heavily produced commodities in the state, Assam-produced food grains make up only 1.98% of the total yield for the country (Government of India 2017). Positively, yields have increased over the last two decades. In 2005-2006 productivity of food grains was 1,416 kilograms per hectare, which has increased to 2,139 kilograms per hectare in 2020-2021. For horticulture, Assam yields approximately 15 metric tons (MT) per hectare, compared to other more productive states, such as Uttar Pradesh with 22 MT/hectare or Punjab with 21 MT/hectare. Similarly, while fish is an incredibly important commodity in Assam state, production from Assam only makes up only 2.63% of the national yield (Government of India 2021).

## Constraints in Horticulture and Aquaculture Sectors

The following table provides a summary of constraints that producers, particularly female producers, face in increasing their horticultural and aquaculture productivity. These findings are informed by the FY23 rapid market assessment and the FY22 SBC formative research conducted by USAID Advancing Nutrition. Given the project’s focus on producer outcomes, the constraints are presented from the point of view of the producer, particularly female producer, rather than other market actors. (Please note: constraints related to self, household, and community gender dynamics that impact agricultural productivity are not covered in this PSE technical brief and can be found in the FY23 SBC strategy).

**Table 1. Producer Constraints Limiting Agricultural Productivity**

Constraint	Description
Limited access to quality inputs	Producers lack access to improved inputs, including water, quality seeds (horticulture), bio-inputs for fertilization and pest management (horticulture), quality feed (aquaculture), and quality fish seed/fingerlings (aquaculture). Constraints in access are due to limited last-mile sale and service provision of these inputs, as well as overall lack of quantity, in the districts and state.
Limited availability and access to on-farm technologies and services	There are specific technologies that, if adopted, could increase agricultural productivity as well as decrease labor and time burdens. Producers largely lack access to water pumps for irrigation and for filling and dewatering fish ponds, aerators to improve the water quality in fish ponds, and sprayers and power tillers.
Little access to information on agricultural production, weather, and marketing	Access to information is a significant constraint particularly for female producers. They feel they do not have the technical knowledge to be successful in horticulture and aquaculture activities and that classically, they have not been the target of outreach services, which have typically targeted men. Producers noted they lack knowledge on best practices in horticulture and aquaculture, market information, pricing for their production (which impacts their bargaining power), and climate forecasting. They said they do not know where to access this information (apart from the USAID Advancing Nutrition agriculture training).
Limited access to output markets	Limited access to output markets limits producers’ incomes. Related constraints include limited aggregation within rural communities, fragmented participation of women in PGs and farmer producer companies (FPC), lack of affordable transportation options, long distances to markets to sell production, limited



	mobility of women to travel to markets (due to gender norms), and poor bargaining power related to the lack of knowledge of market prices.
Limited financial capital	Producers lack financial resources needed to invest in their horticulture and aquaculture livelihood activities, including a lack of right-size financial products and limited consumer readiness at an individual and group-level to leverage financial services (e.g., little-to-no business planning).

## Private Sector Engagement in Assam

To address the aforementioned constraints producers in Assam face, agriculture and food systems development programs may seek to engage private sector actors to further spur agricultural productivity. Private sector actors are often an integral part of an agricultural system because they support the provision of information, training, inputs, output market opportunities, and productive resources. However, the private sector in Assam is fragmented and underdeveloped, with many of the previously mentioned roles filled by government programs or not at all, thereby hindering productivity potential.

### Private Sector Constraints in Investing in Horticulture and Aquaculture Sectors

USAID Advancing Nutrition conducted key informant interviews (KIIs) with 21 private sector actors in June and July of 2023 to better understand their constraints, perceived opportunities, and needs for adapting their business strategies to better reach rural producers. These include input and technology suppliers, output market buyers, and food vendors. The following reflections from the KIIs provide insights into these constraints.

**Lack of market opportunity/low business case for investment in rural villages:** The interviewed private sector actors felt that there was limited market opportunity to adapt their business strategies to better reach rural producers and therefore had a limited business case for investment. They outlined the following reasons for why they felt the market opportunity was low:

- There is little adoption of improved agricultural practices and improved inputs at the village level, which translates to low sales opportunity for private sector actors and service providers to sell improved products/services.
- Markets are fragmented and the distances between markets and rural villages are long, which makes it difficult for private sector actors to sell products/services or buy products from producers. The low demand for private sector products/services in rural villages makes the travel times less worthwhile, given there’s little opportunity once the private sector actor reaches the rural village.
- Private sector actors are hesitant to invest in rural procurement due to the combination of low productivity among rural producers, a lack of aggregation at the village level, and inadequate food storage practices (which can affect food quality).
- Private sector actors are hesitant to offer agricultural inputs via pay-back credit mechanisms or other flexible payment approaches because there is no guarantee of profit and the risk of weather-related shocks (such as flooding) is high. They noted that financial service providers could help address this issue by offering suitable financial products to producers, such as insurance, that could decrease producers’ risk.
- Regarding last-mile sale of food, food vendors felt that there was little opportunity or need to sell their products in rural villages. Respondents reported making their desired profits at shops in more populated, peri-urban areas and felt that it would be too expensive to establish sales channels in rural areas, as they would then have to share profits with sales representatives.

Some respondents noted that models in other parts of India (Karnataka and Hyderabad) have shown success where input retailers and/or food vendors have piloted similar last-mile vendor approaches (e.g., Tropical Agro System).

**Capacity and resource gaps for adapting business models:** In addition to the perceived lack of a business case, the interviewed private sector actors also noted gaps in their own knowledge, skills, and resources that would affect their ability to successfully adapt their business strategies.

- There is a lack of information on credit options as well as lack of interest to access credit due to various deterrents such as banks asking for many documents, not knowing how to apply, and a long wait time for loan or proposal approval (KII respondents mentioned some proposals submitted a year ago have yet to be approved). Respondents suggested that increasing service delivery to rural producers would require financial products that reduce their investment risks.
- Seller and producers don't have adequate marketing skills or knowledge to convince and promote their products and services, particularly in areas where there is little demand for new, improved agricultural practices or different foods. Respondents noted that they could benefit from training on improving their marketing skills, as well as more product-specific training (e.g., training from the International Fertilizer Development Institute on how to develop fertilizer cakes).
- Meeting business tax compliance procedures like GST (Goods and Services Tax) is necessary if private sector actors want to grow but these processes are challenging, as is hiring staff who are knowledgeable in these areas. This could be addressed through assured market and profit opportunities as well as training for private sector actors on legal compliance issues and GST.

# Opportunities for Increased Productivity for Nutrition

## Approach to Engage Private Sector and Enabling Actors in Assam

Enhanced PSE and increased participation of other enabling actors like the government of Assam, Farmer Producer Companies, and Producer Groups can help address the aforementioned gaps and challenges producers face, while also accounting for private sector constraints highlighted in the previous section. The interventions presented in this section acknowledge that the private sector is underdeveloped and markets are fragmented so some interventions propose a greater participation of other actors to address constraints. Additionally, the proposed interventions prioritize solutions that we believe will most efficiently address the constraints that rural, female producers face, rather than solutions further up or down the value chain.

**Table 2. Prioritized Interventions for Addressing Producers' Constraints**

Intervention	Constraints Addressed
Capacity strengthening for producer groups and other community institutions (e.g., farmer producer cooperatives, farmer interest groups) to competitively procure inputs/services, aggregate production, and sell production	Access to inputs; access to finance; access to output market opportunities
Targeted technical assistance for input manufacturers and retailers on opportunities to increase access to inputs for rural producers as well as basic business training (e.g., good and service tax, compliance issues, marketing)	Access to inputs, increased private sector capacity
Targeted technical assistance for financial service providers (e.g., district level banks and microfinance institutions) to explore opportunities to reach rural producers	Access to finance, increased private sector capacity
Business-to-business meetings to link last-mile service providers, producer groups, and entrepreneurs with technology manufacturers and retailers	Access to technologies/services
Targeted technical assistance for women self-help groups and producer groups to improve their packaging and branding	Access to output market opportunities
Establishment of rural seed banks to increase access to horticulture seeds	Access to inputs
Outreach activities conducted by community cadres, including training and follow-up visits to producers	Access to information
Targeted technical assistance to last-mile service providers to embed training/agricultural information in their outreach services to producers	Access to information, increased private sector capacity

## Detailed Intervention Description

The following tables provide details on interventions that will promote enhanced private sector engagement to address identified constraints in the agriculture and food system in Assam.

**Table 3. Capacity strengthening for Producer Groups and other community institutions (e.g., Farmer Producer Companies, farmer interest groups) to competitively procure inputs/services, aggregate production, and sell production**

Component	Description
Intended outcome	PGs and other community institutions (e.g., FPCs, farmer interest groups) have stronger processes that enable them to more effectively engage with private sector input providers and bargain for their members, aggregate productions from their members, establish relationships (formal and informal) with output market buyers, more effectively sell members' production, and access financial services.
Justification for intervention	A substantial number of PGs and other community institutions in Assam state are new and underdeveloped, which limits their ability to provide benefits to their members and impact members' productivity and incomes. In the district- and state-level PSE consultations, PG members noted their need for training on business planning and PG organization, leadership, and management.
Intervention description	Facilitate trainings for PGs to strengthen their organizational capacities, such as leadership, roles, and responsibilities; membership participation benefits and rules; and other desired services. The training facilitator/funder can explore the use of PG training institutes within India to provide this service. Subsequent activities should focus on linking PGs to private sector actors, including input providers, output market actors, and financial service providers.
Targeted market constraints	Access to inputs; access to finance; access to output market opportunities
Actors involved	PG members, president, and secretary; market support agencies for capacity building; Assam State Rural Livelihoods Mission (ASRLM), state- or district-level processing/product development units; wholesalers/aggregators, and producer companies

**Table 4. Targeted technical assistance to input manufacturers and retailers on opportunities to increase access to inputs for rural producers, as well as basic business training (e.g., Goods and Services Tax, compliance issues, marketing)**

Component	Description
Intended outcome	Input providers recognize the business case in adapting their marketing strategies to reach rural producers, particularly female producers, and increase the availability of quality inputs in last-mile areas.
Justification for intervention	The availability of quality inputs for the horticulture and aquaculture sectors is low. Input producers and manufacturers could invest in last-mile marketing strategies that increase the availability of inputs, while also increasing revenues for their businesses. With coaching and technical assistance on how they can better reach these segmented markets, manufacturers and retailers may be willing to pilot adaptations to their business strategy. Because private sector actors are hesitant to invest in last-mile service delivery, approaches should be nuanced and the business case well developed.
Intervention description	Host one-on-one or small group technical meetings with the selected manufacturers and retailers to describe the steps they may take to reach rural producers, particularly female producers. Supporting actors, such as ASRLM,

Component	Description
	community cadres, leadership from PGs/FPCs, may be important to include to receive input on the approach as well as to support community entry of the private sector actors. This intervention should be coupled with financial assistance from financial service providers and/or government schemes and programs to reduce risk when private sector actors first pilot the approach.
Targeted market constraints	Access to inputs, increased capacity of private sector
Actors involved	Seed suppliers, nursery entrepreneurs, other agricultural input and service providers, FPC presidents and secretaries, ASRLM, line departments at the district level, and co-operatives

**Table 5. Targeted technical assistance to financial service providers (e.g., district level banks and microfinance institutions) to explore opportunities to reach rural producers**

Component	Description
Intended outcome	Financial service providers (FSPs) recognize the business case in adapting their marketing strategies to reach rural producers, particularly female producers, and increase the availability of right-size financial products as well as financial literacy support services.
Justification for intervention	Producers lack financial resources needed to invest in their horticulture and aquaculture activities, which is due to limited availability of right-size financial services, low consumer financial literacy, and/or little outreach by FSPs to market products to producers. This untapped market has unrealized potential in terms of producer productivity and return on investment for FSPs. With technical assistance focused on demonstrating the business case for investing in rural producers and how to reach them, FSPs may be willing to adapt their strategies to better target rural producers.
Intervention description	Host one-on-one or small group technical meetings with the selected FSPs on marketing to and working with rural producers, particularly female producers. Supporting actors, such as ASRLM, community cadres, and leadership from PGs/FPCs may be important to include to receive input on the approach as well as to support community entry of the private sector actors.
Targeted market constraints	Access to financial services, increased capacity of private sector
Actors involved	RGVN (North East) Microfinance Limited, Assam Gramin Vikash Bank, North East Small Finance Bank, other microfinance institutions, and non-banking financial companies

**Table 6. Business-to-business meetings linking last-mile service providers, Producer Groups, and entrepreneurs with technology manufacturers and retailers**

Component	Description
Intended outcome	Producers are able to access technologies and services through last-mile service providers, PGs, and/or other entrepreneurs who sell the technology or provide the technological service for a fee.

Component	Description
Justification for intervention	Producers lack access to technologies that can increase their productivity and/or decrease their time and energy burdens, including but not limited to pumps, aerators, tillers, and sprayers. These technologies are not widely available or used in Assam state, particularly in rural areas. If more last-mile service providers, PGs, and entrepreneurs are aware of these products and able to buy or rent them from manufacturers/retailers, they can provide the service and/or sell the product to producers.
Intervention description	Host business-to-business meetings linking last-mile service providers, PGs, and entrepreneurs with technology manufacturers and retailers. The facilitator should provide technical assistance before, during, and after the event to facilitate business deals between the aforementioned actors by supporting the technology manufacturer/retailers to provide various payment plans that fit the needs of the buyers (e.g., lease to own).
Targeted market constraints	Access to technologies/services
Actors involved	FPC, PG, technology manufacturers and retailers, traders (wholesalers, retailers), aggregators

**Table 7. Targeted technical assistance to Women’s Self Help Groups and Producer Groups to improve their packaging and branding**

Component	Description
Intended outcome	WSHGs and PGs produce products (raw and value-added) that are more attractive to buyers by upgrading their packaging and branding practices.
Justification for intervention	WSHGs and PGs market various raw or value-added goods that are packaged and branded in some form. However, packaging and branding practices often do not meet the needs of the end-market buyers for hygienic, labeling, or reasons, which reduces the market potential for WSHG and PG products. In the district- and state-level PSE consultations, PSE members noted their need for technical assistance to improve their packaging and branding practices.
Intervention description	Host one-on-one or small group technical meetings with the selected WSHGs/PGs to review their current packaging and branding practices and provide recommendations.  ASRLM to explore expanding their ‘ASOMI’ brand name and logo for PGs to use. ASRLM to facilitate PG registration and licensing for bulk marketing WSHG products under the ‘ASOMI’ brand. Advertise PG commodities under the brand name in social media, print, electronic media, fairs, business-to-business meetings and other potential platforms.
Targeted market constraints	Access to output market opportunities
Actors involved	WSHGs, PG members, ASRLM

**Table 8. Establishment of rural seed banks to increase access to horticulture seeds**

Component	Description
Intended outcome	Producers are able to access quality seeds within their own communities.
Justification for intervention	Private sector input suppliers have limited coverage and investment in reaching last-mile areas with quality seeds, which limits producers' access to a necessary input. Community seed banks have been used with a high degree of success across India as a method to increase the availability of quality seeds within a community. Seed collections of different types of fruits and vegetables improves access to inputs for production of varied vegetables.
Intervention description	Provide technical support to Cluster Level Federations (CLF) for developing a sustainable model of seed supply system for rural WSHGs. Provide support to the CLFs to source seeds through varied modes such as government supply, using traditional methods at the household level, local markets, and others and aggregating them in rural seed banks to make a variety of horticulture seeds available to rural WSHGs.
Targeted market constraints	Access to inputs
Actors involved	CLF and WSHG members, ASRLM, seed suppliers

**Table 9. Outreach activities by community cadres, including trainings and follow-up visits**

Component	Description
Intended outcome	Supported by services from community cadres, producers have the necessary information and knowledge to adopt improved agricultural practices, plan for and respond to weather events, and sell their production at a fair, competitive price.
Justification for intervention	Producers lack information on improved agricultural practices, weather forecasts, and market prices/output market opportunities. This is particularly burdensome for women, who have not traditionally been the targets of training or outreach campaigns. Community cadres, including Krishi Sakhis and Pashu Sakhis, are seen as trusted sources of information for producers and can embed critical information into their regular outreach and training activities.
Intervention description	Train community cadres on a package of horticulture and aquaculture practices that, if adopted by producers, would increase their agricultural productivity. Support community cadres to implement producer outreach activities on the package of practices, including training and household follow-up visits.
Targeted market constraints	Access to information
Actors involved	Community cadres (Krishi Sakhis and Pashu Sakhis)

**Table 10. Targeted technical assistance to last-mile service providers to embed training/agricultural information in their outreach services**

Component	Description
Intended outcome	Supported by services from private sector actors, producers have the necessary information and knowledge to adopt improved agricultural practices, plan for and respond to weather events, and sell their production at a fair, competitive price.
Justification for intervention	Producers lack information on improved agricultural practices, weather forecasts, and market prices/output market opportunities. This is particularly burdensome for women, who have not traditionally been the targets of training or outreach campaigns. Private sector input/service providers have frequent touchpoints with producers that could be leveraged to disseminate knowledge on improved practices, weather forecasting, and/or market prices in a way that is beneficial to the producer and private sector actor.
Intervention description	Host one-on-one or small group technical meetings with the selected private sector actors to articulate the business case for embedding extension/counseling services in their business strategies and/or the opportunity to provide extension services for a fee. The private sector actors should receive regular support and training from relevant actors (e.g., ASRLM) on improved agricultural practices, as well as other relevant topics, such as marketing to female producers. Supporting actors, such as ASRLM, community cadres, and leadership from PGs/FPCs, may be important to include to receive input on the approach as well as to support community entry of the private sector actors.
Targeted market constraints	Access to information, increased capacity of private sector
Actors involved	Field extension workers from Agriculture and Fisheries departments, input and technology manufacturers and retailers, traders (wholesalers, retailers), aggregators



## Conclusion

In examining the challenges rural producers and private sector actors face in improving agricultural productivity and access to necessary inputs and services, it is evident that a multi-faceted approach is required. Producers grapple with critical constraints, including limited access to quality inputs, information, markets, and financial resources. Additionally, there is a pressing need for targeted capacity building and technical support in areas such as irrigation technology, equipment, and market information dissemination, especially for female producers. Private sector actors face their own set of hurdles, including a perceived limited business case for investment in rural areas, exacerbated by gaps in their own capacity and resources. These encompass challenges related to credit access, marketing skills, and compliance procedures. To effectively tackle these challenges, USAID Advancing Nutrition proposes a comprehensive set of recommendations. These include strengthening the capacity of producer groups and community institutions, providing targeted technical assistance to input manufacturers and retailers, and facilitating business-to-business connections. Additionally, supporting financial service providers to reach rural populations and enhancing community cadre outreach activities are essential steps towards bridging the gaps in agricultural productivity and access to necessary inputs and services. We recommend that future government and donor-funded projects consider the constraints rural producers and private sector actors face in improving the productivity of the horticulture and aquaculture sectors in rural Assam, India. Addressing these challenges can increase agricultural productivity and thereby increase incomes and food available for improved diets.

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USAID Advancing Nutrition is the Agency's flagship multi-sectoral nutrition project, addressing the root causes of malnutrition to save lives and enhance long-term health and

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