

# Practice Insight

## Agri-nutrition

### COUNTERING UNDERNUTRITION THROUGH COMMUNITY-BASED APPROACHES



#### Introduction

How would you improve the nutritional balance of food consumed by women and adolescent girls in one of the poorest states in India? Living Farms<sup>1</sup>, experimented with a solution that combined a community led approach with nutrition-sensitive agriculture, and natural resources - Participatory Learning and Action, Linking Agriculture to Natural Resources (PLA-LANN).

The program evolved to include 2,000 villages, leading to improved nutrition status for more than 1,00,000 households under the Food and Agroecological Approaches to Reduce Malnutrition (FAARM) project in 2016 with funding from the Azim Premji Philanthropic Initiatives (APPI). The intervention was aimed at improving dietary diversity and nutritional outcomes of the tribal population in eight blocks of *Rayagada* and *Kalahandi* districts of *Odisha*. Initially, it was implemented as a PLA intervention in collaboration with Welthungerhilfe<sup>2</sup> in 100 villages of *Rayagada* in 2011. Training support was provided to the personnel from Living Farms for the PLA component of the program by *Ekjut*<sup>3</sup> in 2012.

*Rayagada* is a district in *Odisha* with 57.52% of tribal population. *Kalahandi*, the second target district also has a predominantly tribal population. As per the data from the National Informatics Center (NIC), lack of nutritious food is a major reason for anemia among pregnant women in this district. A series of droughts and chemical intensive agriculture in the district has reduced soil fertility and rendered the region devoid of food and nutrition security. The diversity in local food has also shrunk due to aggressive promotion of monoculture.

#### The Context

Living Farms conducted a household survey in *Bissamcuttak* and *Munigada* before the implementation of the program to assess the nutritional status of pregnant women, mothers of children up to two years and children under five years of age.

The survey revealed a poor state of food security and the nutrition status in these blocks (see *Figure 1*). In addition to the lack of food security and undernutrition in the program blocks, the following bottlenecks were identified in the region:

- ▶ Minimal uptake of services from social welfare schemes such as Integrated Child Development

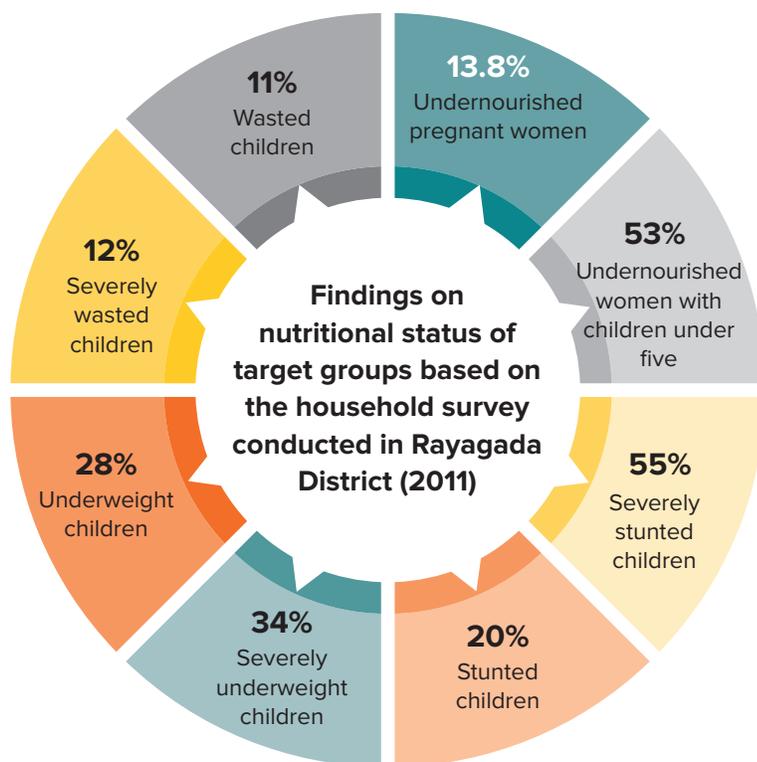
1 Living Farms is an NGO based out of Odisha working in the field of food and nutrition.  
2 Welthungerhilfe is an organisation headquartered in Germany working in the area of development cooperation.  
3 Ekjut is an NGO working in the field of the maternal, new-born and child health.

Services (ICDS) and Public Distribution System (PDS) by the people.

- ▶ Most of the people were dependent on farming, fishing, wage labour, small businesses, government employment and seasonal migration for their livelihoods. Very few people received benefits from the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA).
- ▶ Prevalence of gender inequality, whereby men were the decision-makers, both at the household and community level. The men favoured cultivation of cash crops over food crops due to the commercial value of the former.
- ▶ A very small amount of the yield was being used for consumption by the villagers.

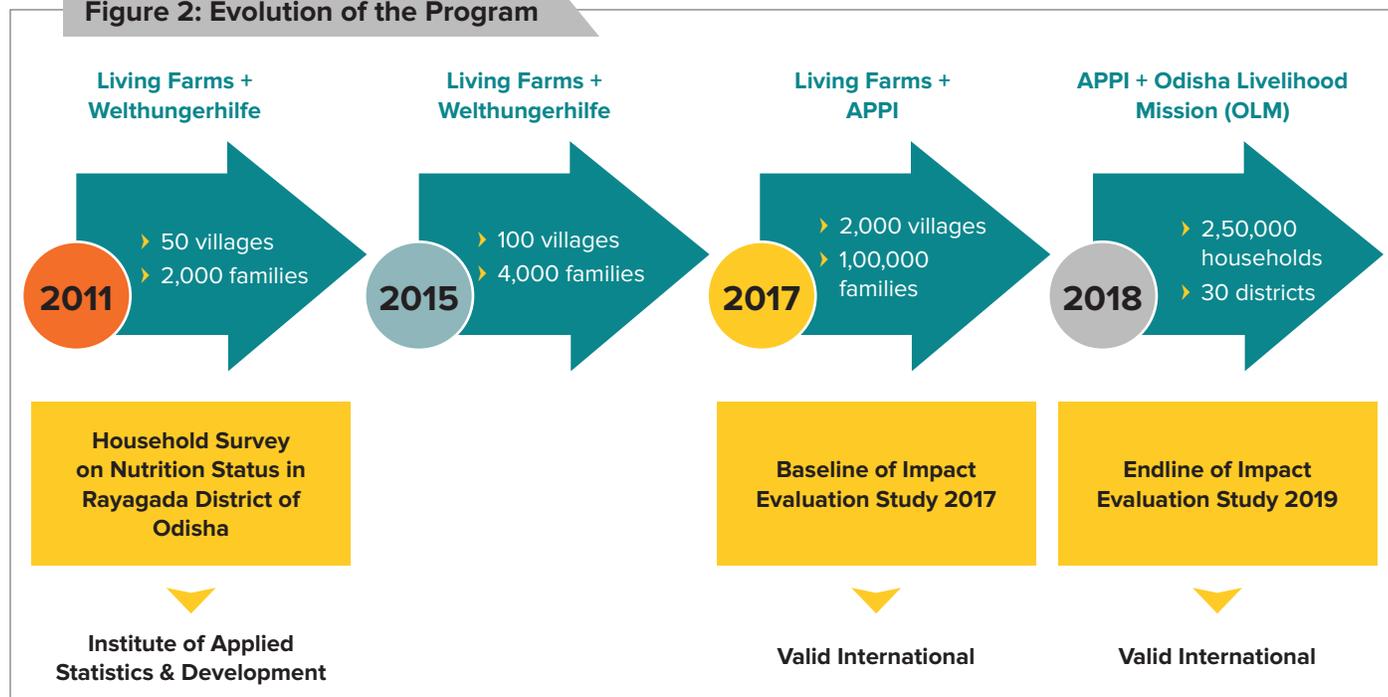
In order to address the problems identified in the survey, Living Farms designed the intervention using the PLA approach in partnership with Welthungerhilfe in 2011. The first phase of the program (2011-14) covered 50 villages and 2,000 families in *Bissamcuttack* block. During the second phase of the program (2014-17), the implementors added LANN to the existing program design.

**Figure 1: Findings from the household survey**



Insights from the initial stages of the program were used to scale it up to include 4,000 families in 100 villages in the same district in 2015. In 2017, the project was further expanded to 2,000 villages covering more than 1,00,000 families in *Rayagada* and *Kalahandi*.

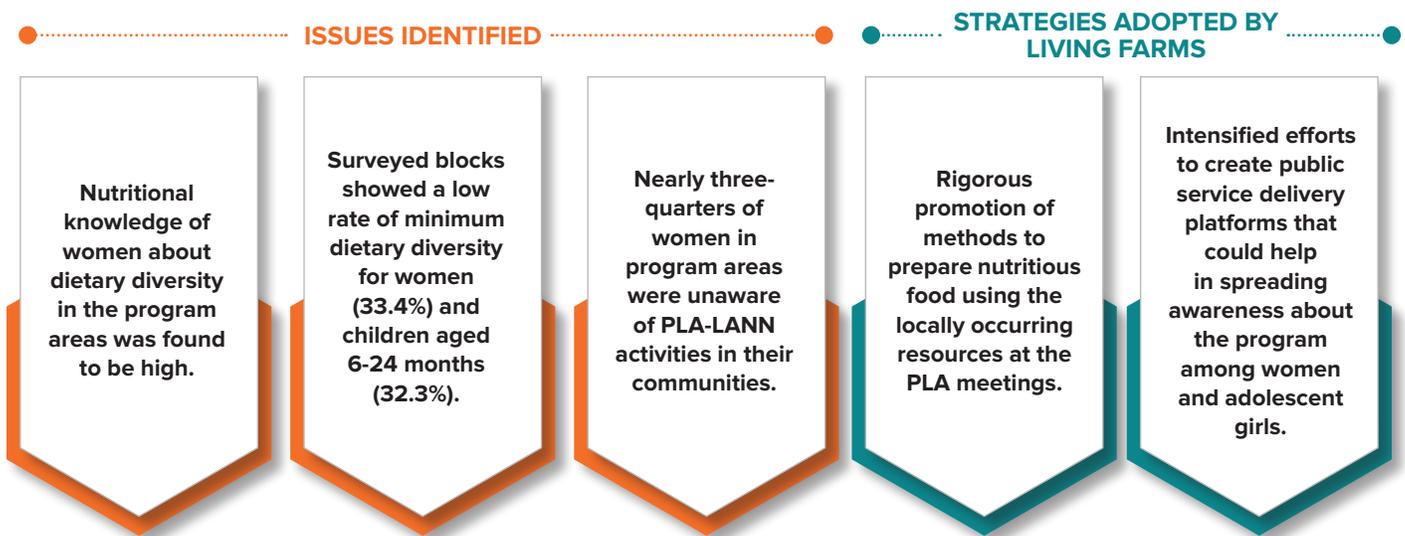
**Figure 2: Evolution of the Program**





A PLA session in action

**Figure 3: Findings from the Baseline of Impact Evaluation Study**  
**Target Groups: Children between 6-59 months & Mothers with Children between 6-24 months**



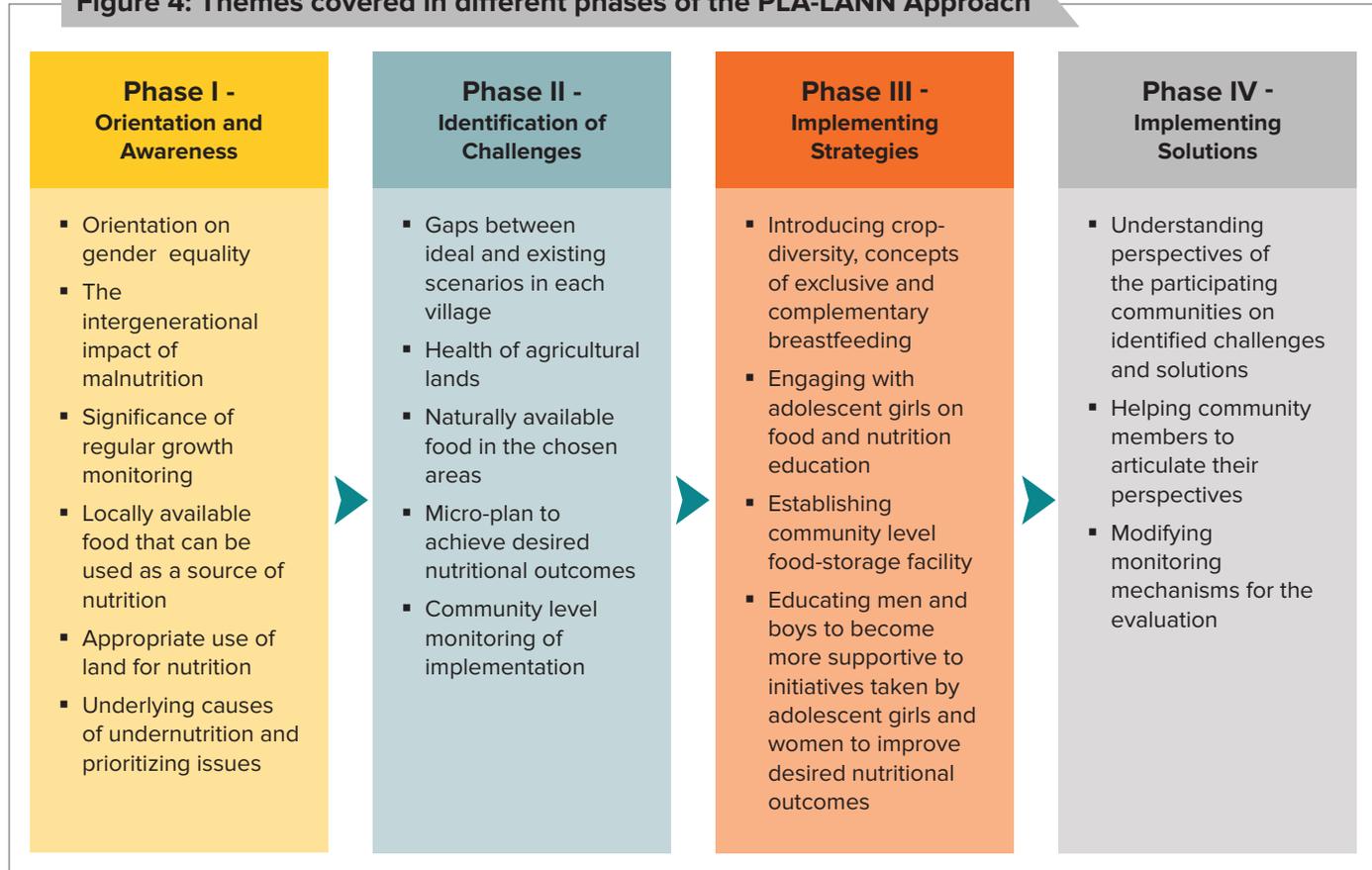
## Objectives of the Intervention

The PLA-LANN intervention was designed to test a model to address undernutrition among the tribal community with a high prevalence of malnutrition in *Odisha*. It promoted nutrition-sensitive agriculture and natural resource management strategy with the overall goal to ensure that women and children have access to balanced and nutritious diet. The project targeted diet diversity for 1,00,000 families belonging to the tribal communities in the state.

## Approach

The approach placed the community at the centre of the program. Design of the project linked nutrition with agriculture and natural resource management. It was implemented in four phases (illustrated in *Figure 2*). The intervention included 17 sensitization sessions to facilitate community mobilisation and collective actions to address the immediate and underlying causes of undernutrition.

**Figure 4: Themes covered in different phases of the PLA-LANN Approach**



## Key Interventions

The program aimed to transform agricultural practices, improve access to public services and re-establish the use of forests as a source of food through intensive community involvement.

### 1. Community engagements and regular meetings

Under the intervention a traditional platform of the participating community, called *Kutumba*<sup>4</sup> was used to facilitate the PLA-LANN meetings. The idea was to create a space where the community members could deliberate on undernutrition, its impact and ways to address it collectively.

<sup>4</sup> *Kutumba* or a village commune is a traditional meeting space of the Kondhs, based on egalitarian principles. Even though the knowledge and skill holders are accorded importance in the commune, their knowledge is used for the good of the entire community. Decisions taken in this space are participative in nature and are respected by all members of the community.

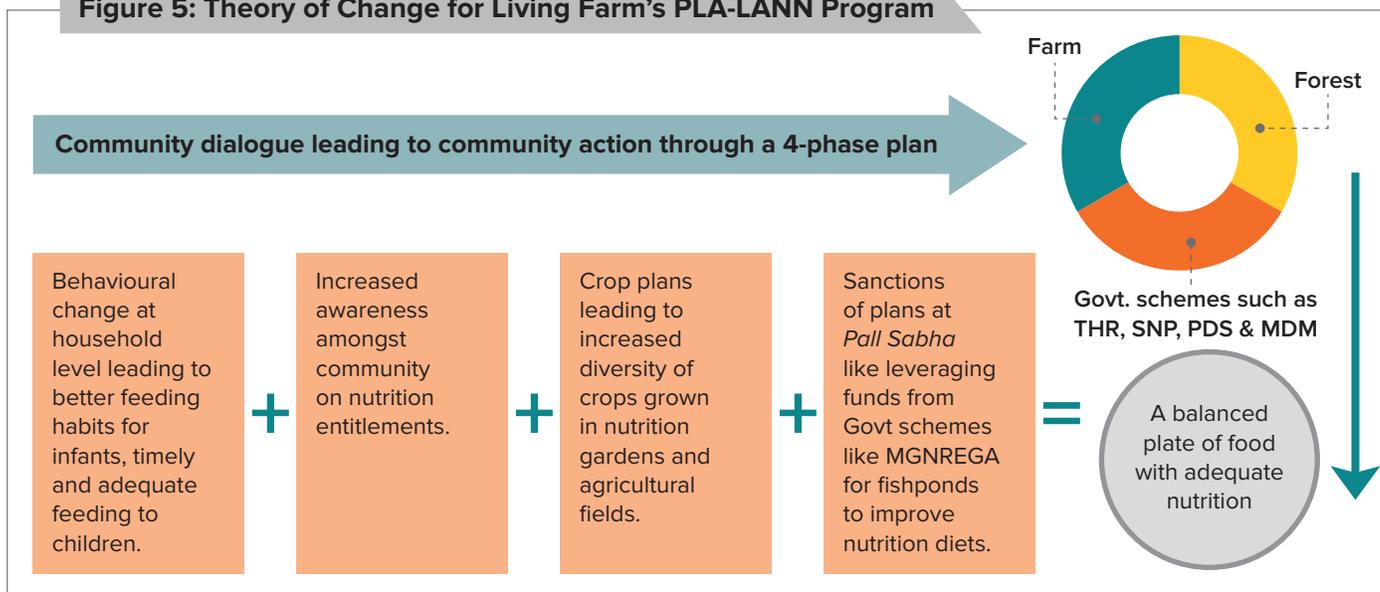
### 2. Conservation and management of natural resources

The facilitators identified that 25 to 40 per cent of the food being consumed in the region came from the forests. Monoculture being practiced in the region could eventually lead to shrinking of the forest biodiversity as a food producing habitat. To counter this, the facilitators held dialogues on forest regeneration. They mobilized the community members to collect seeds and saplings of fruits such as guava, jackfruit, banana and other locally occurring fruits for cultivation in the forests.

### 3. Mixed cropping

Living Farms leveraged the concept of mixed cropping in the program areas. The farmers in the region mixed short duration paddy, varieties of finger millets, little millets, foxtail millets, barnyard millet, proso-millet, sorghum, sesame, flax seeds, maize, velvet beans, tomatoes, ladyfingers, turmeric, sweet potato, yams, castor seeds, chillies and more, leading to healthier soil, a longer harvest period and greater food security.

**Figure 5: Theory of Change for Living Farm's PLA-LANN Program**



Source: Living Farms

#### 4. Nutri-gardens and nutri-fields

Young mothers and adolescent girls were trained and handheld to create nutri-gardens and nutri-fields. They were provided with seeds for crops that could be conserved and used for cultivation in subsequent years. The concept of nutri-gardens was promoted among families that owned land as well as the landless families. For the latter, a piece of land intended for nutri-garden was shared between 10-12 families for collectively cultivating and consuming nutrient rich fruits and vegetables.



Nutrition Garden

#### 5. Creating institutional mechanism for milling and storage of food

Households in the program areas used to sell some of the grains immediately after harvest due to a lack of milling facilities. Living Farms helped the farmers to establish these facilities. They also established a community regulated mechanism at the village-level to store nutrient rich crops such as rice, millets, pulses and oil seeds. Under this mechanism, a nutrition security credit line was issued to the members against procurement of crops that could be encashed during food-crisis.

#### 6. Creating visibility for the health service delivery platforms

Living Farms improved the community's access to public services by creating visibility and awareness for health service platforms in the following ways:

- ▶ Conducting PLA-LANN community meetings to create awareness among people in the region on the benefits they could avail under the public health services.
- ▶ Joining hands with the Frontline Workers (FLWs) to conduct structured home visits and group counselling sessions for adolescent girls, pregnant women and lactating mothers on nutrition and correct breastfeeding practices.

**Figure 6: Tools used**



## 7. Innovative forums

Food festivals were organised in the villages. During these events, young mothers, women and adolescent girls were trained to prepare nutritious recipes.

## 8. Convergence

The intervention was strengthened through collaborations with the Agriculture and Horticulture Department and the Department of Women and Child Development (DWCD) in the program areas. The farmers helped to overcome barriers such as access to seeds and plants for young mothers and adolescent girls to grow nutritious produce. The concept of nutri-gardens and nutri-fields were also promoted with assistance from local influencers and experienced farmers.

## Key Outcomes and Achievements

The following were the key outcomes of the project:

### i. Scalability

The PLA-LANN model experimented by Living Farms was expanded to 107 blocks under a

partnership between APPI and Odisha Livelihood Mission (OLM) to improve dietary diversity, nutrition knowledge and nutrition practice of women in the state. Under this intervention by OLM, 75,000 Self Help Groups (7.5 lakhs SHG members) are being trained on nutrition practices, establishing nutri-gardens, seed systems and backyard poultry in 30 districts.

### ii. Creating awareness

The women showed increased knowledge about causes of undernutrition and ways to improve nutritional intake for themselves and their children. They also displayed an improved understanding of exclusive breastfeeding period, complementary feeding and important food groups for lactating mothers and pregnant women.

### iii. Capacity building

The facilitators of the program recognized that empowering the community to take charge of their food security and nutritional requirements was key to the success of the program. They used community-based platforms to counsel the participating communities.

**Figure 7: Statistics on improved dietary diversity**

### Improved Nutrition Outcomes after the PLA-LANN Intervention

- ▶ Improvement in dietary diversity
  - 26 per cent (before the intervention)
  - 78 per cent (after the intervention)
- ▶ Improvement in Consumption by percentage points in program areas over control areas
  - **Pulses:** 12 percentage points
  - **Meat:** 9 percentage points
  - **Dark Leafy Vegetables:** 8 percentage points
  - **Other Vegetables:** 5 percentage points
  - **Other Fruits:** 10 percentage points



Source: Impact Evaluation Endline Study by Valid International

## iv. Improved nutrition outcomes

The nutrition outcomes improved significantly in the areas of program implementation. The endline impact evaluation report by Valid International showed significant improvement in the dietary diversity and consumption of nutrient-rich food among the participating communities. Details are listed in Figure 7.

## Insights

- i. PLA-LANN is an effective approach to address undernutrition in tribal dominated areas that lack food and nutrition security. Deepening critical consciousness of the participating communities on malnutrition, sustained dialogue with them and collective actions enable the community to take charge of their own problems and find solutions thereof.
- ii. Transforming agricultural practices to become more nutrition sensitive requires an in-depth understanding of the local culture, food systems, cropping patterns and practices. It helps the facilitators to adapt the program locally for desired nutrition outcomes.
- iii. Involving adolescent girls in the program brought a new perspective to the entire intervention and provided the required impetus to creating nutri-gardens. Leveraging adolescent potential

is a key learning that can be garnered from this intervention.

- iv. Including FLWs such as AWWs and ASHAs for counselling and training of the participating communities served two purposes. It helped in building capacity of the FLWs to sustain the program and generated demand for public services among the participating communities.

## Factors to Consider for Scaling-up PLA-LANN

- i. The effectiveness and efficacy of a larger scale program will depend upon the collaborative involvement of participating communities, NGOs, donors, Government departments and other resource organisations.
- ii. Strategies should be sensitive towards socio-cultural ethos of the participating communities and make the program genuinely participative in nature.
- iii. While components of the intervention should be simplified before the scale-up, it is important to ensure that the operational procedures integral to the effectiveness of the intervention are not compromised.
- iv. Scaling-up of the PLA-LANN intervention should be a consultative process with the involvement of organizations that were a part of the pilot project to provide an insight into the possible pitfalls.

## About WeCan

We Collaborate for Nutrition (WeCan) is a national level platform that documents and shares high impact nutrition interventions to enable cross-learning for increasing efficiencies among different stakeholders and development partners working to reduce malnutrition and improve the nutrition indicators across India. Funded and supported by the Bill and Melinda Gates Foundation (BMGF), the goals of WeCan are aligned to the overarching mandate of POSHAN Abhiyaan, a flagship program of the Government of India in the nutrition space.

WeCan was born out of the need for a common forum to facilitate cross-pollination of experiences and sharing of learnings amongst development partners. We do this by aggregating, collating and disseminating knowledge of replicable and proven nutrition programs being implemented by various organisations. The processes involved in the programs are captured in the form of Practice Insights (PIs). Custom products are developed based on the PIs for the ease of comprehension and wider dissemination.

## About APPI

APPI is a philanthropic initiative, passionate about making a tangible difference in the lives of people who are deeply disadvantaged, impoverished, underserved and marginalised. The organisation enables positive social change in partnership with their grantees. APPI supports projects across geographies in India. It partners and collaborates with civil society organisations, governments and other donors. While the aim of APPI is to meet the urgency of “here” and “now”, it also works with partners to bring lasting systemic change.

## About Living Farms

Living Farms is a non-governmental, not-for-profit organization working with forest dependent and *adivasi* communities in Odisha, India. Living Farms encourages communities to share and **preserve** local knowledge through participative intergenerational learning. It promotes and advocates for **ecological agriculture** as the foundation of food security and sovereignty. Their focus is on reorienting agriculture to produce diverse, safe and nutritious foods, addressing malnutrition and undernutrition, especially, for children and mothers. They also have a strong focus on re-orienting forest management practices and reviving traditional multi-cropping.

## For more info:

**Noveena Swapnabh**

Email: [wecollaboratefornutrition@ipeglobal.com](mailto:wecollaboratefornutrition@ipeglobal.com)

**Debjeet Sarangi**

Email: [livingfarms@gmail.com](mailto:livingfarms@gmail.com)

## Acknowledgments

Mr. Devjit Mitra, Azim Premji Philanthropic Initiative; Mr. Rajib Kumar Roul, Azim Premji Philanthropic Initiative; Mr. Jyoti Ranjan Rout, Odisha State Nutrition Secretariat; The participating communities of 8 blocks in Rayagada and Kalahandi, Mr. Bichitra Biswal, Living Farms; Mr. Subashis Behera, Living Farms; Mr. Haresh Prusty, Living Farms; Mr. Debjeet Sarangi, Living Farms

## Authors

**Anumeha Verma**, Research, Content & Documentation Officer,  
WeCan-IPE Global

**Rupa Prasad**, Programme Manager - WeCan-IPE Global  
(Current Designation - Executive Director, Public Health Resource Network)

## Co-Authors

**Priyanka Bajaj**,  
Nutrition Expert, WeCan-IPE Global

**Debjeet Sarangi**,  
Managing Trustee, Living Farms