

Early Learnings from the Agriculture Production Clusters Programme in Odisha

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Introduction

Agricultural productivity is measured as the ratio of agricultural outputs to inputs (e.g., land, labor and capital). Accelerating to a higher agricultural growth rate is critical for attaining food security. But the central challenge of Indian agriculture is low productivity-the average yields of wheat (46%) and rice (39%) are below China.¹ The reasons for low productivity in this country can be attributed to multiple factors, including excessive pressure of population on land, uneconomic landholdings, rainfed farming and inability to access capital. In India, the contribution of agriculture sector to the GVA has decreased from 51.8% (1951) to 14.4% (2018-19)² but continued to employ 50%³ of the workforce. Usually, as the economy matures, there is movement of excess agriculture to non-agricultural sectors. But in the absence of job-creation in higher productive sectors such as manufacturing and the service sectors, the workforce gets trapped in low productivity work with lower wages in agriculture. Moreover, Indian agriculture has been characterized by a “high degree of disguised unemployment.”⁴ The same report argues, if some amount of labor moved out of agriculture, it will not affect agricultural output or productivity.

The land is the primary asset in rural areas. Fragmentation of land is widespread across the country and plays a major role in explaining low levels of agricultural productivity. The study by Manjunatha et.al. (2013) through their research found that land fragmentation is positively and significantly associated with inefficiency. Accordingly, small farms appear to have lower efficiency than larger farms. Moreover, average profit efficiencies are higher for unfragmented, large, owner-operated farms and farms with diversified cropping patterns than small farmers operated by tenants and engaged in mono-cropping. Binswanger et. al. (1993) also identified the inverse relation between land fragmentation and agricultural productivity. The works of Heston and Kumar (1983), Bentley (1987), Blarel et al. (1992), Jabarin and Epplin (1994) have focused on the negative impacts of fragmentation on yield and productivity.

With agriculture being the mainstay for the majority of the population, 85% population operates as marginal and small farmers (landholding less than 2 ha.). Less than one percent population owns more than 10 ha. of land. Besides, farmers are also affected by unbalanced fertilizer consumption, the incidence of pests and diseases, inability to use HYV seeds, uncertain monsoons, and inadequate irrigation facilities, all of which greatly impacted agricultural productivity.

¹ Sreekanth, M. et al. (2017) *Low productivity of Indian agriculture with special reference on cereals*. Journal of Pharmacognosy and Phytochemistry. Vol. 6(5), p.239.

² Economic Survey 2018-19. Retrieved on November 25, 2019 from <https://www.prsindia.org/report-summaries/economic-survey-2018-19>

³ NSO (2019) *Annual Report: Periodic Labour Force Survey (PLFS)*. New Delhi: Ministry of Statistics and Programme Implementation (July 2017-June 2018). Retrieved on November 25, 2019 from http://www.mospi.gov.in/sites/default/files/publication_reports/Annual%20Report%2C%20PLFS%202017-18_31052019.pdf

⁴ FICCI (2015). *Labour in Indian Agriculture: A Growing Challenge*. New Delhi: FICCI. Retrieved on November 25, 2019 from <http://ficci.in/spdocument/20550/FICCI-agri-Report%2009-03-2015.pdf>

Table 1: Distribution of Holdings and Operated Area as per Agriculture Census 2010-11 – All Social Groups.

Size Groups	Number of Holdings ('000)	Area Operated ('000 ha.	Percentage of holdings to total holdings	Percentage of area operated to total area Average Operated area per Holding (ha.)	Percentage of area operated to total area Average Operated area per Holding (ha.)
Marginal (below 1.00 ha.)	92826	35908	67.10	22.50	0.39
Small (1.00-2.00 ha.)	24779	35244	17.91	22.08	1.42
Semi-medium (2.00-4.00 ha.)	13896	37705	10.04	23.63	2.71
Medium (4.00-10.00 ha.)	5875	33828	4.25	21.20	5.76
Large (10.00 ha. and above)	973	16907	0.70	10.59	17.38

Source: Agricultural Census 2010-11

Accordingly, Indian agriculture is symptomatic of the predominance of subsistence agriculture. This is due to low agricultural productivity, which results in low levels of returns and meager income, and contributing to low savings and lower opportunities to reinvest.⁵ To address the various aspects of agriculture ranging from input procurement to market linkages, the Government has been promoting Farmer Producer Organizations (FPOs.)

FPOs are set up to enhance land consolidation among small farmers and to integrate those farmers within an agricultural value chain. The success of an FPO lies in its ability to create forward and backward linkages within the agricultural value chain. There are 5,000 FPOs across the country as per the latest NABARD Report (2019). Membership of the FPOs varies between 100 and 1,000 members. The current FPOs are set up by different institutions, including Small Farmers' Agribusiness Consortium (SFAC),⁶ NABARD, and civil society organisations (CSOs) in the last 5 to 6 years. Under Mahila Kisan Sashaktikaran Pariyojana (MKSP) and the Livelihoods, annual action plan of Deendayal Antyodaya Yojana- National Rural Livelihood Mission (DAY-NRLM), small and marginal woman farmers get organized into Producer Groups (PG)⁷ at the village or cluster level. However, the model offered through the PGs are small and disaggregate. Consequently, in an attempt to promote member-owned and member-governed Producers' Enterprise (PE) is being promoted, which helps to attain economies of scale and better bargaining capacities, improved market and financial access,

⁵ Sreekanth, M. et al. (2017) *Low productivity of Indian agriculture with special reference on cereals*. Journal of Pharmacognosy and Phytochemistry. Vol. 6(5), p.241.

⁶ The SFAC a registered society under *Department of Agriculture, Cooperation and Farmers Welfare, Government of India* (GOI), is promoting *Farmer Producer Organizations* (FPOs) by mobilizing the farmers and helping them in registering as companies.

⁷ PGs are predominantly unregistered entities, organized as *Common Interest Groups* and engaged in localized marketing catering to local needs. PGs are provided with working capital and infrastructure structure by the SRLM through the *Village Organizations* (VGs) or *Cluster Level Federations* (CLF). SRLM support PGs in formation of business plans, which is based on *economies of aggregation* and aimed at reducing individual transaction costs. 75% of the PGs comprise of SHG members (an average PG has 35 SHG members) and trade in *multi-commodity* (agriculture, livestock of NTFP). To know more about PGs, read:

<https://aajeevika.gov.in/sites/default/files/Guidelines%20for%20Promotion%20of%20Producers%20Enterprises%20Under%20DAY-NRLM%201.pdf>

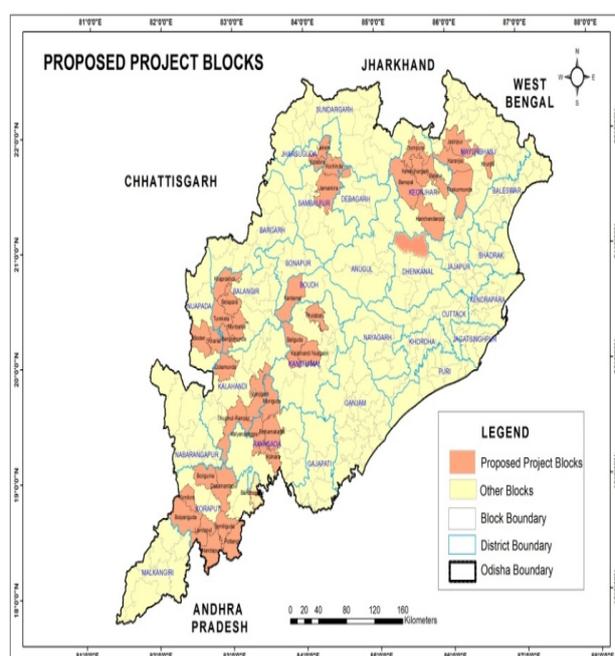
mitigate market risks by offering competitive prices for commodities and professional management.⁸

Agriculture Production Cluster: Odisha Experiences

Agriculture is the key source of livelihoods for the majority of the populace in Odisha, where 83% of the landholdings are in the marginal and small category. In order to improve the livelihood conditions of the cultivators and ensure sustainable diversification of livelihood options, the Directorate of Horticulture, Agriculture and Farmers' Empowerment Department, Govt. of Odisha entered into a formal partnership with the Odisha Livelihoods Mission, Bharat Rural Livelihoods Foundation,⁹ and Professional Assistance for Development Action (PRADAN) on November 6, 2018. The signing of the MoU resulted in the launching of a three-year programme, "Promotion of Agriculture Production Clusters (APCs) in tribal regions of Odisha."

Key Objectives of the Programme:

- To trigger growth in farm sector with the objective of sustainably double the income of INR 1 Lakh small and marginal farmers in the backward highland regions of the state;
- To establish the model of Agriculture Production Cluster (APC) in 40 backward blocks of the state, as an effective method to organize production system and services of markets.



This programme was expected to generate the following output:

- Cover 100,000 small and marginal cultivators in 40 backward blocks and 12 districts in the highland region of Western Odisha;
- Build 650 Producer Groups and 30 Agricultural Production Clusters (APCs)/Farmer Producer Organizations (FPO) across 40 blocks;
- Cultivation of high-value crops in 20,000 acres of land;
- Setting up an irrigation system in 16,000 acres of land by using the existing infrastructures and creating new irrigation infrastructure in the region;
- Introduce Non-Pesticide Management (NPM) in 40% of the areas;
- Focus predominantly on horticultural crops (e.g., vegetables, fruits, and spices) and 40% of the households will take up livestock rearing (e.g., goat and backyard poultry);

⁸ The value chain strategy of PEs under DAY-NRLM focus on promotion of market linked PEs, which promote a robust business model for better price realizations for small and marginal farmers and adds to organizational sustainability (DAY-NRLM Report 309954/2017/NRLPS, p. 5).

⁹ Bharat Rural Livelihoods Foundation (BRLF), set up by the Government of India as an independent society under the Ministry of Rural Development to scale up civil society action in partnership with the central and state governments, is currently supporting CSOs to promote livelihoods in highland regions of the Odisha. BRLF in coordination with CSOs aims to better channelize funds allocated by governments, banks, corporates and other philanthropic foundations for various public programmes, and ensure their proper implementation at the grassroots to generate best results. BRLF can mediate effectively with CSOs and Govt. to promote livelihoods of the region.

- Groom 750 market-linked Agri-Entrepreneurs as value chain enablers;
- Develop market routes and actors around the identified commodities in the regions.

Block selection was contingent on the general topography, which is hilly and undulating comprising of impoverished households (75% of household were to be considered “deprived” as per the latest SECC). Second, the blocks should constitute 35% (or more) Scheduled Tribe and Scheduled Caste. Third, two thousand or more households are organized either by the OLM or CSO to form the “growth nucleus” in the block. Finally, Finally, the block must have the presence of an active and vibrant CSO or CSOs.

Table 2: Districts and Blocks for the Programme

Sl. No.	District	APC block	Rural SC&ST %age	%age of household considered under deprivation (SECC)
1	Kandhamal	Phulbanisadar	77	88
2		Balliguda	69	85
3		Nuagaon	61	86
4	Rayagada	Bisamkatak	82	80
5		Kolnara	80	No Data
6		Muniguda	60	78
7		Ksinghpur	81	77
8	Kalahandi	Lanjigarh	70	86
9		Thuamul Rampur	84	95
10		Golamunda	43	93
11	Koraput	Borigumma	68	82
12		Dasmantpur	69	89
13		Semiliguda	62	90
14		Pottangi	73	89
15		Nandpur	69	91
16		Lamptaput	65	78
17		Boipariguda	73	91
18		Kundra	68	86
19	Keonjhar	Jhumpura	59	78
20		Patana	60	83
21		Banspal	84	No Data
22		Harichandanpur	64	83
23		KeonjharSadar	60	80
24	Mayurbhanj	Jashipur	78	85
25		Karanja	75	84
26		Thakurmunda	79	89
27		Khunta	84	87
28	Bolangir	Belpada	49	90
29		Khaprakhol	50	92
30		Bangomunda	36	92
31		Tureikela	48	93
32		Murivahal	42	No Data
33	Nuapada	Khariar	39	88
34		Boden	48	91

35	Jharsuguda	Laikera	68	82
36		Kulabira	61	79
37	Sambalpur	Jamankira	68	84
38		Kuchinda	66	83
39	Dhenkanal	Kankadahad	55	84
40	Boudh	Kantamal	39	90
TOTAL		40		

Across the country, PGs and PCs were set up by the CSOs independently, or as part of different programmes supported by the SFAC, NABARD, or the DAY-NRLM. Under the APC programme, the PGs and PCs are created by the CSOs, but the state government is responsible for the overall implementation of the programme. Accordingly, the APC is based on a convergence mechanism with different line departments for creation of irrigation infrastructure, agricultural mechanization, and setting up relevant livelihoods' infrastructures.

Table 3: Stakeholders and their Responsibilities

Stakeholders	Level	Responsibilities
Directorate Horticulture, Agriculture and Farmer's Empowerment Department	State	Nodal Agency for the programme responsible for APC programme coordinating with other line departments and facilitating effective implementation of the programme activities
Odisha Livelihood Mission (OLM)	State	Provide financial support for institution building (PGs and PCs) and capacity building of the CBOs.
Bharat Rural Livelihoods Foundation	Central	Select CSOs and provide financial support for setting up Programme Secretariat and field facilitation costs of the partner CSOs. Programme Management by monitoring, development and maintenance of web-based MIS
Lead Partner (PRADAN)	State	Ensuring working relationship with Directorate of Horticulture, OLM and BRLF for facilitating and support smooth implementation of the programme.
Directorate of Animal Husbandry and Veterinary Services; Odisha Lift Irrigation Corporation Ltd.; Odisha Agro Industries Corporation Ltd.; Agricultural Promotion and Investment Corporation of Odisha Ltd.	State	Leverage funds from existing Schemes and Programme for building irrigation infrastructure, agriculture equipment; shed construction for Goat and BYP and relevant livelihood infrastructures in Programme area.
Programme and Research Secretariat (PRADAN)	State	Coordination with state departments and district administration.
District ATMA Governing Board	District	Facilitates disbursement of funds to CBOs and CSOs. Regularly monitors the programme on a monthly basis. Administrative head of the Programme at the District Level.

Civil Society Organizations (CSO)	District	Monitors work of CBOs and CRPs for timely implementation of the programme. Build capacities of CBOs and Community Resource Persons (CRP). FAs are responsible for relevant financial and process documentation of CBOs.
Community Based Organizations	Block	Responsible for implementing of the programme with support from CRPs, FAs, Agri-Entrepreneur (AE), Udyog Mitras (UM) and Self Help Groups (SHG).

Discussions

The government is a key stakeholder in the APC Programme. The programme is based on a convergence mechanism of eight departments, including Directorate Horticulture, Agriculture and Farmer's Empowerment Department, Odisha Livelihood Mission, Directorate of Animal Husbandry and Veterinary Services, Odisha Lift Irrigation Corporation Ltd., Odisha Agro Industries Corporation Ltd., Agricultural Promotion and Investment Corporation of Odisha Ltd.

The APC Programme offers a unique opportunity for the CSOs to collaborate with the government. The state-CSO partnership addresses the issue of scale, longevity, and resource mobilization endemic to typical social programmes run by CSOs to a significant extent. In standalone livelihood programme, CSOs struggle to raise funds from government and non-government funding agencies to implement programmes. Additionally, the community buy-in for government programme is much higher than private ones. The CSO based in Koraput notes the ease in community mobilization for the government-backed APC program compared to other programs that they have been working on. This CSO working in the area for a long time, felt that in spite of the CSO's intensive engagement with the communities, the latter continue to view the government as the single most agent for providing social assistance. *The ever-looming presence of the state through the local government institutions and the idea of welfare that governments evoke especially with the advent of large-scale programmes like MGNREGA and NRLM.* The CSO would acknowledge that community institutions that are being promoted under such government initiatives often serves more than one singular purpose and continue to have higher acceptance and legitimacy from the community as well as from local government institutions.

Although discussions with the CSOs revealed few of the ownership challenges inherent in the APC programme. Certain government officials believed that the programme implementation entirely rests with the CSOs rather than the line department. In Pottangi, line departments view the CSO staff as an extension of their staff and often delegate departmental duties to them. While this would allow the CSOs to develop a working relationship with the respective line departments, the line departments fail to grasp their roles and responsibilities within the programme. In fact, the CSO felt that the role of the BDO is crucial in ensuring accountability since he/she is in effect the authority for all the line departments at the block levels. In Pottangi, the initial lack of support from the line departments had been addressed with pressure from the BDO. This has led to better convergence of certain initiatives with more active participation from the departments.

At the block level BLCC meetings, CSOs meet with representatives from all the concerned line departments to review the progress and challenges faced. While all departments are usually present, the lift irrigation department (OLIC) has consistently failed to send its representatives to the meetings. In Pottangi, out of the twenty-five lift irrigation structures, less than five structures are operational. In most cases, the structures no longer exist or remain damaged beyond repairs. Many of the irrigation structures were constructed in areas that did not have a water source and lasted barely a few months. CSO mentions that it is been extremely difficult to get hold of irrigation officials for meetings. Issues of corruption, ranging from rent-seeking by lower-level officials in lieu of ensuring services to the farmers to downgrading the quality of work delivered are also quite rampant. The CRPs mentions that in a number of villages, both construction of electric poles and providing electricity connections were left to the contractor. Barring the raw materials, the contractor made the community do all of the labour work without paying wages. Members of the community, who were unwilling to pay this amount often ended up receiving electricity late.

Following the commencement of the APC programme, CSO has been working with the communities to set up irrigation structures. Accordingly, for the construction of irrigation structures across multiple villages, communities have been forced to pay token amounts amounting to several thousand rupees. When in reality, Community River Lift Irrigation Programmes should be set up free of charge by the irrigation department, and communities are expected to bear only the electricity costs associated with operations of the structures. Surprisingly, the community did not object to the payments since the irrigation department is well known to the people in the community.

Broadly, the challenge for the government taking up development programmes designed by CSO are many, ranging from political to purely resource based considerations. Instances of innovative models of welfare service delivery developed by CSOs and adopted by governments are few and far between and often involves extremely high costs. A middle path is to provide CSOs working in the grassroots with a seat at the policymaking table, ensuring that their voices are heard when designing social policies. Participation of such stakeholders at the higher echelons of welfare policymaking ensures that one have a better understanding of the poor think and behave and how welfare service delivery by states can be improved.

For CSO operating in Borigumma block in Koraput, it has received little or no support from the Odisha Livelihoods Mission (OLM). Until May, the OLM DPM was not aware of the APC programme and as a result PG formation got delayed and the CSO started operating only after March this year. In fact, currently CSO has had to support the OLM for mobilising women for formation of SHGs. The CSO mentions that currently human resources available to the OLM is very limited. For the entire block of Borigumma with over 1,500 SHGs, there is one block programme manager along with 2-4 other staff. Community staffs such as CRPs and MBKs are also not optimally used. Incentives for CRPs and MBKs are fairly low and often not received after considerable delays. The CSO pointed out that selection of community-based cadres is done on a promptly basis but the management of these resources lead to sub-optimal outcomes. The OLIC for instance too has been slow in responding to applications for borewells. The CSO submitted applications in 2017-18, but the agency has only recently completed the digging.

At the block level there multiple centrally and state-sponsored schemes implemented through various line departments. Consequently, the staff mostly have little or no knowledge of the specific schemes. This is evident from the interview held with the Junior Engineer of the OLIC

department in Lanjigarh. On being asked about his thoughts towards the APC Programme, he did not know, even if it has been running for nine months. This was also the case in Pottangi, where the line departments have limited understanding of the APC programme mandates. In Lanjigarh, feasibility studies and approval for three new programmes of lift irrigation were complete. Six revival programmes were being planned alongside. The revival programmes include minor repairment work on existing structure that have become dysfunctional. Work was expected to start in November. Additionally, application for construction of 180 borewells in certain parts of Lanjigarh has been submitted in the past two years, 39% of the applications were approved, but construction work have started on 14 out of 70 applications approved in the first year. Interestingly, even if the Junior Engineer remains unaware of the APC programme mandate. He is quick to point out that the increasing CSO involvement with the community has resulted in the communities becoming more articulate and knowledgeable about their needs.

Considering rainfall variability and lack of irrigation facilities in the APC programme area, the OLIC is expected to play a critical role in addressing the water needs of the community. But in Kalahandi district with 310 GPs covering 13 blocks, the OLIC operations have been greatly affected by staffing issues. There is one staff to serve 20 GPs, which had more than one lakh population. Being understaffed poses a serious challenge for the department since it is unable to conduct timely surveys, hold regular staff meetings, and convey information, which prevents the OLIC from being more effective to address community needs. The problem of staffing is not just an issue with the OLIC, but all the line departments at the district and block level. In Boipariguda block of Koraput, the cluster borewell scheme has been planned for the past two years along with the approved budget. But staffing issues and contractor unwillingness to take up the project has contributed to the failure to implement the project.

In the case of the Directorate of Animal Husbandry and Veterinary Services, as part of the APC programme, it was expected to provide chicks to the beneficiaries for the promotion of backyard poultry. But the chicks given to the beneficiaries died within a couple of months after distribution. Moreover, the department has been unable to cater to the vaccination needs of the beneficiaries with livestock remaining unvaccinated for extended periods of time. When inquired and questioned, the department acknowledges its inability to deliver, due to lack of manpower and insufficient availability of vaccines. Often when the department does not manage to conduct vaccination drives, the delayed contributes to an incomplete vaccine cycle, rendering the vaccination ineffective. There also seems to be an issue with department ability store vaccines at the local level. Without appropriate storage capacities, often the limited vaccines that are available become useless. The CSO, in fact, has had to coax and accompany the vet department staff to visit the beneficiary with staff even requesting the farmers to manage the transportation.

The Horticulture department too had failed to provide saplings for plantation on time. Under the current arrangement, the department is expected to provide saplings to the beneficiaries by charging a token price of INR 25.50¹⁰ per sapling. They can receive up to 40 mango saplings per acre. The beneficiary pays a higher price for cashews and receives up to 80 cashew plants per acre. As the majority of the beneficiaries do not always have the money to invest in mango or cashew saplings, the CSO is forced to extend loans to the farmers for acquiring the saplings. Consequently, the individual CSO employee serves the guarantor for the loan handed to the

¹⁰ The practice of collecting token money is to generate ownership for the saplings among the farmers (under the MIDH scheme). The token money is refunded to the farmers as subsidy along with resources for managing and protecting the saplings. The total resources allocated is INR 12,500 per hectare with the transfer taking place in tranches.

farmer. Moreover, farmers fail to set up plantations on time, even if the soil has been prepared since they failed to receive the saplings from the department on time. Mostly they receive the saplings after the monsoon has set in the area. These events trigger a trust deficit between the community and the department.

According to another CSO working in the Boipariguda block of Koraput, the block Agriculture Officer (AO) also failed to understand the objectives of the APC programme. The CSO is in the best place to inform the different line agencies about the status of the work, including the AO. The AO has previously been reported about the changes and situations prevailing in the villages post the PG formation. The AO is then responsible for conducting regular meetings with the BDO to discuss the progress of the programme in a timely manner. Although the Block Division Officer (BDO) is the programme head for APC at the block level the AO plays a nodal role among the different line agencies. In every GP, there is a Village Agricultural Worker (VAW) reporting to the AO regarding the demands and needs of the farmers pertaining to seeds, saplings, and fertilizers. The VAW informs the AO regarding any decisions and demands taken at the PG level. The VAW is assisted by Krishak Sathi, who introduces and creates a linkage between VAW and farmers. The VAW is appointed and paid by State Government, while Krishak Sathi is appointed and paid by ATMA.

Fund delays or inadequate funds release by the various departments can be a major deterrent for the success of the APC programme. As per the discussions held with the CSO working in Lanjigarh and Thuamul Rampur, OLM helped in the formation of SHGs and made communities aware of banking practices and its importance. However, when one speaks about livelihood it cannot just restrict itself towards only achieving financial inclusion through linkage with banks. Programmes like APC will assist in providing the beneficiaries with concrete measures and sources of livelihood. The OLM model, in fact, will be helpful in complementing the APC model. According to the Block Programme Manager (BPM) of the CSO, the primary objective of models such as NRLM, OLM and APC is one and the same that is enhancing rural livelihoods of the marginalized communities of the country and state. Social inclusion along with financial inclusion can be brought about through collaboration between OLM and APC. The other reason cited by BPM is that funds under OLM are inadequate to achieve its primary objectives for all the beneficiaries. Even though social inclusion to an extent can be possible, financial inclusion for all the beneficiaries might not be feasible with the allotted fund. In one Gram Panchayat Level Federation (GPLF), 50 SHGs are assigned a total of INR 15 lakhs. But the sum is inadequate, considering one SHG should be assigned a minimum sum of INR 50,000. Thus, either not all the SHG receive funding or all the SHGs receive inadequate funding.

Community response to APC:

Today, following the formation of PGs, the cropping seasons have extended from two to four. The key crops according to the cropping seasons is mentioned in the table below:

Cropping Season	Period of Year	Crops
Early Kharif	Mid-April- Mid-June	Chillies, Brinjal, Beans, Ginger.
Kharif	Mid-June-Mid- September	Ginger, Brinjal, Beans, Sweet Potatoes
Post Kharif	Mid-September – End-October	Tomatoes, Cauliflower.
Rabi	November- February	Green Pea, Brinjal.

Beyond the main objective of increasing income for households, the APC programme also attempts to resist distress migration. Distress migration poses a significant challenge in Western Odisha. In the Lanjigarh block of Kalahandi, the majority of the male members left their homes to work as casual labourers in Kerala from October to January. They left their homes because they operated as subsistence farmers since the region did not have any irrigational facilities. With the acute water crisis and the lack of alternative livelihoods, the community was forced into becoming agricultural and non-agricultural labourers. On a few occasions, some of the labourers endured extreme hardship while working in agriculture. A woman reported that her son lost two fingers while working. In another incident, two men were locked up in a room for days and villagers collected INR 5,000 to find them. Later the duo managed to escape back to the villagers after weeks of confinement. In the Pottangi block of Koraput, landless farmers engaging in share-cropping or lease farming undertook seasonal migration to nearby cities and towns of Andhra Pradesh. However, in the last decade, there has been an increase in the number of jobs available through MGNREGA. Additionally, there have been multiple instances when the male members of the community failed to return to the respective villages for extended periods, have met with accidents, or worked in very poor conditions. Following the commencement of the APC programme, distress migration is expected to come down as landless households take up backyard poultry or setting up goatery.

In Baipadiguda block, the CSO worked closely with the community to transform existing SHGs into PG. SHGs of five villages were brought together to form a PG. At present, there are 113 PG members. Through the mobilization efforts, the PG membership is expected to grow to 150. The CSOs are working closely with the SHG to ensure synchronized farming and identifying three winners¹¹ crops, including tomatoes, pumpkin, and brinjals. In the case of brinjals, following the setting up of PG, a household receives INR 13.50 per kilo (before PG formation, they received INR 12 per kilo) for selling produce. The wholesaler buying the produce bears the transportation costs and manages to sell at INR 20 per kilo. Typically, a household receives INR 6,000 from selling brinjals in a season. This is an additional income since they were engaged in subsistence agriculture before the APC programme. In Thuamul Rampur block, PG formation has helped women farmers double their incomes from vegetable cultivation and livestock rearing. Once the PG has been set up, women farmers took loans from respective SHGs, to grow vegetables and rear livestock. Farmers were engaged in subsistence farming. Post PG formation, women farmers started engaging in synchronized farming (collectively setting up seedbeds and growing saplings). Before the PG was formed, the farmers sold brinjals for INR 10-20 per kilo. After PG was constituted, farmers sold brinjals for INR 30 to 40 per kilo, while doubling their profit margin even if the block was located 45 kilometers from Bhawani Patna, the district headquarter. Additionally, PG formation has helped the women farmers to work, collectively with an increase in bargaining power. Women farmers feel more confident as decision-makers.

Today, the CSO working in this area, note the gradual interest of the community to incorporate agronomic practices over traditional broadcasting method. Additionally, the decision-making dynamic has witnessed a shift in favour of women. While women worked much more than men in the field, decisions about the type of crops rests with the male members of the households. After PG formation, women are making decisions on type and methods for crop cultivation, taking into account the market dynamics and in-consultation with the CSO. As women spend more time with each other during PG meetings, they also become knowledgeable about

¹¹ Identification of winner crops (primarily vegetables and spices) in consultation with communities is something that's carried out as the first step after the formation of the PG. these winner crops are selected based on market demand as assessed by the CSO, the agro-climatic suitability for the crops and so on.

government schemes and programmes, as they start exercising decision-making in areas of family health, education and sanitation choices.

Before the APC Programme, a male member who took decisions regarding the crops to be cultivated. Following the APC programme, PGs were formed, while providing a platform for collective learning and collective empowerment. While the purchase of inputs, just like the sale of the surplus was done individually and often done at the behest of the male head of the household. Decisions concerning types of crop that were to be cultivated were taken jointly. Additionally, for maximizing the profits, PG members agreed to engage in cultivation in a synchronized manner. As revealed during the focus group discussions, male members of the community were of the opinion that post-PG formation, the decision mechanism had tilted in favour of women both with regard to types and quantity to be cultivated. One of the women mentioned, “the reason why we are sitting here and talking to you instead of the men of the households is that the formation of PGs has made us more confident in our ability to talk business.” In fact, the formation of these larger collectives of women across villages has also given them the ability to concern themselves with issues that are beyond agriculture. Beneficiaries mention that in the last month, they collectively decided to shut down all liquor shops in the gram panchayat through protests and agitations. Thus, PGs have the potential to not only make a woman have higher leverage in household decision-making but have an effect on the social fabric of their communities as well. On inquiring as to how they would be selling their produce, the women say that they can arrange vehicles on their own and can take it to large markets in nearby Andhra Pradesh.

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In Bandiguda GP of Borigumma block, following the formation of PGs based on SHG membership, the majority of the beneficiaries mentioned that the frequency for taking loans for agricultural purposes has increased. However, to attribute the growing dependence on institutional sources of finances to PG formation would be a little too early since the PG is less than 6 months old. When inquired about how agriculture in collectives has changed compared to their erstwhile practices, they mention beneficiaries clearly mention tangible benefits such as:

- Regular availability of seeds and sapling due to community management of seeds and saplings;
- Farming as collectives ensures that women farmers frequently meet each other ensuring sharing of experiential learning among as well as stronger social networks;
- The formation of PGs building on the existing SHG framework in many ways addresses the concern of how to institutionally involve women into income generating activities, over and beyond savings and credit-based programmes such as self-help groups.

Like any other livelihood programmes in their early stages, the APC programme faced a few problems. At present, tribal women of the state were being organized as collectives in different forms and capacities. These collectives range from SHGs to GPLFs to CLFs being promoted by the National Rural Livelihoods Mission (the Odisha Livelihood Mission at the state). Now they are PGs under the APC programme, which is expected to be further federated into producer companies in the coming days. All of this automatically translates into regular meetings, book-keeping, or managing bank accounts, which also require a significant willingness to commit time and effort. During discussions, the CSO operating in Borigumma Block of Koraput, mention that with low capacities and poor literacy rates, women find it difficult to recognize and understand the differences between these collectives. Of all these groups, SHGs have operated for the longest time. Usually, members of a single SHG belong to the same village, which allows them to interact frequently and regularly. Groups such as CLFs, especially the PGs tend to spread over multiple villages or Gram Panchayats. Hence, most community members tend to relate themselves with their SHGs rather than any other collective. For the PGs to function, at least at this stage, there exists heavy reliance on the CSO to keep the beneficiaries engaged and motivated. CSOs have found ingenious ways to communicate the different collectives to the communities. For instance, most of the GPLFs and PGs are named after things that can be easily remembered, including names of local deities.

Under the APC programme, landless farmers (constituting 10% to 15% of the farming community) do not get to join the PGs, since they do not have registered land. Accordingly, CSOs struggle to identify landless farmers engaged in share-cropping or farming on leased land. At times, when village meetings are held and land-related issues are discussed, do CSOs get a chance to identify some of the landless farmers. The identification of landless farmers is important from the perspective of encouraging them to take up BYP (Backyard Poultry) under the APC Programme. According to a CSO based in the Pottangi block, 15-20% of the community does not own any land. They were members of the PG that supported for backyard poultry. Incidentally, under the existing scheme, the government shall provide funding support to build chicken sheds to households, which own 100 birds or have about 100 square feet of land. Additionally, each beneficiary should provide an undertaking that states irrespective of who uses the structure, or how it gets used, the structure cannot be destroyed or removed. Typically, a landless farmer owns 4-5 birds, so even after the government reduced the eligibility (30 birds) to avail the scheme, there are few takers. Moreover, the community does not have access to any training or exposure visits on maintaining BYP and vaccination schedules. In the case of goateries, yet another intervention proposed for landless farmers as part of APC programme, only 140 households have received money from the government for setting up goat shed, because the Animal Husbandry department mandates that households need to have minimum ten goats to receive funding support for setting up the goat shed.

As part of the APC programme, cultivators are taught about improved agronomic practices. But CSOs acknowledge that not all farmers can be mobilized to attend these PoP (Package of Practices) training. Consequently, CSOs rely on training only interested farmers, who are later expected to share their learnings with others in the communities. Conventionally, farmers rely on informal social networks for knowledge sharing. This includes the PG meetings and general body meetings where members discuss a range of issues. Despite intensive discussions and several rounds of training, poor literacy levels of farmers can impede the complete absorption of the information. Thus, to what extent the agronomic practices get effectively shared, remains doubtful. In the past season, the CSOs failed to mobilize the PG members, on time. By the time CSO began training on PoP for PG members, the sowing season had commenced and farmers were busy tending to their fields and did not attend any of the training.

In the Borigumma block of Koraput, CSO has been working with wholesale buyers and private Mandi owners to build networks and establish a supply chain for the produce. This involved the regular tracking of commodity prices, a task that requires an investment of time and manpower by the CSOs. The CSO also had to partner with external actors to sell the produce at major mandis, which also require an investment of time to understand the market dynamics involving demand and supply. Interestingly, the farmers were not excited about selling the produce collectively. Some of the interesting things that emerge are:

- Farmers are looking for immediate money. When farmers sell their produce through newly formed PGs, there is a time lag between the time the produce is sold and cash received, which deters the farmers from selling through the PGs.
- Selling through PGs involve hiring vehicles for transporting the goods to nearby markets in Jeypore, Koraput, Jagdalpur or Vishakhapatnam. This would mean that the transportation costs would be borne by the farmers in the PGs. Therefore, for the farmers, unless the profit margin is substantial, they would prefer selling it to local markets or traders/middlemen.
- For small and marginal farmers are looking for stability and surety in terms of returns. Consequently, despite lower prices, they tend to sell middlemen whom they know and trust. The uncertainty of selling and dealing at unknown markets to unknown buyers, even though PGs caused concern for the farmers.

A primary challenge for the PG members is related to gaining access to financial assistance. For PGs to run successfully in the longer run they should receive considerable financial assistance from government and other financial institutions. There has been a delay in provision of fund by OLM in the block. Funds have been approved but is yet to be provided to OLM. There is considerable number of SHGs, which are still unable to receive loan from bank owing to lack of documentation, previous case of default, apathy towards banks etc. The low literacy level of the block also plays a crucial role behind poor banking practices among the communities.

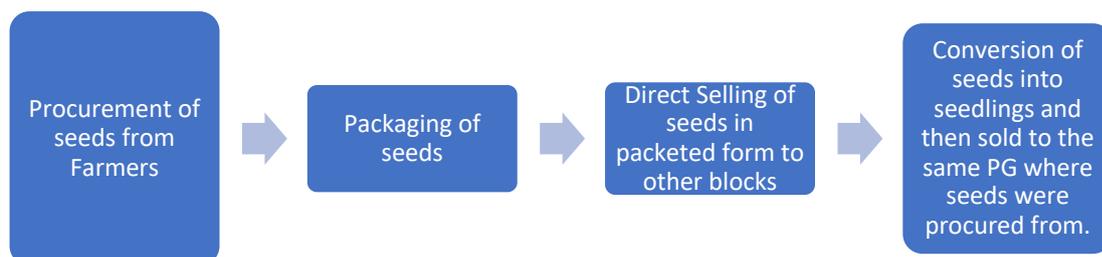
The APC programme aims at reducing the dependency of farmers on middlemen in the state. Before PG formation, the middleman exercised considerable autonomy over price determination. The farmers owing to low bargaining power and poor awareness level succumbed to the pressure of selling their produce at the price determined by a middleman. But following PG formation for the farming household, especially women became more aware of prices through interaction with each other and government officials like VAW or Krishak Sathi. The community with their increase in the level of awareness also translates to a higher realization of bargaining power, and receive better prices compared to the previous year.

Middlemen have a significant presence in most districts of Odisha. The middlemen provide loans to the farmers and collect farm produce for selling in nearby markets. From the financial inclusion perspective, rural India faces a significant challenge, especially in securing short-term agricultural loans from banks and other institutional financial systems. Consequently, the agriculturalists depend on middlemen to secure short-term agricultural loans and avoid going to banks due to lengthy documentation process. With regard to the marketing of agricultural commodities, middlemen play a key role in buying farm produce from farmers and selling it to markets in Koraput, Jaipore, and Vishakhapatnam. The farmers depend on middlemen to save on the logistics costs. Following the launch of the APC programme, one would expect the role of middlemen in agricultural marketing to go down, if not to disappear.

The concept of Agriculture Entrepreneur (AE) emerged as a result of the gradual evolution of the programme. It was realized that farmers at certain critical spheres of work needed support in accessing agricultural inputs. The two emerging challenges for a farmer, include timely access to seeds and the additional costs of transportation incurred by the farmers at the time of buying the seeds. Thus, the APC programme entrusted the responsibility of seed procurement to one person, who resided in the area and is trusted by the farmers. It was expected that the AE would charge a nominal commission for the services to the farmers, and earn between INR 25,000 and INR 30,000. The AE can also be financially supported through other government programmes like Mudra Yojana and KCC to provide them with the required capital flow. There was also the plan to incorporate multiple AEs for multiple functions. For example, provisioning of agricultural inputs (preparing the seedbed and providing the seed) could be entrusted to one AE. Providing technical assistance and marketing of the produce could be entrusted to a separate one.

The operations of the AE are one of mutual interdependence between farmers and the AE. This is essential from the perspective of the programme that is, ensuring that the AE does not enjoy higher bargaining power and ends up charging a very high price for the seeds. Additionally, the AEs are selected by the community and if the community members are unwilling to seek the AE's assistance, then the PG will have the autonomy to replace the AE with another individual. The CSO officials believe that the primary capacity and autonomy regarding decisions lies in the hands of the institutions (PG) and not any individual.

According to the AE from Majhaput village till date, he has primarily managed to procure and market chilies from the farmers. In the last one month, he managed to sell 642 packets (20 gms each) of chili to other blocks of Koraput, while 340 packets remain unsold. There are a few challenges with the marketing of the products. First, the packaging of products is a tedious and time-consuming process. Second, the delays in payments and thereby, one needs to be careful before procuring too much to avoid loss. Till now, he has sold chilies in Malkanigiri and Boipadiguda and received INR 45 per kilo for the chilies. The process through which the AE has till now been functioning can be summed up in the given schematic diagram:



For the CSO operating in the Borigumma block of Koraput, it has been promoting two types of AE. The first AE would be responsible for marketing, the other AE would be responsible for ensuring the supply of inputs such as seeds, saplings, and fertilizers. Both the AEs are chosen from within the community, the idea is that the marketing AE, in particular, should be someone with an understanding of the agriculture markets, basic literacy to maintain transactional records. The seeds and input AE would be responsible for setting up the seedbeds and maintaining them for the members of the PG. The members are expected to purchase the

saplings from this AE at a nominal price. This system intends to address the issue of how to ensure timely produce for markets. To ensure that farmers are able to sell their produce collectively, the implicit assumption is that production must have happened within very similar time frames as well. However, small farmers typically do not coordinate production among themselves since when they access the market individually, it serves no additional purpose. In fact, in theory, it could be detrimental with the number of sellers being too high resulting in competition among themselves, pushing the price down.

In the Lanjigarh block, the older members of the PG were aggrieved by the AE of the area. They identified few of the challenges they were facing about the AE. On one hand, the saplings were being supplied to them priced higher than the prevailing market rates. On the other, saplings and seeds were being denied to her by the AE. While a beneficiary list was prepared for receiving the saplings, lack of supply compared to the demand forced few beneficiaries to be left out from the distribution. We checked with the CSO operating in this block about these allegations, and the staff noted that the PG members were unaware of prevailing market rates for buying the seeds and saplings, and incorrectly accused the AE of charging a higher price for the seeds. However, there were instances when some women farmers were left out from the beneficiary list due to administrative error. The issue was being fixed through the mobilization efforts of the CSO in the block. In the Pottangi block, the CSO identified the AE without imparting formal training. Accordingly, their work is limited to preparing seedbeds. In the Baipadiguda block, the selection of AE has been completed but was yet to receive training. Subsequently, the community, especially women farmers from the PG, seemed unaware of the role of AE. In Thuamul Rampur, the AE has been playing an important role in facilitating access to seeds and saplings for the PG. According to the women farmers with the introduction of AE, seeds are now being provided to them more regularly. While the operation of the AE is limited, considering the work is still at its initial stages. The AE has managed to sell the seeds to the PG on two occasions.

Considering that the APC programme is in the initial stages, the paper tries to identify the key challenges facing various stakeholders. Accordingly, the key recommendations include:

- Ensuring more meetings are held with different levels of government so that the stakeholders recognize their roles and responsibilities towards the programme. Discussions held with the CSOs, and the government line department staff reveal the lack of knowledge about the APC programme, including the misconception that the programme implementation is the sole responsibility of the CSOs.
- Ensuring the timely release of funds from various central and state government schemes. Considering that the APC programme is based on a convergence model, expedited release of funds must take place to set up the necessary infrastructures for achieving the goal of doubling of farm income, especially for women farmers and addressing distress migration.
- The APC Programme has initially been rolled out for three years. The CSOs feel that the decided period is not enough to meet the set targets, hence extending the programme period become critical for achieving programmatic success.
- Agriculture in India is primarily rainfed and rainfall itself has become erratic due to climate change. To stimulate farmers towards year-round crop practices it becomes

imperative that the inputs are provided to cultivators through the Horticulture Department or Agricultural Entrepreneur on time.

- Geographical barriers coupled with poor transportation facilities in the remote parts of the state, making it difficult for implementation agencies to integrate the farmers with the markets. Owing to high overhead expenses brought about by excess transportation cost the level of profitability of the group reduces and hence the interest of individual farmers might also get adversely impacted.
- Setting up proper storage systems for perishable goods. If value addition through packaging and grading is to take place development of storage systems is a pre-requisite.
- Sustainable methods of agriculture should be promoted through the APC Programme. This shall be in the form of promoting Non-Pesticide Management Agriculture among PG members. While certain partner organizations of BRLF are promoting and prioritizing NPM in certain APC blocks, the scope of NPM is limited in other APC blocks.

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