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Public–Private–People Partnerships (PPPP) in Agriculture

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INTRODUCTION

In recent years policymakers and development experts have highlighted the need to extend traditional public–private partnerships (PPPs) by adding a third partner – the people or community stakeholders – forming *Public–Private–People Partnerships (PPPP)*. A PPPP (also called 4P) is defined as a cooperative arrangement among government, private-sector actors, and local communities (often through farmers' groups) to deliver services and build infrastructure in agriculture and rural development. Unlike conventional PPPs (which involve only the public and private sectors), PPPPs explicitly include grassroots organizations – such as farmer collectives, cooperatives and FPOs – in planning and implementation. Involving the "people" improves transparency, accountability and sustainability of projects. In short, a PPPP seeks to harness private investment and public support *and* local know-how: the public sector provides policy and infrastructure, the private sector brings capital and technology, and the people (farmers and communities) contribute labour, land, collective organization and local knowledge. This blended model is gaining attention for addressing gaps in agriculture – for example, by better linking smallholders to markets and reducing post-harvest losses – while advancing social inclusion and SDG goals.

The "people" component of PPPP is typically constituted by organized farmer groups – cooperatives, self-help groups and Farmer Producer Organizations (FPOs). These entities aggregate smallholders, giving them collective bargaining power, ownership of assets (e.g. warehouses, processing units) and a formal stake in projects. For example, the Indian government's schemes now explicitly promote organizing farmers into FPOs and cooperatives as a key strategy (see image). These organizations enable farmers to pool produce, access credit, and meet quality/quantity requirements of private buyers. By having a seat at the table,

farmer groups help ensure projects meet local needs and share benefits equitably. As one agricultural development expert noted, in a PPPP "people mean farmers/growers" – implying that farmers' cooperatives must be active partners, not just beneficiaries. In PPPP models, farmer collectives often contribute land or labour and receive equity shares; they also participate in project governance (e.g. steering committees) and help monitor outcomes. This contrasts with many PPP projects where small producers have no formal role. In practice, governments and NGOs have begun to formalize these roles. For instance, India's formal FPO scheme and food-processing clusters under PMFME explicitly tie grant funding to FPO participation. Empirical analyses show that FPO membership is associated with higher incomes and productivity for members (e.g. in Uttar Pradesh) and improved market access.

Indian agriculture faces multiple systemic challenges. Per-hectare yields of most major crops remain well below global averages, partly because the average farm size is only ~1.15 hectares. This fragmentation hampers technology adoption and efficiency. On post-harvest losses, India loses a staggering share of production: roughly *30% of fruits and vegetables* are wasted by the farm gate stage. In monetary terms, WRI India estimates India's 2014 post-harvest losses at ~₹926.5 billion (~US$15.2 billion, 0.6% of GDP). These losses exceed the entire budget of the Ministry of Agriculture, pointing to a silent crisis. Market inefficiencies are another issue – farmers often lack storage, grading and transport infrastructure, forcing them to sell at low prices or incur high middlemen costs. Moreover, smallholders lack scale in finance and inputs: credit access remains poor and mechanization lags. The result is low profitability and rural poverty: despite being a farming nation, India still ranks 94th of 107 countries on the Global Hunger Index, with undernourishment partly linked to food waste and low farmer incomes.

PPPP models directly tackle such problems by aligning incentives across stakeholders. For instance, when farmer cooperatives are formal partners, investments in cold storage or processing can be co-located at the village level, reducing losses. A private company may be willing to co-invest in a packhouse if an FPO guarantees a steady raw material supply. Public agencies can then extend funds or guarantees (e.g. matching grants) through schemes like PMFME, knowing that the beneficiary is a well-organized group. This bundled approach lowers transaction costs for all. Farmers gain technology and market linkages, firms gain reliable supply, and government achieves policy goals (e.g. SDG targets). PPPP also empowers farmers: for example, smallholder communities can negotiate for fair pricing and quality standards in contracts, rather than being passive suppliers. Importantly, local organizations help ensure that projects are socially and environmentally sustainable – community members,

including women or tribal farmers, have a voice in design. This is key to addressing complex issues like malnutrition and climate resilience. Indeed, inclusive PPPPs have been used to bring solar irrigation to marginal areas, digital extension services to remote farmers, and waste-to-energy bio-digesters in farming communities. By decentralizing decision-making, PPPP makes agricultural development more context-specific and equitable.

Case Study – India (Fresh Vegetables in Ladakh): A concrete Indian example is the solar greenhouse initiative in Ladakh (Case Study 26 in UNDP's *Empowering Rural India* report). Ladakh's harsh climate made fresh vegetables scarce and expensive. A French NGO (GERES) and local groups (LEHO, LEDEG) jointly developed Improved Passive Solar Greenhouses (IGHs) and helped villagers adopt them. Although this project was NGO-led, it embodied 4P principles: local farmers (the "people") provided land and labor; the NGOs (private partners) provided technology and training; and UNDP supported as a funder (public). The results were transformative. Before IGHs, locals ate fresh vegetables only once a month; after the PPPP-style intervention, consumption rose to 2–3 times per week. One small greenhouse owner now supplies 9 families, significantly boosting nutrition and income. Local-grown vegetables are also cheaper than imports, saving the region transport costs. In total, these community-managed greenhouses have alleviated hunger and generated surplus produce for market – outcomes that likely wouldn't have been achieved by top-down or private-only efforts alone. This case shows how a PPPP approach can increase agricultural productivity, reduce losses (import dependency), and empower rural families (through shared ownership of the greenhouses and profits).

Global (Agroecology in Africa): A global example is the i4Ag-funded EcoPM project in East Africa, led by the International Centre of Insect Physiology and Ecology (icipe). This initiative (in Malawi, Uganda and Zambia) scaled up a climate-smart pest-management package for the fall armyworm. icipe partnered with governments, research institutions and private distributors to train farmers. Crucially, the project explicitly used a *public-private-people partnership* approach. Smallholder farmers (the "people") were co-creators and recipients of the innovations, private agri-input firms helped adapt and distribute biopesticides and "push–pull" seed technology, while public bodies and NGOs supported policy/extension linkages. The consortium also targeted marginalized groups – for example, aiming to involve women and youth as key beneficiaries. The impact is substantial that is over 1 million farmers are expected to benefit, increasing maize yields and incomes across the region. icipe's report notes that engaging farmers as partners ensures the solutions suit local conditions and that knowledge is

shared widely. This case illustrates PPPP on a large scale, where scientific innovation (private sector) meets community needs (farmers) under public policy guidance.

Comparative Advantages of PPPP vs PPP: Adding the "people" to the partnership yields several advantages. First, inclusivity: PPPP consciously brings smallholder and often disenfranchised farmers into project design. Traditional PPPs can sideline these groups, leading to inequitable outcomes. In contrast, PPPP's built-in inclusiveness helps ensure that benefits (e.g. higher prices, training) reach women and the poor. For instance, while a pure PPP might construct a cold chain for a large producer company, a PPPP might build shared storage facilities managed by cooperatives. Second, sustainability: community involvement creates local buy-in. When farmers invest their labour and own part of the venture (as in cooperatives or FPOs), they are more likely to maintain infrastructure over the long term. Also, local knowledge helps tailor technology to context. For example, in the Ladakh greenhouses or African push–pull system. Third, empowerment and accountability: embedding farmer groups provides internal checks. The public sector is made accountable to communities, and private firms are directly answerable to their suppliers. Sharifi Sadeh *et al.* note that PPPs have often been criticized for opacity and lack of stakeholder participation, a gap PPPP aims to fill. As one study argues, PPPP "can make the public sector accountable" by giving voice to people. This can prevent issues common in PPPs (e.g. cost overruns, neglect of smallholder interests). In short, PPPP leverages the efficiency of PPP while embedding the social objectives of public policy, making outcomes more equitable and resilient.

Government Policies and SDG Alignment: India has begun to institutionalize PPPP elements via several schemes. The "PM Formalisation of Micro food Processing Enterprises" **(PMFME)** scheme (Ministry of Food Processing Industries) provides credit-linked grants and marketing support to groups of FPOs, cooperatives and SHGs processing agri-produce. Its official guidelines explicitly mention organizing farmers into FPOs/producer cooperatives along entire value chains (sorting, grading, processing etc.). Similarly, the central scheme for formation of **10,000 FPOs** (coordinated by SFAC) provides matching equity grants and credit guarantees to farmer groups. The new **Agricultural Infrastructure Fund (AIF)** (₹100,000 crore) offers low-interest loans for rural storage, cold chain and processing; here too cooperative/FPO participation is often a precondition. These policies reflect PPPP thinking by requiring private service providers (e.g. equipment vendors) to partner with community groups. On international alignment, PPPP advances multiple SDGs. For example, SDG 12.3 calls for halving food loss and waste by 2030. By improving farm-to-market infrastructure (cold stores, solar dryers in

co-managed facilities), PPPP projects directly target this goal. Likewise, SDG 2 (Zero Hunger) and SDG 8 (Decent Work) are advanced when rural livelihoods are strengthened through inclusive partnerships. India's national development plans (NITI Aayog) explicitly link agricultural modernization with poverty reduction and sustainability goals, and PPPP models fit these priorities. In practice, inter-ministerial forums (e.g. India's Agricultural export policy, NITI's agricultural vision documents) now emphasize stakeholder partnerships and digital platforms, implicitly supporting PPPP principles. Moreover, many of these schemes (e.g. PMFME) are cited as contributing to SDG targets of job creation and economic inclusion (SDG 8) and climate resilience (SDG 13) through greening of agri-infrastructure.

Recommendations for Scaling Up PPPP in Agriculture: To expand successful PPPP models, several policy actions are needed:

- **Strengthen FPOs and Cooperatives:** Provide capacity-building and legal support so farmer groups can effectively partner. Governments should simplify the process of FPO registration and offer incentives (matching grants, tax benefits) for producer organizations to engage with private projects.
- **Facilitate Brokerage & Trust-building:** Create dedicated platforms or agencies to broker PPPPs, as IFAD suggests. These entities (e.g. NGO intermediaries or development agencies) can build trust among farmers, businesses, and government, helping design mutually beneficial contracts.
- **Align Finance & Incentives:** Public funding (subsidies, co-investment) should prioritize projects with genuine community involvement. For instance, expand schemes like PMFME with higher grants when FPOs take equity stakes. Development banks and Agri-tech funds could offer blended finance for PPPPs.
- **Data & Monitoring:** Institute metrics to track inclusion (e.g. number of smallholders benefiting, gender parity) and sustainability. This can help evaluate PPPP effectiveness versus traditional PPPs. Multi-stakeholder monitoring committees should include farmer representatives.
- **Policy and Regulatory Support:** Modify procurement and land policies to favour inclusive projects. For example, allow community land lease agreements for agribusiness, and enforce quality standards that smallholders can meet through shared facilities. Strengthen property rights and contract enforcement to protect all partners.

- **Awareness & Capacity Building:** Conduct training for government officials and private firms on the value of PPPP. Many agencies still default to PPP models, capacity-building can highlight PPPP best practices and success stories.
- **Research and Knowledge Sharing:** Document PPPP case studies (as done by FAO/IFAD) and develop toolkits. For instance, the IFAD "4P" guide recommends clear governance structures and conflict-resolution mechanisms which could be adapted by Indian states.

In sum, scaling up PPPP in Indian agriculture requires both "hardware" (investments) and "software" (institutional reforms) changes. It also demands a shift in mindset that is viewing farmers not just as beneficiaries but as co-investors and co-managers of projects. When effectively implemented, PPPPs can transform inefficiencies into shared assets – turning, say, a dilapidated rural warehouse into a vibrant community-led food processing hub.

Conclusion Public–Private–People Partnerships represent an evolution of development cooperation models, blending the strengths of government, business, and community. In agriculture, where challenges of fragmentation, waste and market access are acute, PPPPs offer a path to more inclusive, sustainable, and farmer-empowering solutions. Evidence from India and abroad shows that when farmers' organizations are fully engaged, agri-projects are more likely to meet productivity and equity goals. While PPPs have mobilized capital for infrastructure, PPPPs ensure that *people* – especially smallholders and marginalized groups – reap the benefits. For policymakers, embracing PPPP means designing programs and investments with all stakeholders at the table. With supportive policies (e.g. PMFME, FPO scheme, Agri-Infrastructure Fund) and targeted incentives, India can scale up PPPPs as a strategy to reduce waste, boost yields and achieve its SDG commitments.

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