



# AGRI MAGAZINE

(International E-Magazine for Agricultural Articles)

Volume: 02, Issue: 11 (November, 2025)

Available online at <http://www.agrimagazine.in>

© Agri Magazine, ISSN: 3048-8656

## Public-Private Partnerships (PPPs) for India's Agricultural Transformation

\*N Vani

Chief Manager (Research), State Bank India of Rural Development,  
Serilingampalli, Hyderabad, Telangana, India

\*Corresponding Author's email: [vanibank1999@gmail.com](mailto:vanibank1999@gmail.com)

Agriculture plays a crucial role in India's economy, contributing significantly to the country's GDP and providing livelihoods for millions of people. However, the sector faces numerous challenges, including inadequate infrastructure, limited access to quality inputs, and the need for modernization. Public-Private Partnerships (PPPs) have emerged as a potential solution to these challenges, offering opportunities for leveraging private sector expertise and resources to address the gaps in the agricultural sector. In recent years, PPPs have been successfully implemented across various sectors in India, such as airports, ports, road transportation, energy, and urban development. However, the agriculture sector has not yet fully embraced the PPP model, despite its potential to contribute to sustainable and inclusive agricultural development.

*I support public and private partnerships whenever appropriate to achieve our goal of a prosperous and vibrant downtown. - Alan Autry*

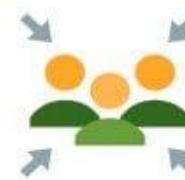
### Public-Private Partnership



Public



Came into a collaboration



Private

To undertake a public works project commonly and the risks and responsibilities by each of them.



PPP is a type of collaborative arrangement between the public sector (government) and the private sector (businesses or non-profit organizations) in which the government contracts with a private sector entity to carry out a specific project or provide a service to the public. This could include setup of airports, bridges or roads providing healthcare or education services, or managing public utilities such as water or electricity, etc. PPPs are often used when the government lacks the resources or expertise to carry out a project on its own, or

when private sector expertise can bring innovation, efficiency, and cost savings to a project. At the same time, it also involves sharing of risks, resources, and responsibilities to develop and implement public projects or services.

**Overview of PPP in India:** India's infrastructure spending is expected to double to Rs 143 lakh crore between fiscals 2024 and 2030 compared to 2017–2023, as the country's GDP is now expanding at a rate of more than 9.1%. It is expected that the private sector would make a substantial contribution to this investment. Public-Private Partnerships (PPPs) present the most suitable option for meeting these targets, not only in attracting private capital for the creation of infrastructure but also for enhancing the standards of delivery of services with greater efficiency. Across the globe in absolute terms, China, India, Brazil, Indonesia, and Vietnam received the largest PPI investments in the first half of 2022. These five countries together attracted US\$32.0 billion, capturing 74 per cent of global PPI investment in the first half of 2022. This illustrates how crucial it is for the nation to build infrastructure.

**Advantages:** India can gain from using PPPs in the agriculture industry in the following ways:

**Improved Agri-infrastructure:** By utilizing the resources and experience of the private sector, improved infrastructure, including wholesale marketplaces, warehouses, cold storage facilities, and irrigation systems, can be developed. This can help in stabilizing prices, reducing post-harvest losses, and improving overall agricultural productivity.

**Enhanced agri-business development:** PPPs can help agro-processing firms expand and value chains strengthen, giving farmers greater access to markets and raising the value of their produce.

**Technology transfer and innovation:** Partnerships between the public and private sectors can facilitate the exchange of knowledge, fostering innovation and the adoption of new technologies in agriculture, which can lead to improved productivity and sustainability for e.g. the management of sensors in administering agricultural land, drones technology, artificial intelligence, machine learning, block chain technology, big data, machine learning, Internet of Things, and cloud have become a essential in future agriculture which provide farmers with access to better technology, improved inputs, and modern farming practices, leading to increased agricultural productivity and efficiency.

**Inclusion of smallholder farmers:** By fostering teamwork and lowering transaction costs, PPPs can help smallholder farmers and small and medium-sized agribusinesses (SMAEs) become more involved.

**Strengthening of agricultural extension services:** By bringing the private sector into the delivery of customized guidance and assistance to farmers, PPPs can contribute to the revitalization of agricultural extension services, hence increasing their efficacy and efficiency.

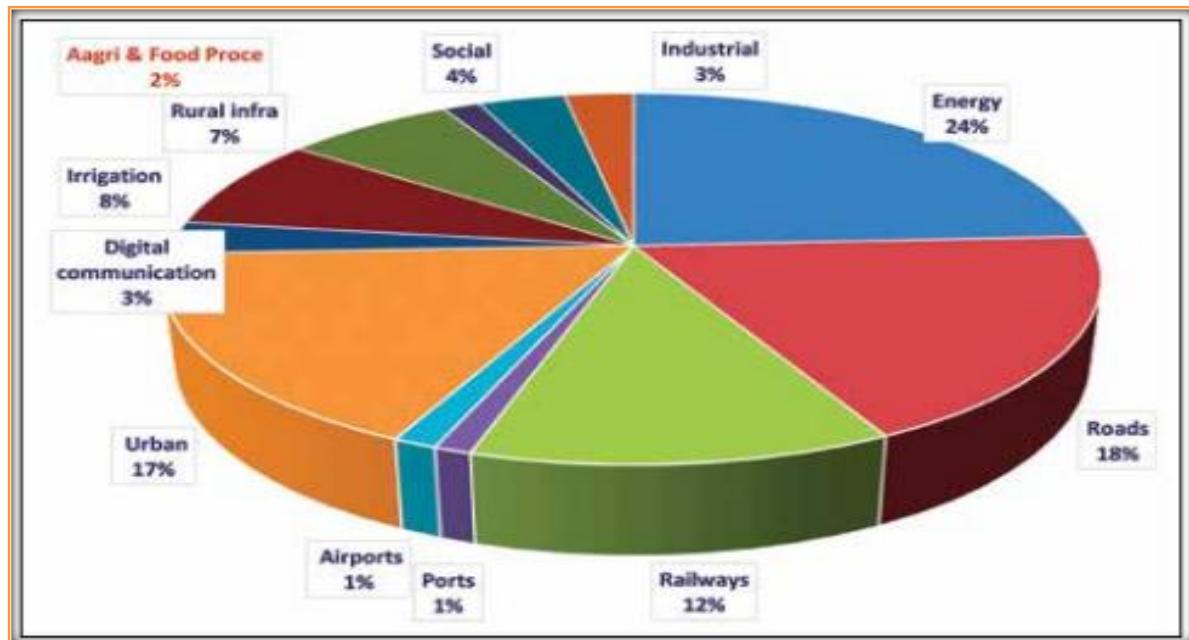
**Creation of job opportunities:** The development of Agri-infrastructure and agri-businesses through PPPs can generate new employment opportunities in rural areas, contributing to poverty reduction and sustainable rural development.

This proposal aims to give policymakers, researchers, and stakeholders useful insights and suggestions for utilizing the power of public-private collaboration to address the significant issues facing the sector and advance sustainable and inclusive growth by investigating and evaluating the potential for PPPs in India's agriculture sector.

**Government initiatives for promoting PPPs:** The "Strategy for New India @ 75" has come out with several measures to establish an enabling framework for PPPs by addressing concerns linked to the policy and regulatory environment.

- **Viability Gap Funding Scheme:** The scheme provides financial support to PPPs for infrastructure projects in the form of grants, one-time or deferred, to make them commercially viable.
- **India Infrastructure Project Development Fund (IIPDF):** In order to boost the quantity and calibre of successful PPPs and empower the government to make well-informed decisions based on excellent feasibility assessments, the primary objective is to

pay the development costs of possible PPP projects, including the fees for employing consultants and transaction advisors.



Source: Sector-wise projected annual capital expenditure in infrastructure 2020-25 (Rs 111 lakh crores) (Source: <https://ppi.worldbank.org/en/snapshots/country/india>).

- **National Agriculture Infra-Financing Facility:** This facility is created with One lakh crore as Agri Infrastructure Fund towards creating farm-gate infrastructure for farmers (Primary Agricultural Cooperative Societies, Farmers Producer Organizations, Agriculture entrepreneurs, Start-ups, etc.). The creation of a farm gate and aggregation point—an infrastructure for post-harvest management that is both economical and sustainable—was encouraged.
- **National Infrastructure Pipeline:** It is a first-of-its-kind, government initiative to build top-notch infrastructure across India and raise everyone's standard of living. It aims to improve project planning, highlight investment prospects in India's infrastructure industry, and draw foreign capital into the country.
- **The Niti Aayog** has established a vertical mode on public-private partnerships that are aggressively trying to broaden the appeal of PPPs as the preferred method for carrying out infrastructure projects. It looks for to establish state of the art infrastructure and invite institutional capital in infrastructure. One of the verticals is 'the agriculture and allied sectors'. This vertical focuses on agricultural policy design and analysis, research and knowledge exchange, policy advocacy, stakeholder consultations, and working with states and ministries to transmute Indian agricultural landscape, led by invention for better nutrition and revenue of farmers, through sustainable as well as inclusive growth. The vertical has a partnership with several private and public institutions including Indian Agriculture Research Institute (IARI) and National Academy of Research Management (NAARM).

#### PPP project areas in Agriculture

S. No	Sub Sector	Projects (%)
1	Food processing and additives	56.3
2	Horticulture	33.5
3	Post-harvest storage infrastructure	3.8
4	Terminal markets	2.3
5	Cold chain	2.0
6	Soil Testing Labs	1.8

The states like Maharashtra, Madhya Pradesh, Tamil Nadu, Uttar Pradesh, and West Bengal, in that order, have the highest number of opportunities in the food processing and agriculture sectors. So, investments in agricultural sectors are limited to certain sectors and geographical locations. The main subjects include food processing, horticulture, terminal markets, cold chain post-harvest storage, and laboratory facilities, particularly soil testing laboratories.

#### **Four pillars of successful PPP:**

- 1) Open up the data ecosystem,
- 2) share field resources and infrastructure,
- 3) cooperate with academic and scientific institutions, and
- 4) the convergence of policies, programs, and services related to agricultural technology.

**PPP in Agriculture:** Public-Private Partnership (PPP) projects are thriving in several industries, including ports, highways, electricity, and others. Regrettably, in contrast to the previously mentioned sectors, the agriculture sector did not embrace and implement PPP-based agricultural infrastructure development with the same enthusiasm. Agri-PPPs are broadly promoted as having the potential to modernize the agriculture sector and provide numerous benefits that can advance the goal of sustainable agricultural development that is inclusive of smallholder farmers. Many questions are raised by the idea and methodology of PPP in agriculture, including what kinds of projects can be undertaken and how well it works to accomplish goals for equitable agricultural development. The plethora of literature on PPP pertains to major disciplines of economics, public administration, and management science.

The partnerships for agribusiness development are divided into -

- ✚ developing agricultural value chains,
- ✚ collaborative agronomic research, invention, and expertise transfer,
- ✚ constructing and improving market infrastructure, and
- ✚ transfer of enterprise expansion services to agrarians and small entrepreneurs.

#### **Potential Areas for PPP in Agriculture**

**Wholesale market development:** Existing marketing is characterized as inefficient, fragmented, and unorganized. A limited marketplaces have been established during the last thirty years; maximum of these are clustered only in well-privileged areas. In the same manner that national highways are constructed and managed using the BOT (build, operate, and transfer) method, it is appropriate that we develop mechanisms to develop wholesale markets in PPP mode.

**Warehouse and cold storage development:** Warehouses and cold storages play an important role to stabilize prices and benefit farmers as well as consumers. The construction of cold storage facilities and warehouses presents a wealth of chances for public-private collaborations.

**Development of agro-processing:** Due to the rapidly increasing demand for perishable goods on both the domestic and international markets, agro-processing offers enormous potential. This sector must be harnessed to meet future demands and reduce unaccounted losses of perishable commodities. The Ministry of Food Processing and Industries is committed to continued emphasis on the creation of world-class infrastructure for the growth of the food processing sector through Mega Food Parks and Integrated Cold Chains. PPP mode in attaining these purposes and developing dispensation plants and coupling them with micro, small, and medium enterprises will strengthen the Agri-processing sector.

**Canal irrigation development and management:** India has a vast system of major and minor canals and distributaries, which begin with a number of rivers. Roughly 40% of all irrigated area is covered by canals. Over the years, the canal irrigation system in many parts of the country is reported to be underperforming. The irrigation efficiency is mere 30% through canal irrigation. This sector can be covered under PPP mode.

**Extension of Agricultural systems:** It has substantially aided to bringing the green revolution to the country. But the sector is now being questioned for its efficiency and effectiveness despite introducing various reforms. Some of the KVKS are also run by the private sector but the majority are with agricultural universities (AUs) and the Indian Council

of Agricultural Research (ICAR). The private sector and public research system can also jointly undertake research for best practice demonstration purposes.

**Crop/ Animal Insurance:** The role of the public and private sectors is very critical in providing the insurance in crop/ livestock sector. Market inefficiencies, such as information asymmetries, a lack of data infrastructure, and constrained insurer access to reinsurance, frequently plague the agriculture insurance markets. To solve market inefficiencies, governments must take the initiative in large-scale crop insurance schemes, incorporating the private sector in activities like producing data, assuring outreach, risk financing, assisting with technical chores, building an enabling environment, etc.

**Supply of quality inputs (seed, vaccine, etc.):** Most of the time, farmers are facing problems in procuring quality seeds and are ending up with a loss of production. Especially, fodder production has been a major challenge. The huge lands available with state agricultural universities can be used for the production of quality seeds involving the private sector. Often public institutions are deprived of funding despite their technological advancements. PPP is to be harnessed for the production of vaccines for improving the health status of livestock (e.g., Lumpy Skin Disease).

**Promotion of Special Economic Zones (SEZs) in Agriculture:** In order to attract foreign direct investment, enhance infrastructure, provide employment opportunities, ease technology transfer, and provide access to international markets, among other goals, the Government of India has announced a major strategy on the creation of Special Economic Zones. Special Economic Zones (SEZs) necessitate revitalization, particularly within the agricultural sector. Special Economic Zones (SEZs) must undergo revitalization, especially in the agricultural industry.

## Conclusion

There is a pressing need to develop a structured approach for increasing the number of bankable agri-businesses and Agri-infrastructure projects through private sector participation for better quality and improved services. The private sector plays a huge part in reviving the agri-food industry. Involving the private sector in the development and management of agri-infrastructure will result in better technology, operational best practices, and job creation in rural areas. The partnership can merge as an important tool to induce investment and capitalize on the synergies of the public and private sectors. While the government endures to lead and enable the expansion of the agriculture sector via its policies, the admission of the private sector will induce fresh ideas which in turn leads to massive development of the agriculture sector.

## References

1. <https://icar.org.in/>
2. <https://www.greaterkashmir.com/>
3. <https://www.mdpi.com/>
4. <https://nap.nationalacademies.org/>
5. <https://naarm.org.in/>