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Farm Level Capital Formation of Agricultural in India

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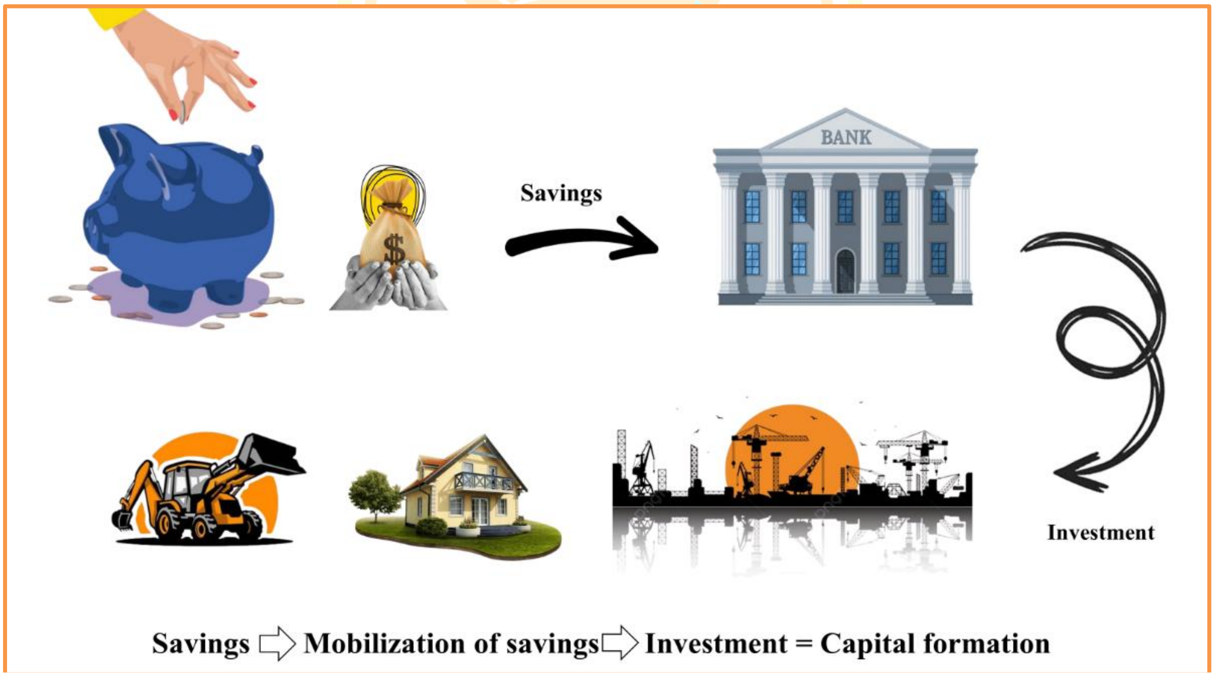
In India, agriculture sector is contributing to overall economic growth, generating employment opportunities and ensuring food security. Farm incomes can be raised with the increase in the productivity of farm resources. One of the key components for raising the output of agriculture is capital formation. Savings (Household savings) is the most important sources of investment but in India household savings is declined over the year leads to slower capital formation

What is Capital Formation

Capital formation in agriculture refers to the net addition to the stock of productive assets that enhance agricultural output and efficiency.

What is Farm Level Capital Formation

At the farm (household) level, it includes investments made by farmers in assets such as irrigation facilities, farm machinery, livestock, orchards, buildings, and improvements in land. These investments increase the productive capacity of the farm sector over time.



Concept uses in Capital Formation

- ✓ Investment is a flow concept measured over a period of time, usually during a financial year. On the other hand, capital is a stock concept measured at a point in time, usually at the end of a financial year.

- ✓ Fixed capital is that capital which lasts for more than one year. It includes the investment in farm machines such as tractor, tube-wells, land development, farm building, *etc*.
- ✓ Working capital is that capital which lasts for less than one year, such as expenses on seeds, fertilizers, wages to the workers, *etc*.
- ✓ Public sector capital formation comprises of investment made by central, state and local governments for creating the various assets like land development, irrigation projects, rural road *etc*.
- ✓ Private capital are investment made by farmers for irrigation like wells, bore, electric motors, diesel engines, tractors and other farm equipment.

Components of Farm Level Capital Formation

At the farm level, capital formation typically consists of: 1. Land improvements (terracing, bunding, reclamation) 2. Irrigation facilities (wells, tube wells, tanks, drip systems) 3. Machinery and Implements (tractors, harvesters, pumps) 4. Farm buildings and storage 5. Livestock and perennial crops (orchards) 6. Transport equipment (for farm produce). These assets contribute to farm productivity and income generation by improving cropping intensity, reducing risks (*e.g*., drought), and lowering production costs.

Sources of Capital Formation

- Savings
- Investment
- Government Expenditures
- Foreign Investment
- Bank Loans
- Retained Earnings

Why Capital Formation Study is Necessary in Agriculture?

1. **Increasing agricultural productivity**: More irrigation and machinery can lead to higher yields and better resource utilization.
2. **Improving farm efficiency**: Evidence suggests farms with higher capital investments (especially irrigation) achieve better technical efficiency.
3. **Supporting rural livelihoods**: Agriculture still provides employment for a large rural population in India.
4. **Promoting structural transformation**: When farmers invest in better assets, they can diversify crop patterns and move toward higher-value agriculture.

Related Concept of Capital Formation

1. **Gross Capital Formation (GCF):** Total addition to physical assets in an economy during a year, including fixed assets and change in inventories.
2. **Gross Fixed Capital Formation (GFCF):** Investment in fixed assets such as machinery, buildings and infrastructure that are used repeatedly in production.
3. **Net Capital Formation (NCF):** Net increase in capital stock after deducting depreciation from gross capital formation.
4. **Human Capital Formation:** Investment in education, health and skill development that enhances the productivity and earning capacity of individuals.

Why Low Rate of Capital Formation in India?

1. **Persistent Economic Problems:** Problems like poverty, unemployment, inflation and low productivity reduce savings and discourage long-term investment**.**
2. **Lack of Financial Inclusion:** Limited access to banks and formal credit prevents household savings from being mobilized into productive investments.
3. **High Marginal Propensity to Consume:** A large share of income is spent on consumption due to low incomes, leaving little surplus for savings and investment.
4. **High Liquidity Preference:** People prefer holding cash or gold for safety, which reduces funds available for capital formation.

5. **Low Per Capita Income:** Low average income restricts saving capacity, resulting in insufficient capital accumulation.

Trends in Agricultural Capital Formation (Macro Context)

Gross Capital Formation in Agriculture (GCFA) improved significantly in 2022–23, with a growth rate around 19.04 per cent, driven largely by higher public investment. The share of GCFA as a percentage of agricultural Gross Value Added (GVA) increased from about 17.7 per cent to 19.9 per cent in the same period. These trends reflect an overall rise in investment climate for agriculture, which is necessary to support farm-level capital formation.

Program Provided by Government to Improve Farm Level Capital Formation

The Government of India has introduced several schemes to enhance capital formation in agriculture, including:

Sub-Mission on Agricultural Mechanization (SMAM) – 2014
Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) – 2015
PM Kisan Sampada Yojana – 2017
Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) – 2018
Agriculture Infrastructure Fund (AIF) – 2020

These programmes aim to improve access to irrigation, mechanization, post-harvest infrastructure, income support, and rural credit.

Policy Implications

To enhance capital formation at the farm level, policy priorities include:

1. Expanding access to institutional credit
2. Providing targeted subsidies for irrigation and farm machinery
3. Strengthening rural infrastructure and market linkages
4. Promoting extension and advisory services
5. Increasing both public and private investment in agriculture
6. Encouraging sustainable and climate-resilient farming practices
7. Reducing production risk and excessive consumption pressures

Conclusion

Farm-level capital formation in Indian agriculture is a key driver of productivity, efficiency and rural development. Investment patterns show disparities across regions and farm types, influenced by farm size, income levels, credit access, and resource endowments. Strengthening capital formation-both at the farm and sectoral level-will help address structural issues in agriculture and support sustainable growth.

About the Author

The authors are researchers and academicians from NMCA, NAU, Gujarat, with expertise in Agricultural Economics. Their work emphasizes the integration of technology with agriculture to address key challenges facing the sector.