

CAPITAL FORMATION IN INDIAN AGRICULTURE

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ABSTRACT

Investment is the key of development of any economy therefore investment and capital formation are a pre requisite for development. Agriculture sector is the primary sector of the economy if it remains underdeveloped than other sectors will also remain underdeveloped. So, it is essential to invest regularly in this sector. Agriculture sector lacks capital formation because Indian agriculture is mainly subsistence in nature. Technical agriculture needs huge investment. Thus, it is very important that we should be regular investment in agriculture. Present study tries to find out the status and determinants of capital formation in Agricultural sector of Rajasthan and India.

Keywords: Capital Formation, Agriculture, Capital Formation, Determinants of Capital Formation.

Introduction

It is very essential to invest regular for the development of any economy. If we want to develop a special sector of the economy than we have to promote investment in this sector. if we want to develop the agriculture sector of the country than we have to increase investment in it. In traditional agriculture the level of capital formation is very low, while development occurs than low capital technology introduces in agriculture but in dynamic agriculture, high capital technology is used. Thus it is very important that we should be regular investment in agriculture.

There are two types of investment in agriculture viz;, Public sector investment which is done by government while second one is private investment which is done by private sector. Both types of investment play a vital role in agricultural development as it assets in agriculture. Government investment in agriculture is forced by pressure of population growth, interrelation of agriculture with other sectors of economy, excess foreign exchange reserves, favorable terms of trade in agriculture and many other factors. On the other hand private investment in agriculture is influenced by soil fertility, technological advancement, terms of trade, price incentives and subsidies for input, area of farms and availability of credit etc. Present paper tries to give a brief picture of public and private sector capital formation in agriculture in India and Rajasthan.

Objectives of the Study

- To analyze the status of public and private investment in agriculture
- To analyze the determinants of G.C.F. in agriculture.

Review of Literature

Present study is supported by following studies:

Das, (2001), "Capital formation in Indian agriculture reverting the debate", EPW, Feb-2001 reported that it is a various debate that capital formation in decreasing in agriculture or not. They estimate the data of capital formation and concluded that situation is not so good but it is not alarming because the share of private investment is increasing rapidly. It compensates the fall of public investment in agriculture. They concluded that private investment is supported by terms of trade in agriculture specially.

Paul. M, "Determinants of capital formation and agriculture". Shodhak, Vol. II 2018 reported that there are various factors which determine the level of capital formation in agriculture. He used a simultaneous equation model and find out the relationship between agricultural GDP and capital

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formation. They find that rate of return is the main determinate of private investment in agriculture. Private and public investment in agriculture also interacts as increase of public investment attracts private investment and vice versa.

Seema, Bathla, "Public and private capital formation and agricultural growth in India," published in agricultural economics research review, Vol. 27, 2014. She concludes that in post reform time investment in agricultural sector has increased but growth rate of this sector is stable. Both public and private investment in agriculture is not spread even in all states and farm income also shows variations. Those states that invest more in infrastructural development are getting higher private investment and farm income. Public investment is also rising but it is governed by public expenditure of the government.

It is recommended that government should increase public investment in poor agricultural states. A good connection between industry of food processing and farmers should be established for better growth of agriculture in India.

Dnyaneshwar Bore, "An analysis of capital formation in Indian agriculture and its implications for more inclusive growth of Indian economy". Journal of poverty investment and development Vol. 6-2018. He reported that capital formation in Indian agricultural sector is increasing but it is very steady as the forces who drives it are conventional in nature. Traditional agriculture system is an obstacle in the way of increasing investment in agriculture. Study was based on secondary data and study also identifies the constraints in the way of public and private investment in agriculture.

Vikas, Jodha and Other, "Determinants of capital formation in agriculture in the eastern dry zone of Karnataka". Economic affairs Vol. 64-2019. it examines the main determinants of capital formation in agriculture. Main determinants of capital formation are income, irrigation, area, transportation. These factors influence the capital formation at a great extent. Multiple regression has been fitted and it is found to be best as the value of R^d and F is quite high (0.92).

It can be concluded that most of the studies related to the research problem are in search of main determinants of capital formation in agriculture.

Research of Methodology

Present study is based on secondary data taken from various publications of government of India and Rajasthan. Data are further analyzed with statistical tools like mean standard deviation etc. Multiple regression model is used to find out the main determinants of capital formation in agriculture sector of Rajasthan.

Results and Discussion

Present study has been divided into two sections. First section shows the current scenario of capital formation in agriculture sector of India whole second section deals with the Rajasthan.

Section I: Scenario of Capital Formation in Agriculture Sector of India

We have assessed the status of capital formation in agricultural sector of the country throw following aspects:

- **Gross Capital Formation in Agricultural Sector**

Following table gives a picture of gross capital formation in agricultural sector of the country at current prices.

Table 1: G.C.F. in Agricultural Sector at Current Prices

Year	G.C.F. in Agriculture & Allied Sector (Rs. In Crore)			Share of GCF in Agriculture & Allied Sector in GCI of Economy (%)		
	Public	Private	Total	Public	Private	Total
1.	2.	3.	4.	5.	6.	7.
2011-12	35696	238175	273870	5.4	9.3	8.5
2012-13	39743	233747	273490	5.5	8.3	7.7
2013-14	40827	290009	330836	5.1	10.1	9.0
2014-15	47319	284545	331863	5.3	9.0	8.2
2015-16*	56167	242388	298555	5.4	7.6	7.1
2016-17#	66863	282628	349491	6.2	8.3	7.6
2017-18@	78989	287112	366101	6.4	7.5	7.2

Source: Central Statistics Office (CSO)

Data shows that GCF in agricultural sector was Rs. 273870 Crore in 2011-12 which accounts for 8.5 percent share of GCF in agricultural sector in GCF of economy. Total GCF has increased up to Rs. 366101 Crore in 2018 by a growth rate of 33.6 percent. But on the other side its share has decreased to 7.2 percent in GCF of the economy. During this period growth rate of public GCF in private GCF was 51.79 percent and (-) 7.81 percent respectively.

It can be inferred that share of public sector of GCF is increasing but the share of private sector is decreasing.

- **GCF in Agricultural Sector at Constant Prices**

Following table shows the gross capital formation in agricultural sector at constant prices.

Table 2: GCF in Agricultural Sector at Constant Prices

Year	G.C.F. in Agriculture & Allied sector (Rs. In Crore)			GCF of Economy (by Industry of use) (Rs. In Crore)			Share of GCF in Agriculture & Allied Sector in GCF of Economy (%)		
	Public	Private	Total	Public	Private	Total	Public	Private	Total
2011-12	35696	238175	273870	658358	2547358	3205716	5.4	9.3	8.5
2012-13	36019	215075	251094	674878	2672444	3347322	5.3	8.0	7.5
2013-14	33925	250499	284424	716140	2608543	3324683	4.7	9.6	8.6
2014-15	37172	235491	272663	774388	2778459	3552847	4.8	8.5	7.7
2015-16*	42522	195127	237648	923710	2808030	3731740	4.6	6.9	6.4
2016-17#	47738	220098	267836	952943	2854923	3907866	5.0	7.4	6.9
2017-18@	54184	219571	273755	1030944	3256045	4286988	5.3	6.7	6.4

Source: Source: Central Statistics Office (CSO)

Data reveals that GCF in agricultural sector was Rs. 273870 crore in 2011-12 which has remain table till 2018 (273755 crore). Its growth rate was (-) 0.04 percent. During this period growth rate of public and private investment in GCF of agricultural sector was 51.79 percent and (-) 7.81 percent. The share of GCF in agricultural sector in overall GCF of the economy was 8.5 percent in 2011-12 which decreased to 6.4 percent in 2018.

- **Share of GCF in Agricultural in G.V.A of the Economy at Current and Constant Prices**

Following table shows the share of G.C.F. in agricultural sector in G.V.A. of the economy.

Table 3: Share of G.C.F. in Agricultural Sector in GVA of Economy

Year	GVA of economy (In crore) At current price	Share of GCF in Agriculture & Allied sector in GVA of Economy (%)			GVA of economy (In crore) At current price	Share of GCF in Agriculture & Allied sector in GVA of Economy (%)		
		Public	Private	Total		Public	Private	Total
1.	2.	3.	4.	5.	6.	7.	8.	9.
2011-12	8106946	0.44	2.94	3.38	8106946	0.44	2.97	3.38
2012-13	9202692	0.43	2.54	2.97	8546275	0.42	2.52	2.94
2013-14	10363153	0.39	2.80	3.19	9063649	0.37	2.76	3.14
2014-15	11504279	0.41	2.47	2.88	972133	0.38	2.42	2.81
2015-16	12574499	0.45	1.93	2.37	10491870	0.41	1.86	2.27
2016-17	13935917	0.48	2.03	2.51	11318972	0.42	1.94	2.37
2017-18	15482712	0.51	1.85	2.36	12104165	0.45	1.81	2.26

Source: Central Statistics Office (CSO)

Data shows that the share agricultural sector in GVA at current prices was 3.38 percent in 2011-12 which has decreased to 2.36 percent in 2017-18. In the same period share of public sector has been increased to 0.51 percent from 0.44 but the share of private sector has been decreased to 1.85 percent from 2.94 percent. It can also be observed from the data that share of GCF in G.V.A. of economy was 3.38 percent in 2011-12 which decreased to 2.26 percent in 2017-18. Share of public sector in GVA is almost stable in this period which the share of private sector is decreasing continuously.

Section II: Determinants of G.C.F. in Agriculture

Here we have tried to find out those factors which affects the level of gross capital formation in agriculture. Following model has been used here:

$$Y_i: \alpha + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + U_i$$

here

Y_i = G.C.F in agricultural sector

X_1 = Savings of the economy

X_2 = Profit of public sector companies

X_3 = Investment in economy

X_4 = No. of banks in economy

X_5 = Capital formation of economy

U_i = Random disturbance term.

All the explanatory variable are expected to be positive correlated with the capital formation in agriculture. Estimated model is as follows:

Table 4: Regression Model

Variable	B	R ²	R ⁻²	P Value
X ₁	0.54	0.82	0.81	0.0041
X ₂	0.62			
X ₃	0.63			
X ₄	0.71			
X ₅	0.62			

Source: Computed

Our model is found to be fitted as value of R² and adjusted R² is quite high 82 percent variation in G.C.F. is explained by explanatory variables. P value is less than 0.05 (L.O.S.) so all the explanatory variables are found to be significant.

Policy Measures

- Government should give tax rebate to the individuals and to industries so the private investment can rise in agriculture sector.
- Savings are essential for capital formation therefore it is suggested to raise the level of small savings through various government schemes because people believe in government.
- There is a need to spread the facilities of banking, insurance and transportation so the investment in agricultural sector can be raised.
- There is a need to spread easy credit to farmers because it will help in buildings of durable assets in agriculture
- Modern agriculture methods like contract farming should be spread in economy so the level of investment can be raised in agriculture.

References

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