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A STUDY ON CAPITAL-OUTPUT RATIO AND AGRICULTURE SECTOR IN INDIA

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ABSTRACT

This study was intended to evaluate the trends of gross capital formation, value of output and COR in agriculture and allied activities in India from 1950-51 to 1989-1990.This study was found that there is a positive trend in gross capital formation in agriculture and allied sector in pre liberalisation period. COR is very low during this period. Investment had been made more by public sector and less by the private sector during period from 1950 to 1990. After liberalisation (1991-92) investment on agriculture had been declining by public sector and increasing by the private sector. Value of output from agriculture and allied activities was doubled during this period based on 1993-94 constant prices shown that positive sign GFC and value of output in point of view of capital output ratio.

Keywords: Capital output ratio, Agriculture sector, Indian economy, Livelihood, Economic growth

INTRODUCTION

Agriculture continues to be a prime pulse of the Indian economy and is at the core of socio-economic development of the country. The contribution of agriculture to the GVA has decreased from 15% in 2015-16 to 14.4% in 2018-19. The decline was mainly due to decrease in share of GVA of crops from 9.2% in 2015-16 to 8.7% in 2017-18. Growth of agriculture sector has been fluctuating. It increased from -0.2% in 2014-15 to 6.3% in 2016-17, and then declined to 2.9% in 2018-19. Gross fixed capital formation in agriculture has decreased from 17.7% in 2013-14 to 15.2% in 2017-18. And about two-thirds of the population is dependent on the sector. Growth of other sectors and overall economy hinges on the performance of agriculture to a considerable extent through its backward and forward linkages. It is not only a source of livelihood and food

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security for a large population of India but also has a special significance for low income, poor and vulnerable sections.

The Indian agriculture notwithstanding its importance, suffers from various constraints such as traditional methods of cultivation, heavy dependence on monsoon, fragmentation of land holdings, low productivity and low investment. Among others, declining investment over time has emerged as a major binding constraint on the performance of agriculture and remains a cause of concern. Inadequacy of new capital formation has slowed the pace and pattern of technological change and the infrastructural development with adverse ramification on agricultural productivity.

Capital formation is the most crucial and strategic determinant of economic growth. The history of all the advanced countries bears testimony to the fact that their periods of expansion have always been characterized by a high rate of capital formation. Capital formation reflects not just the capacity to save but capacity to invest into productive uses. The structure of the economy together with governmental incentives plays a major role in channeling the capital savings into capital investment to boost economic growth.

The capital- output ratio has been widely used by economists and econometricians in model building for policy purpose in both developed and developing economies, where planning has been an important feature of economic policy, the projection of output and investment requirements in different sectors is often based on the capital- output ratio. The trend of the capital-output ratio is vitally important for the developing countries with scarce capital.

A capital output ratio which is abbreviated as COR. In order to calculate the amount of investment required for achieving a desired level of growth, the relationship between capital and output is estimated. This relationship is conceptually known as the capital-output ratio. This ratio has played an important role in the growth theory ever since its use in Harrod - Domar model. Capital-output ratio, sometimes called a capital coefficient, is a ratio of capital to output.

OBJECTIVE AND METHODOLOGY OF THE STUDY

The present study was focussed on the objective that is calculation of capital output ratio from agriculture and allied sector in India. This study was purely based on secondary data. The secondary data source has been collected through various issues of National Statistical Accounts, Central Statistical organisation, Ministry of statistics and programme implementation, Reports of Ministry of agriculture and farmers welfare Govt. of India and Reports of planning commission, Govt. of India.

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COMPUTATION AND DISCUSSION

The present study aims to know the trends of capital output ratio in agriculture and allied sector in India from 1950-51 to 1989-90(at 1993-94 prices). This study is focussed on finding the trends of COR in agriculture and allied sector in India from 1950-51 to 1999-2000(at 1993-94 prices) during that period study has found that upward trend of gross capital formation and also increasing the value of output in terms of Rupees in agriculture and allied sector. COR is also low in 1950s and 1960s after that COR has increased in 1970s and is again declined in 1980s.finally COR has volatility in the entire study period.

Table and figure 1 depicts the trends of gross capital formation and value of output in agriculture and allied sector in India from 1950-51 to 1969-70(at 1993-94 prices). GCF and value of output were increased during this period.

Table and figure 2 represents the trends of gross capital formation and value of output in agriculture and allied activities from 1970-71 to 1989-90(at 1993-94 prices). During this period both GCF and value of output were increased at a increasing rate.

Table 1: Analysis of Gross Capital Formation (GCF) and value of output from agriculture and allied activities from 1950-51 to 1969-70 (At 1993-94 prices)

(Rs in crores)

Year	GCF	Value of output	Year	GCF	Value of output
1950-51	3798	84427	1960-61	5258	113937
1951-52	4262	85420	1961-62	5115	113915
1952-53	4100	89104	1962-63	5625	112512
1953-54	3903	96210	1963-64	6129	114050
1954-55	3992	98599	1964-65	6559	124277
1955-56	4934	97732	1965-66	7230	110130
1956-57	4849	102992	1966-67	7216	108995
1957-58	5081	98082	1967-68	7830	126095
1958-59	4820	107905	1968-69	8450	125673
1959-60	3965	106837	1969-70	8919	133227

Source: National Accounts Statistics, Back series (1950-51 to 1992-93), Central Statistical Organisation, Ministry Of Statistics and Programme Implementation, Govt. of India.

Year: period of fiscal year in India is April to March.

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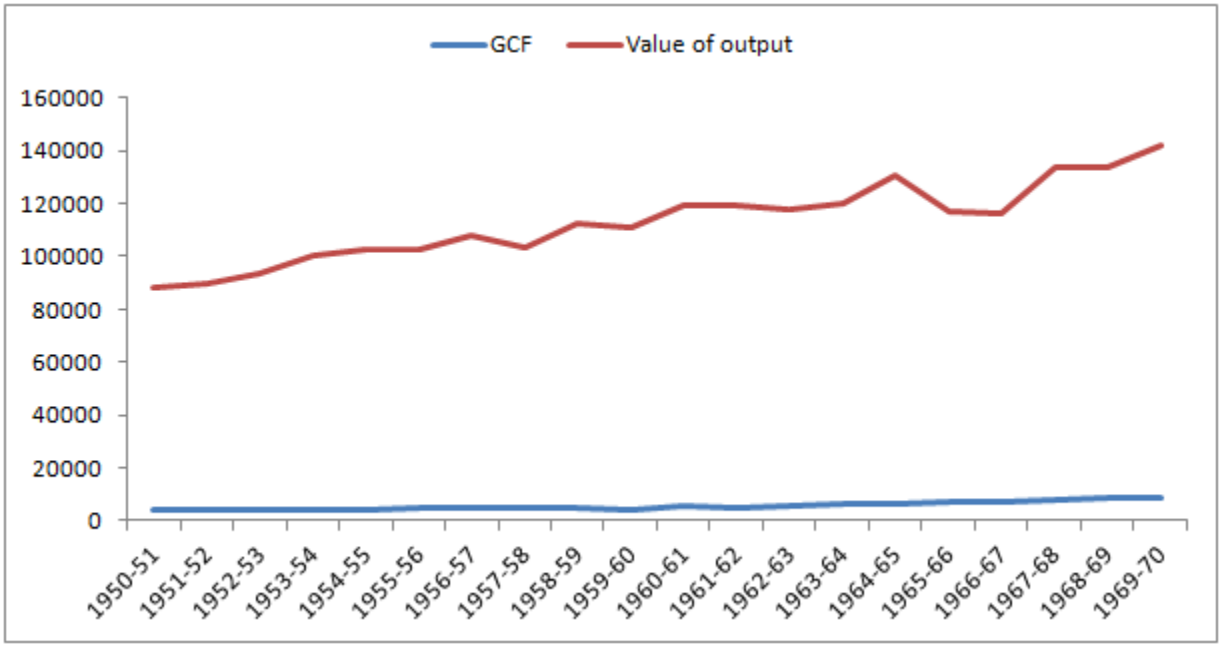
Figure 1: Analysis of Gross Capital Formation (GCF) and value of output from agriculture and allied activities from 1950-51 to 1969-70 (At 1993-94 prices)

(Rs in crores)



Source: National Accounts Statistics, Back series (1950-51 to 1992-93), Central Statistical Organisation, Ministry Of Statistics and Programme Implementation, Govt. of India.
Year: period of fiscal year in India is April to March.

Table 2: Analysis of Gross Capital Formation (GCF) and value of output from agriculture and allied activities from 1970-71 to 1989-90 (At 1993-94 prices)

(Rs in crores)

Year	GCF	Value of output	Year	GCF	Value of output
1970-71	8587	141572	1980-81	14233	179238
1971-72	9147	139952	1981-82	14079	188657
1972-73	10077	133555	1982-83	14529	188398
1973-74	10314	143422	1983-84	14725	204854
1974-75	9567	141676	1984-85	14948	208496
1975-76	11223	158019	1985-86	14132	210496
1976-77	14165	150591	1986-87	13708	210339
1977-78	13068	166906	1987-88	14294	206983

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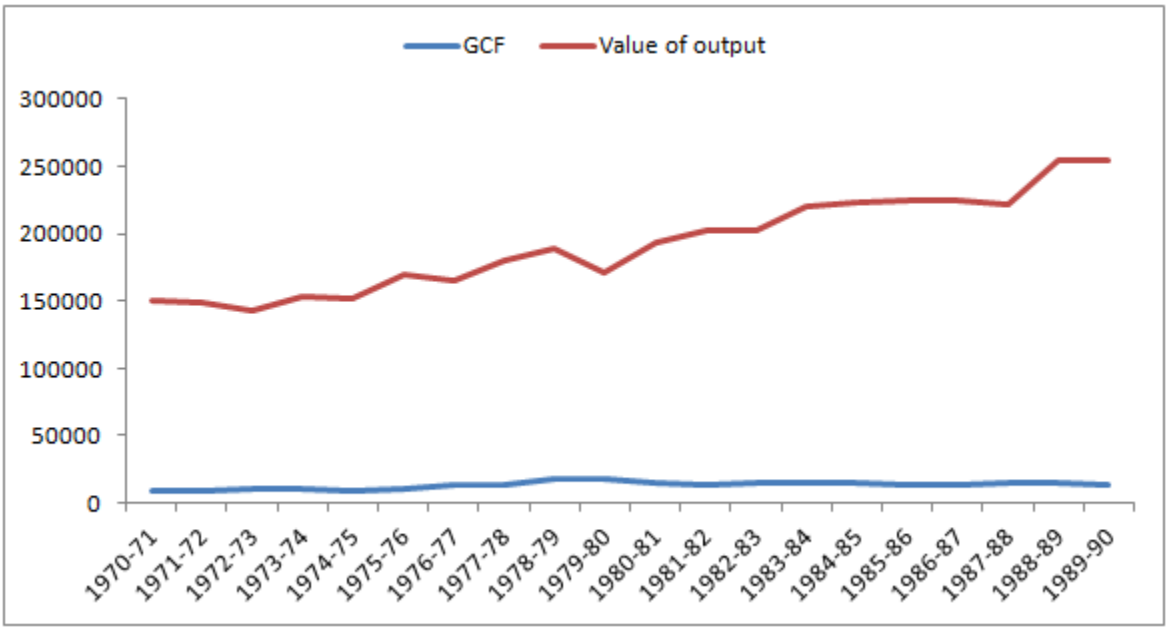
1978-79	17979	171063	1988-89	14762	239351
1979-80	17358	154474	1989-90	13424	241787

Source: National Accounts Statistics, Back series (1950-51 to 1992-93), Central Statistical Organisation, Ministry Of Statistics and Programme Implementation, Govt. of India.
Year: period of fiscal year in India is April to March.

Figure 2: Analysis of Gross Capital Formation (GCF) and value of output from agriculture and allied activities from 1970-71 to 1989-90 (At 1993-94 prices)

(Rs in crores)



Source: National Accounts Statistics, Back series (1950-51 to 1992-93), Central Statistical Organisation, Ministry Of Statistics and Programme Implementation, Govt. of India.
Year: period of fiscal year in India is April to March

Table 3: computation of COR from 1950-51 to 1989-90 (at 1993-94 prices)

Year	COR	Year	COR	Year	COR	Year	COR
1950-51	0.04	1960-61	0.05	1970-71	0.06	1980-81	0.08
1951-52	0.05	1961-62	0.04	1971-72	0.07	1981-82	0.07
1952-53	0.05	1962-63	0.05	1972-73	0.08	1982-83	0.08
1953-54	0.04	1963-64	0.05	1973-74	0.07	1983-84	0.07
1954-55	0.04	1964-65	0.05	1974-75	0.07	1984-85	0.07
1955-56	0.05	1965-66	0.07	1975-76	0.07	1985-86	0.07

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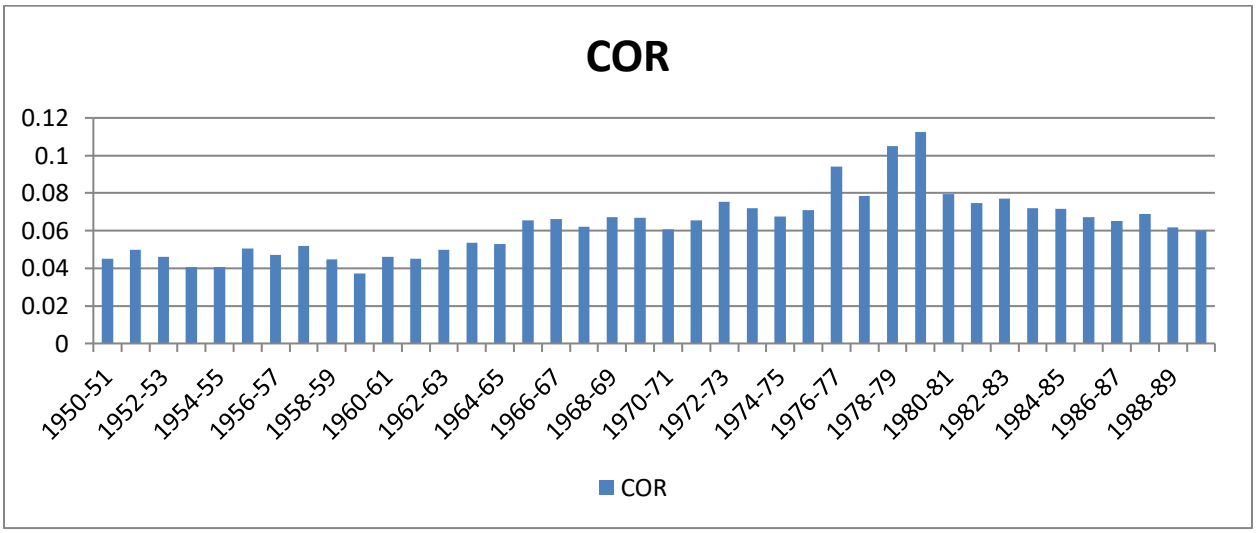
1956-57	0.05	1966-67	0.07	1976-77	0.09	1986-87	0.07
1957-58	0.05	1967-68	0.06	1977-78	0.08	1987-88	0.07
1958-59	0.04	1968-69	0.07	1978-79	0.11	1988-89	0.06
1959-60	0.04	1969-70	0.07	1979-80	0.11	1989-90	0.06

Source: Authors' estimation

Figure 3: computation of COR from 1950-51 to 1989-90(at 1993-94 prices)



Source: Authors' estimation

Table and figure 3 showed that COR in agriculture and allied sector in India from 1950-51 to 1989-90(at 1993-94 prices). COR 0.04 is minimum and 0.11(1978-80) is maximum during the study period. This results show that 0.04 units of capital is required to produce one unit of output in agriculture sector. During the study period, therefore, COR is high(0.11) in the years 1978-79 and 1979-80 which means that 0.11 capital is needed to produce one unit of output.

CONCLUSION

This study has found that gross capital formation, value of output and COR in agriculture and allied activities from 1950-51 to 1989-1990. During this period gross capital formation was increased because government had given more importance to agriculture sector to attain food self sufficiency and remove the problem of food scarcity for rapid growing population. Agriculture and allied sector after independence had been using labour intensive technique an account of lack of capital. Hence COR is very low in pre liberalisation period.

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