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Trends in public expenditure in agriculture in Maharashtra

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Abstract

The public expenditure in agriculture grew at the rate of 0.92 per cent per annum but it was non significant. The growth in of public expenditure on agriculture ranged from -7.11 to 6.03 per cent per annum in different divisions. This suggested that there was no even distribution of public expenditure among the different divisions. The expenditure in agriculture has always been small due to the deficiency of resources, it is considered as major hurdle in financing the agriculture which must be increased by incinerating alternative development model to attract long term investment in agriculture which leads to overall economic development of the state. As the public expenditure in agriculture increased marginally by 0.92 per cent per annum though non significant.

Among the different divisions significantly highest growth rate was registered in Nagpur division 6.03 per cent per annum, followed by Pune 5.31 per cent and Amravati 3.59 per cent. However, Chhatrapati Sambhajnagar and Nashik divisions registered negative growth rate of (-)7.11 and (-)2.59 per cent per annum, respectively. The public expenditure in agriculture marginally increased by 2.39 per cent per annum in Konkan division. This revealed that public expenditure was not evenly distributed among the different divisions in Maharashtra state.

Keywords: Compound annual growth rate, public expenditure and trends

Introduction

The agriculture sector is the backbone of an economy which provides the basic ingredients to mankind and raw material for industry. Agriculture is the primary source of food for all countries around the world, whether they are underdeveloped, developing or developed. Food demand is rapidly increasing as a result of the high population pressures and rapid growth in underdeveloped and developing countries. Agriculture is found to have a negative impact on the economy's growth rate if it fails to meet rising demand for food products. Agriculture development necessitates the construction of roads, market yards, storage, transportation, railways, postal services and other infrastructure. This needs huge investment which is made by government. The public expenditure in agriculture plays vital role in creating demand for industrial products and growth of a commercial sector. The development of the agricultural sector has mitigated the burden on several developed countries that were experiencing a lack of foreign capital. Agriculture is a multifunctional activity that provides employment, livelihood, food protection, nutritional and environmental security. Agriculture has made significant progress over the last five decades by increasing agricultural production.

Methodology

Sources of data

The time series data on public expenditure were collected from the annual publication, department of Economics and Statistics, Government of Maharashtra as well as Maharashtra census for the period from 2000-01 to 2019-20.

Estimation of trend in Agriculture expenditure

The trend in the allocation of agriculture expenditure in Maharashtra at nominal price for the period 2000-01 to 2019-20 was estimated. The following exponential growth function was used to estimate the compound growth rates in total expenditure in nominal over this period.

Compound Annual Growth Rates (CAGR)

Compound growth rate of a variable is the rate of change per unit time, usually a year. The method of Ordinary Least Squares was adopted to estimate the co-efficient (b). Compound growth rate was estimated by using exponential growth function as,

$$Y = ab^t e^{ut}$$

Where,

Y = Public expenditure

a = Intercept
 b = Regression or trend coefficient
 t = Time
 r = Compound growth rate
 e = Error term
 u_t = Coefficient of error term

The exponential growth function was converted into log linear form to facilitate easy calculations. Compound growth rate per annum in percentage was calculated using the relationship,

$$\text{C.A.G.R. (r)} = [\text{Antilog}(\log b) - 1] \times 100$$

Results and Discussion

State government incur huge expenditure for overall development of agriculture and farming community in the state. Agricultural development is slow and requires continuous investment by the government in the form of irrigation, electricity, land development, horticultural development, livestock development etc.

In view of this, an attempt was made to analyze the growth pattern of public expenditure with respect to different revenue divisions of the state for the period from 2001 to 2020. The public expenditure incurred by the government agencies and Zilla Parishad on irrigation, agriculture, livestock, forestry, Village development, electricity, transport etc was Rs. 1099044 lakh in 2001 which increased to Rs. 1600 805 lakh in the year 2020. In Nagpur division total public expenditure in the year 2001 was Rs. 53177.78 lakh and Rs. 132127.5 lakh in 2020. In Amravati and Chhatrapati Sambhaji Nagar division total public expenditure in 2001 was Rs. 67317.77 lakh and Rs. 366991.5 lakh and in 2020 it was Rs. 103411. 6 lakh and Rs. 140892.6 lakh, respectively. In Nashik division total

public expenditure during 2001 was Rs. 251012.7 lakh and Rs. 146881.1 lakh in 2020. In Pune and Konkan division public expenditure incurred in agriculture during 2001 was Rs. 286380.4 lakh and Rs. 7416356 lakh, respectively. Where, as in the year 2020 it was Rs. 936095.2 lakh and Rs. 141396.5 lakh in Pune and Konkan division, respectively.

Table 1: Compound annual growth rate of public expenditure in agriculture

Division/Particular	Intercept	Coefficient	CGAR	R ²
Nagpur	10.66	0.05	6.03**	0.62
Amravati	10.87	0.03	3.59**	0.44
Chh. Sambhajinagar	13.06	-0.07	-7.11**	0.55
Nashik	12.33	-0.002	-2.59 ^{NS}	0.13
Pune	12.26	0.05	5.31**	0.37
Konkan	11.27	0.02	2.39**	0.52
Overall	13.80	0.009	0.92 ^{NS}	0.05

** Significance at 5% level

The divisionwise compound growth rate for public expenditure in agriculture is presented in Table 1. It is observed that at overall level public expenditure in agriculture grew at the rate of 0.92 per cent per annum but it was non significant. Among the different divisions highest growth rate was registered in Nagpur division 6.03 per cent per annum, followed by Pune 5.31 per cent and Amravati 3.59 per cent. However, Chhatrapati Sambhajinagar and Nashik divisions registered negative growth rate of -7.11 and -2.59 per cent per annum, respectively. The public expenditure in agriculture marginally increased by 2.39 per cent per annum in Konkan division.

The foregoing analysis revealed that public expenditure was not evenly distributed among the different divisions in Maharashtra state.

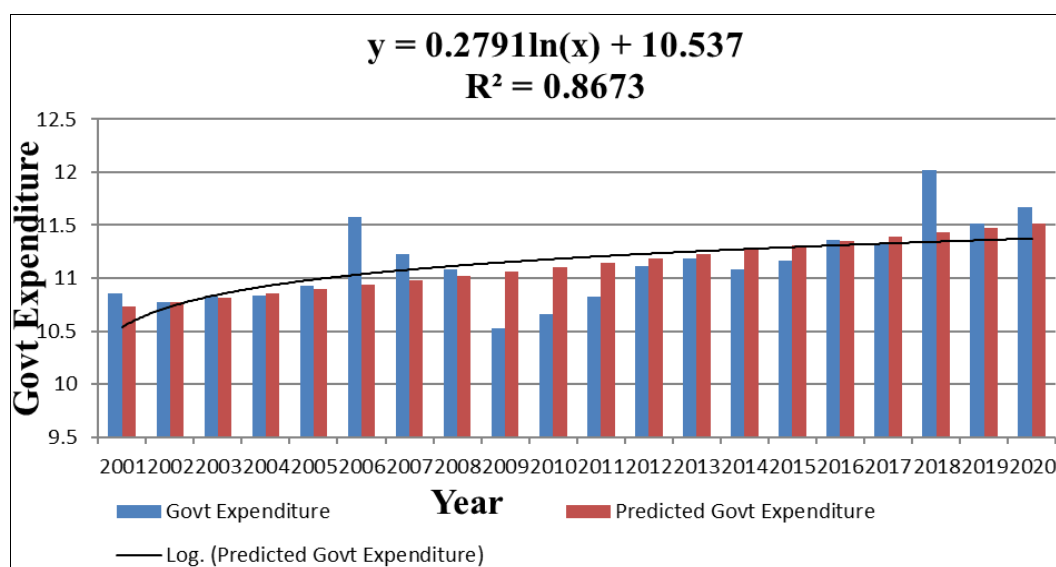


Fig. 2: Public Expenditure In Agriculture

Conclusion

Based on the results of the present study, conclusions are the total expenditure incurred by the government has increased over the period 2001 to 2020 at the rate of 0.92 per cent per annum. The public expenditure in agriculture was not

evenly distributed among the different division of Maharashtra state.

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