

Agricultural Productivity in Goa: An Evaluation

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Abstract

Goa a tiny and a popular tourist destination is located between the Arabian sea and the western Ghats. It is dependent on its neighbouring states for milk, poultry and vegetables. Rice is the major crop followed by cereals like pulses and small millets. The areca nut, coconut, cashew are the other major plantation crops here and the garden crops include pineapple, mango, bananas and jackfruits. Also from the forest various types of barks and bamboo canes are harvested. However even though one fourth of the population is sustained by agriculture in Goa, it contributes to only 15 to 16 percent to the income of the state. Due to rapid urbanization the availability of agricultural land is reducing. Also as 78 percent of the agricultural area is still rain fed, irrigation is insufficient and commercial farming is ruled out as 80 percent of land holdings are below 2 hectares and the sizes of the fields are small. Goa faces problems for enough cultivable land to feed its own population. The coastal area in Goa does not qualify as good agricultural areas. So for day-to-day needs of agricultural produce like vegetables, Goa is still dependent on Karnataka and Maharashtra. However, one-third of the total land in Goa falls under forest areas. Goa is known for its tourist destination has been forefront at the production of certain commodity since liberalization. Rice and fish is being staple diet of the people, paddy is the principal crop in the scenario of agriculture in Goa. However, last two-three decade the productivity of agriculture in Goa has been declining. The net sown area and gross cropped area has also shown variation. The present paper has analyzed the performance of agriculture in Goa. The study has found that over the number of years the performance of agriculture in Goa has not been satisfactory. There has been argent need for the effective programmes and incentives part of the government and its stakeholders.

Key words: Production, Agriculture, Gross Cropped Area, Population

1. Introduction

Goa is a wonderful, beautiful and a small state in India, spread over an area of 3.61sq. km. It is situated on the konkan track of the west coast of India. In the last fifty years of liberation, the state has been seen major changes in different sectors of economy. The composition of primary sector in GSDP increased from 12.38% in 2004-05 to 17.24% in 2006-07 and thereafter in the subsequent years it stabilized around 20%. The primary sector which

was accounted for 21.52% during 2011-12 declined to 8.4% in 2016-17. The sectoral composition of NSDP been 2000-01 and 2009-10 has also depicted a fall in the agriculture and its allied activities, which however has been offset by the rise in the share of services sector as the share of the industry remained steady. This is because the agricultural production, decline in fish catch, and falling output from the forest sector. However off late, the NSDP has increased from 13.85% in 2015-16 to 19.40% in 2016-17. Through tourism and mining are at forefront in terms of employment generation. Goa state is being an internationally renowned tourist destination with huge influx of both domestic and international tourist throughout the year, the requirement of fresh fruits and vegetables is always high. The agriculture along with the forests in Goa is instrumental in keeping Goa green and cover nearly under 65% of the total area of state. The net sown area has decreased from 132 hectares in 2011-12 to 129 hectares in 2014-15. Most of the agricultural land in Goa has been going out of cultivation and it is progressively put to non-agricultural use. The geographical area of the state is 370200 ha. The total cropped area is 165506 ha, out of which 40% of area is under commercial and horticultural crops.

2. Review of Literature

- **Sinha S. And Singh M. K (2010)** examined the performance of agricultural credit flow and has identified the determinants of increased use of institutional credit at the farm household in India. The study found that the institutional credit flow to the agricultural credit has been increased in past four decades.
- **Solanki R. (2016)** analysed on the agriculture advances by commercial banks. The study found that agriculture lending by sample bank has failed to reach the target given by RBI.
- **Kumar D. (2014)** studied the agricultural credit reforms and financial inclusion in India and the study found that more innovative models are needed to reach small and marginal farmers in rural areas for the success of financial inclusion programme.
- **Mishra K. And Mohapatra U. (2017)** studied the history and need of agricultural finance in India, sources and magnitude of agricultural finance and assesses its progress. The study found that the institutional credit flow to the agriculture has been increasing for the past four decades.
- **Samantaray L. L. (2015)** examined the linkage between the structural, technological and institutional policy reforms, which are responsible for the success of sustainable agriculture development. The study has found that it is necessary on the part of the government to give due priorities to key segments, live marketing, price mechanisms, technology, R&D and trade.
- **Narayanan S. (2015)** examined the nature of the relationship between formal agricultural credit and agricultural GDP in India. The study found that over the period all the inputs are highly responsive to an increase in institutional credit to agriculture.

3. Objectives of Study

- To analyse the productivity of agriculture in Goa over a last 3 decades.
- To analyse possible causes in the changes in the net sown and cropped area

4. Research Methodology

The study is purely conceptual in nature. It has relied primarily on secondary source. Secondary data was obtained using articles, reports, and different websites etc.

5. Trends in the Production of Agricultural Crops

The production of various agricultural crops in Goa over the last two decades has been on the decline. The reasons are many, but are interconnected with lots of economic barometers of agriculture at the state as well as at the national level. Table (1) shows the production of certain crops in Goa from 2005-06 to 2010-11.

Table 1 Production of Agricultural Crops (In Tonnes)

year	Production of Crops(in tonnes)					
	Paddy	Rice	Pulses	Vegetables	Groundnu	Coconut
2005-06	220853	147253	11570	82580	7942	125.34
2006-07	193418	130279	16250	84290	4600	126.68
2007-08	182519	121670	11261	56027	6998	127.57
2008-09	177081	123303	10141	57603	8208	128.18
2009-10	150919	100605	8535	58130	8055	128.72
2010-11	172489	114994	7982	60472	8287	128.88

Source:

Directorate of Agriculture, Goa.

Table 1 shows the production of the,main crops in Goa since 2005-06.It can be seen that the production of Paddy has declined from 220853 tonnes in 2005-06 to 172489 tonnes. The production of rice also declined by 21.9% from 2005-06 to 2010-11. The production of pulses also declined from 11570 tonnes to 7982 tonnes from 2005-06 to 2010-11. The production of groundnut however showed an marginal improvement of 345 tonnes during the same period.

Table 2 Pattern of land utilisation in terms of irrigated area of Goa ((Area in Ha. And in %)

Year	Net Sown Area	Gross Cropped Area	Crop Intensity
2005-06	136781	33546	24.53
2006-07	137039	35069	25.59
2007-08	134208	35310	26.31
2008-09	134601	31352	23.29
2009-10	131587	28733	21.84
2010-11	131020	28896	22.05

Source Directorate of Agriculture, Goa.

Table 2 reflects the relative weakening of the agricultural position in the tiny state of Goa. The net sown area and the gross cropped area. The crop intensity has shown a decline over the years. It has decreased from 24.53% to 22.05% from 2005-06 to 2010-11.

Table 3 Contribution of Agriculture to GDP (at Current Prices; In Lakhs)

Gross Domestic Product (Current Price) In Lakhs				
Years	Primary	Secondary	Tertiary	Total
2000-01	90305	251166	410638	752109
2001-02	89334	288081	402884	780299
2002-03	98405	359754	466463	924622
2003-04	110673	369268	485723	965664
2004-05	154813	481920	511418	1148151
2005-06	199149	553101	573987	1326237
2006-07	255675	635480	633681	1524836
2007-08	299291	724525	697643	1721459
2008-09	461949	807907	965946	2235802
2009-10	524112	940009	1124091	2588212
2011-12	847915	1861030	1231621	3940566
2012-13	437289	1710767	1339245	3487302
2013-14	315688	1411116	1475558	3202361
2014-15	314677	2323289	1681083	4319049
2015-16	402082	2644841	1853904	4900827
2016-17	542343	3231640	2082131	5856115

Source: Economic Survey Reports of Goa

Table (3) clearly shows a decrease in the contribution of the agriculture towards the Gross Domestic Product. It was 12% in 2000-01 but went down to 9% in 2016-17. The share of the secondary sector increased from 33.40% in 2000-01 to 55.18% in 2016-17. The share of the service sector decreased from 54.60% in 2000-01 to 35.5% in so called service-oriented state.

The performance at Irrigated area under major crops in Goa in 2014-15 was not much satisfactory as compared to our neighbouring states. Table 4 shows the relative performances of some of our neighbours in terms of irrigated area.

Table 4 Irrigated area under major crops in Goa (2014-15)

States	Rice	Cereals	Pulses	Total foodgrain
Goa	33.7	33.7	97.6	44.5
Kerala	76.1	75.9	6	74.6
Karnataka	76	36.2	8.6	27.3
Maharashtra	26.1	21	10.9	18
Manipur	30.7	27.3		24.4
A.P	97.7	89.5	2	66.5
All India	60.1	60.1	19.9	53.1
source: Directorate of Economics & statistics,				

Table (4) shows that Andhra Pradesh has been leading in the production of the crops such as rice, cereals and pulses. The performance of Goa in the production of pulses however has been much better as compared to other states. In terms of the production of rice and cereals it has been not satisfactory. This clearly shows that the average productivity in crops like rice and cereals needs to be boosted.

The performance of Goa in terms of micro irrigation also is on the lower side, which explains the cause of concern for the decreasing productivity of agriculture in Goa. Table 5 shows the micro irrigation in Goa as compared to some other states.

Table 5 State-wise under micro irrigation (2015-16)-In Ha

States	Drip	Sprinkle	Total
AP	1012093	386415	1398508
Goa	1086	993	2079
Kerala	22890	8080	30970
Karnataka	514090	536443	1050533
Maharashtra	1004175	408365	1412540
Manipur	288	30	318
Mizoram	3064	1364	4428
Total	4238448	4967025	205473

Source: Department of Agriculture, Co-operation & Farmers welfare

Table 5 shows that the application of drip and sprinklers has not been widely accepted by the farmers of Goa. In fact in some of the studies, it was found that farmers are neither aware of sowing sprinklers in Goa. The government no doubt has given subsidy of 50% on adaptation of this technique but it's still on the way of its adoption by the farmers of Goa. The size of the holdings also has been very small in Goa and has been getting fragmented year by year on account of pressure of population. A closer look at the government report shows that the decrease in average size of farmlands has been the most in Goa (28.9 per cent), followed by Sikkim (20.4%). In Goa, it's the small and marginal farmers who have been most involved in this land fragmentation as the average size of land they possess has registered a decrease of 55.44 per cent. The state's fertile Khazan lands have

also been affected due to short-sighted planning, public apathy, industrialisation and urbanisation. The land holdings are now being gobbled up for infrastructure development.

Another factor that earns Goa a lot of money and could also be causing land fragmentation is tourism. Goans are not only selling, converting or renting their old houses, but also land holding for commercial and residential purposes. In the last 32 years, the number of tourists coming to Goa has increased nine times and so have the number of hotels between 2005 and 2017. Around 4,000 hotels came up in these 12 years. The growth of the construction sector has also attributed to land fragmentation here. The contribution of the construction sector to the state GDP has risen by a phenomenal 136 per cent—from Rs 1,313 crore to Rs 3,098 crore between 2004 and 2014. This is twice the size of Goa's agricultural economy.

Goa is home to the largest urban population among all the small states in India. More than 62 per cent of its population resides in urban areas and about 38 per cent in rural areas, says the 2011 census. As per the 1961 census, 85 per cent lived in rural areas and 15 per cent in urban areas. This increase in urban population has also put pressure on agricultural land. Besides this the goan agriculture has been adversely affected by factors such as inadequate awareness, dependency on monsoons, Lack of modernization, Low income elasticity and its failure to produce hybrid variety of crops:

6. Supportive Measures by Government

The department of agriculture provides assistance for farmers from land preparation to extent of marketing the produce. The department of agriculture with its head quarter at Tonca, Panaji implemented developmental program through Zonal agricultural offices located in each Taluka of Goa. The department has plant production centres in their agricultural farms. Being a progressive state, the farmers face tremendous shortage of manual labour. The dependence on machines for activities in agriculture is the emerging trend. The land holding of farmers of Goa is small and most of farmers own less than 1Hha. of land. The smaller machines are preferred and government provides financial assistance for such machines. The government promotes large scale cultivation of various crops for which assistance for seeds, pesticides and manures besides land preparation is provided.

Goa is the only state where the farmers are assured of the price of their produce. The state provides the assurance of the support price in the case of paddy, coconut, areca nut, oil palm, sugarcane which safeguards the farmers against any losses due to collapse in market price to keep farming at its prime level.

5.1 Schemes Implemented by Directorate of Agriculture

For the purpose of crop production and input management, to raise the productivity in agriculture the government of Goa has been proactive in terms of its various supportive schemes and programs as follows.

- A) High yielding certified seeds
- B) Distribution of Seed Minikits

- C) Incentive For Mechanized Paddy Transplanting:
- D) Plant Protection
- E) 50% subsidy on all bio-pesticides, BCA's traps and lures
- F) Agricultural Mechanization:50% subsidy
- G) Assistance For Bringing Fallow Lands Under Agricultural Crop
- H) ShetkariAdharNidhi
- I) Jai Kisaan Mobile App Launched For Goan Farmers
- J) Goa State Horticulture Corporation Ltd(GSHCL)

7 Conclusions

It's a fact that agriculture in goa is on the decline. The construction sector has started replacing the agricultural sector in Goa. The average size of the holdings in the agriculture has been getting fragmented year by year on account of increasing pressure of population in Goa. The governments initiatives have been looking good, but the degree of awareness among the farmers on various supportive measures and the need to adopt modern techniques of production has been very low. The need of the hour is either one innovate or perish, but then a pragmatic approach will be required.

8. References

- A., C. A. (2011, June). Economic development and agriculture in India. 22.
- D., k. (2014). Agriculture credit reform and financial inclusion in India . *ISSN*, 1 (4), 14.
- F., M. (2015). Agricultural productivity in India: trends during five year plans . 5, 12.
- K, s. M. (December 2010). institutional credit to agriculture sector in India: status, performance and determinants. *ICAR* , 12.
- K., M. (2017, august). Agriculture finance in India- An Overview. *IJESRT* , 12.
- K.A, P. (2014, May). Agricultural production and productivity. 43.
- L.L, S. (2015). A study on the current trend of agricultural productivity in india and dits future prospects. *IJHSSE*, 2 (4), 11.
- M.M, P. (2009, February). Indian agriculture-An introduction. 39.
- R., M. (2003). Productivity growth in Indian agriculture: the role of globalization and economic reform. 10, 16.
- R., s. (2016). A study of agricultural finance by commercial bank in India:a case study of central bank of India . *ISSN*, 5 (4), 7.
- S., K. P. (2006). Agricultural productivity trends in India: sustainability issues . 19, 18.
- S., N. (2015, January). The productivity of agricultural credit in India . *IGIDR* , 35.
- Sreekanth M., A. H. (2017). Low productivity of Indian agriculture with special reference on cereals. *JPP*, 6 (5), 8.