

Overview of Homestead Farming - Coconut in Kerala

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Abstract

Coconut is a crop which is cultivated mostly by the people of tropical countries where the water facility is abundant as the crop requires more amount of water for its growth. Coconut is considered as the “tree of life” in developing countries as they depend on it as a source of food, medicine, shelter, fuel and furniture among others. Coconut is considered as one of the most important cash crop throughout the world. Coconut is an age old crop cultivated more in the tropical countries. India consists of a vast line of coastal region which is suitable for growth of coconut and it is cultivated around 13 states covering the area of 2.09 mha. Coconut cultivated in Kerala is of 8.2 Lakh ha which occupies 38% of net cropped area and provides livelihood to over 3.5 million families in Kerala. This paper is based on the secondary data and attempt is made to find out the share of coconut cultivation and production in Kerala. The trend is also shown for area and production from the year 2000-01 to 2015-16 and analyzed the growth rates of area, production and productivity which resulted in negative growth rate which indicates in the decrease of coconut cultivation which is a main homestead crop in Kerala. The index number revealed the area, production and productivity of coconut in each year.

Keywords: Coconut, home stead farming, tropical, Kerala, trend

1. Introduction

Coconut (*coco's nucifera*) widely acclaimed as kalpavruksha. Coconut is one of the fruits that have high economic value because of both tree and fruit have a numerous uses. Coconut tree is ranked among the 10 most useful trees of the world and often termed as “tree of life”. Coconut is mostly grown in tropical countries and worldwide cultivated in around 90 countries. The origin of coconut is still controversy but many researchers say that it is from Southeast Asia. Coconut has been cultivated in India since ages and plays an important role in social, economic and cultural activities of the people.

India consists of a vast line of coastal region which is suitable for growth of coconut and it is cultivated around 13 states covering the area of 2.09 mha. India accounts for 31% of global production with the quantity of 22,167.45 million nuts and stands in the third position whereas first and second position is occupied by Indonesia and Philippines respectively (Richard and Laxmi, 2017). Coconut in India is predominantly a small holders crop contributing to about Rs. 83,000 million annually which is about 2% of the contribution of agriculture and allied sectors with more than 10 million farming families dependent on the crop for their livelihood.

The consumption of coconut is largely dominated by food sector as coconut is considered as a stable food in many

parts of the country (SC Ahuja et al., 2014). The coconut also has cultural and religious significance in certain societies, particularly in India, where it is used in Hindu rituals. Coconut oil is used in cooking as well as in industrial applications such as hair oils, soaps, shampoos and also in preparation of some medicines. Because of the numerous uses of coconut oil in various sectors the demand is very high which converted one of the largest coconuts producing country to importer of coconut oil from other countries.

2. Materials and Methods

The secondary data regarding area, production and productivity are collected from various publications of coconut development board, Directorate of Economic and Statistics and Ministry of Agriculture and Farmers Welfare, Government of India.

Statistical tools were used for identifying the production performance of coconut.

The index number was estimated with the formula:

$$I = \frac{X_i}{X_o} \times 100$$

Where,

X_i =Area, Production and productivity of coconut in the



current years

Xo=Area, Production and productivity of the Coconut crop in the base year

The index number is calculated on the chain based method to account for the change in coverage in crop estimation. The base year for the index numbers has been taken as the first year of the sampling years.

The co-efficient of variation was estimated by using the following formula:

$$\text{Coefficient of variation} = \frac{\text{Standard Deviation}}{\text{Mean}} \times 100$$

To calculate compound annual growth rate, divide the value of an investment at the end of the phase in question by its value at the beginning of that phase, raise the result to the power of one divided by the phase length, and subtract one from the subsequent result (Guledgudda et al., 2002).

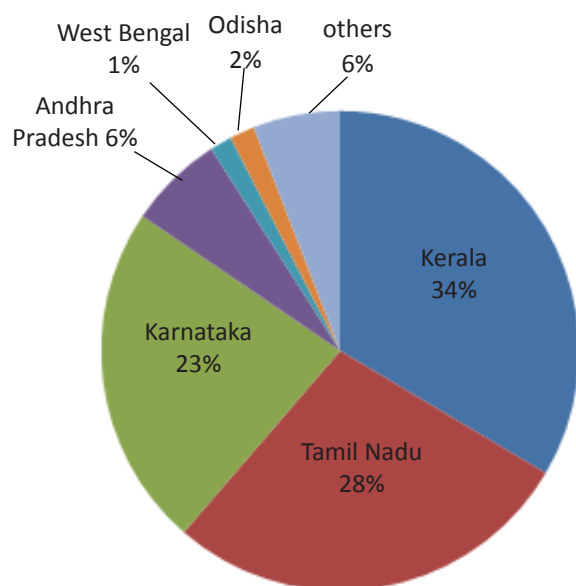
This can be written as follows:

$$\text{CAGR} = \left(\frac{\text{Ending year value}}{\text{Beginning year value}} \right)^{\left(\frac{1}{\text{No. of years}} \right)} - 1$$

3. Results and Discussion

In India coconut is cultivated in 13 states. The major coconut growing state in India is Kerala followed by Tamil Nadu, Karnataka, Andhra Pradesh which combine contributes 90 per cent of area and 91% of production. Kerala is a southern state of India which is well known as Gateway of India. Tamil Nadu stands first in terms of productivity with 14, 873 nuts per hectare followed by Andhra Pradesh.

Distribution of Coconut Production among states in India

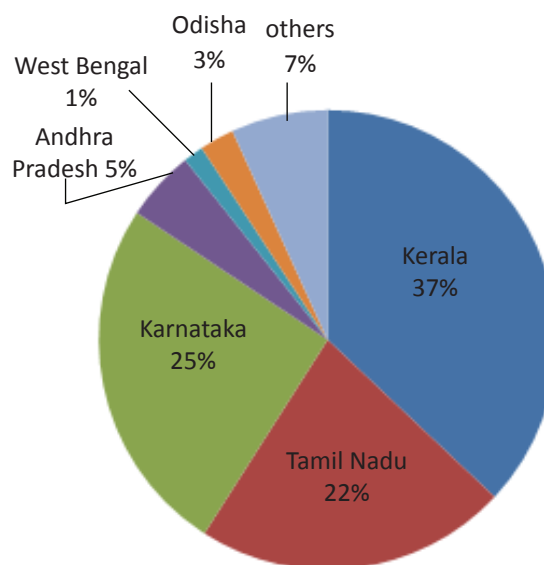


From the Figure 1, it can be shown that Kerala contributes 34 per cent of total production of coconut in India which can be said that out of 22,167.5 mt Kerala produces 5,873 million nuts whereas in terms of area it contributes 37 per cent under coconut cultivation which can be said as out of 20, 88,470 ha Kerala cultivates in 7, 90,223 ha and stands in the first place both in area and production. Coconut is the staple food of Kerala that is the reason though it is the largest producer of coconut in India it is not in a position to export. It can be observed that Karnataka stands in the second place in terms of area and third in terms of production. Tamil Nadu stands third in terms of area and second in terms of production followed by Andhra Pradesh, West Bengal and Orissa.

In Kerala, coconut is cultivated in 14 districts out of which Kozhikode stands first in cultivation with 15% of cultivated area of coconut whereas second in terms of production with contribution of 18% of Kerala production. Malappuram is another famous district which stands first in terms of production with 851 million nuts which contributes 18% of total production in Kerala and in terms of area it contributes 13 per cent and stands second in position which can be seen in Figure 2. The other major districts contributing both in terms of area and production is kannur with 11% of area and 10% of production followed by thrissur, thiruvananthapuram, kasar god. In terms of productivity mallapuram stands first with 7944 nuts per hectare followed by thiruvananthapuram and thrissur.

Coconut cultivated in Kerala is of 8.2 Lakh hectares which occupies 38% of net cropped area and provides livelihood to over 3.5 million families in Kerala (Lathika and Ajith, 2005). From Figure 3, it can be observed that in 2000-01 the area under coconut cultivation was 9, 25,783 ha whereas coming

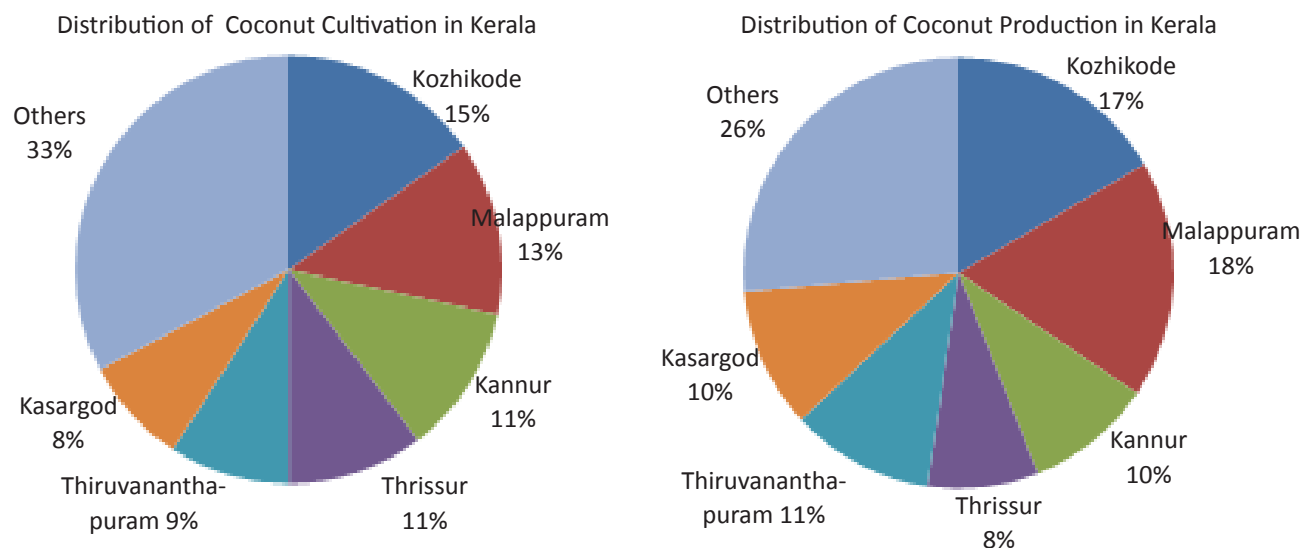
Distribution of coconut cultivation in India



Source: Asian and Pacific Coconut Community (APCC) statistical year book 2016

Figure 1: Area and production of coconut in India





Source: Directorate of economics and statistics (2015-16), Thiruvananthapuram

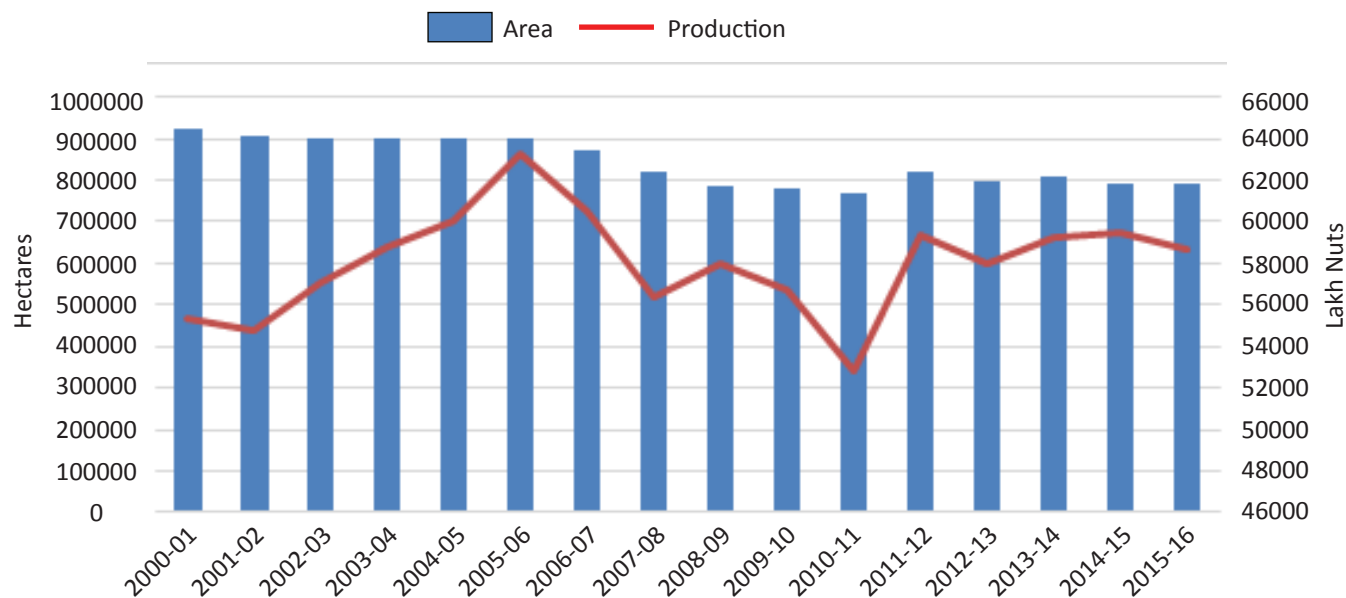
Figure 2: Area and production of coconut in Kerala

to 2015-16, it decrease to 7,90,223 ha which shows that there is a decrease in cultivation of coconut over a period which is because of shifting to other cash crops which yields high income.

From Figure 3, production resulted in great fluctuations from 2000-01 to 2015-16 of which we can observe there

is a sudden increase in the year 2005-06 because of the government intervention by providing minimum support price and coconut palm insurance scheme. There is a decrease in year 2010-11 because of heavy drought conditions throughout the country.

From the Table 1, the maximum variation is observed in



Source: Directorate of economics and statistics (2015-16), Thiruvananthapuram

Figure 3: combined graph of Area and production of coconut in Kerala

productivity which is a dependent on area. The variation observed in area is 6.58 which can be noted as there was a decrease of 6.58 times in the cultivation of coconut in Kerala which is considered as a main homestead crop.

From Table 2, the index number of area shows that the area has decreased in all the years, except some years due to the unsuitable shift of farmers to other crops. Each year has been some fluctuation during the failure of monsoon in production.

Table 1: Coefficient of variation and CAGR of area, production and productivity of Kerala

Parameters	Area	Production	Productivity
Coefficient of variation	6.58	4.30	6.97
CAGR	-1.05	0.39	1.46

Source: author's own computation

Table 2: Index numbers of area, production and productivity of Kerala

Year	Area	Production	Productivity
2000–01	100	100	100
2001–02	97.83	98.97	101.15
2002–03	99.28	104.20	104.96
2003–04	99.92	102.93	103.01
2004–05	100.09	102.13	102.03
2005–06	99.84	105.42	105.59
2006–07	97.23	95.70	98.42
2007–08	93.80	93.18	99.34
2008–09	96.21	102.85	106.91
2009–10	98.84	97.67	98.82
2010–11	98.95	93.29	94.28
2011–12	106.54	112.37	105.46
2012–13	97.23	97.61	100.39
2013–14	101.31	102.10	100.78
2014–15	98.17	100.44	102.31
2015–16	99.54	98.76	99.21

Source: author's own computation

4. Conclusion

The domestic consumption of coconut in Kerala is high that is the reason it is unable to export though it is a major producer in the country. The cultivation of coconut is decreasing with a percent of 1.05% so coconut development board which is a government organization has taken certain initiatives such as friends of coconut tree, increase of productivity by formation of FPO's. Coconut development board is also trying to increase the demand of coconut by diversifying the product.

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