



## A Study on Trend in Area, Production and Productivity of Coffee in Nepal

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### ABSTRACT

*Agriculture is the backbone of the national economy of Nepal. A survey shows coffee consumption has grown up to 384 MT in 2010 from 156 MT in 2006 (CoPP, 2010). Witnessing the increase in area and production of coffee and its economic importance a study was carried out with the objective to study the growth trend in area, production and yield of coffee in Nepal. The specific study was based on secondary data collected for a period of 1994-95 to 2015-16 in Nepal. The growth trend analysis for area under coffee recommends that it was increasing with a compound growth rate of 43 per cent per annum during overall period of study. The growth trend analysis for coffee production Nepal was found positive growth and it was rising with a compound growth rate of 16.8 per cent per annum during over all study period. Growth of coffee yield was expanding with a compound growth rate of 2.3 per cent per annum. There is need to enhance the area under production and productivity of coffee.*

**Key words:** Coffee, Area, Production, Productivity, Compound annual growth rate.

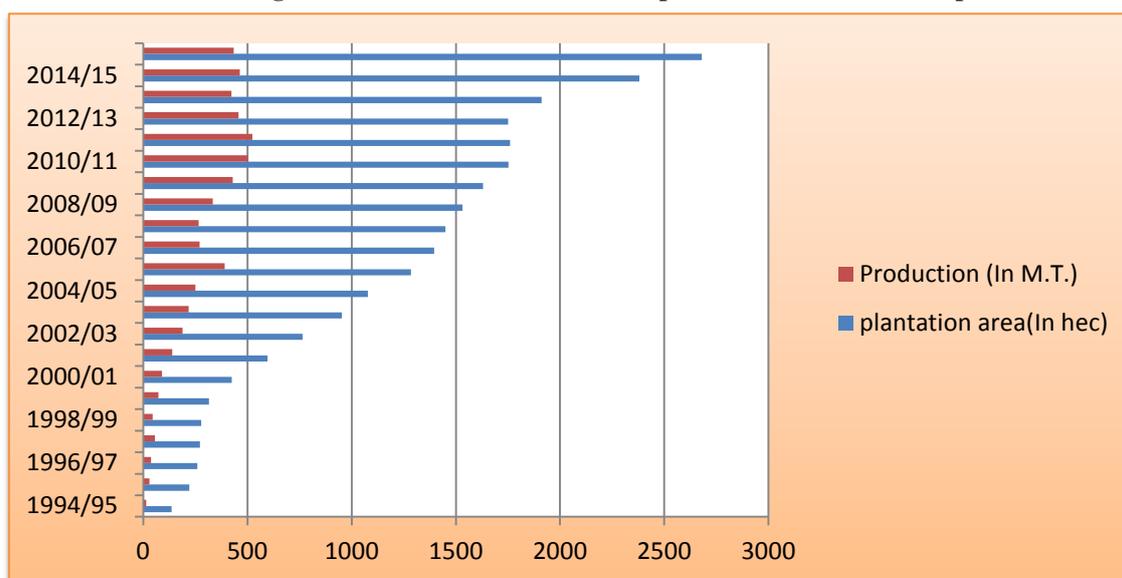
### INTRODUCTION

Agriculture is the backbone of the national economy of Nepal. About 57 percent of the population is involved in farming which contributes around 38 percent to the GDP. Nepal's agriculture has taken a step onward by going commercial recently. Among the cash crops cultivated in Nepal, coffee is a high value cash crop commercially grown in many parts of the country with conservational importance and is growing popular among the Nepalese since the last few decades. A survey

shows coffee consumption has grown up to 384 MT in 2010 from 156 MT in 2006<sup>2</sup>. It's an increase of around 146 percent in just a matter of three years which represents conversion to coffee drink by about three cups of coffee per capita in 2009. Coffee is recognized as one of the important export potential commodities of Nepal by Nepal Trade Integration Strategy (NTIS) 2016, economic importance of coffee has been realized only back to two decades. The increase in area and production of coffee in Nepal is presented in figure 1.1 below-

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Figure 1.1 The increase in area and production of coffee in Nepal



Source National Tea and Coffee Development Board, Nepal

Witnessing the increase in area and production of coffee and its economic importance a study was carried out with the objective to study the growth trend in area, production and yield of coffee in Nepal.

#### MATERIAL AND METHODS

The specific study was based on secondary data collected for a period of 1994-95 to 2015-16 in Nepal. The data was collected from National Tea and coffee development Board of Nepal, Government of Nepal. The area of study is Nepal.

Analytical tools-

Compound Annual Growth Rate was calculated for the analysis of trend in area, production and productivity of coffee in Nepal. It specifies the degree of the rate of

change in the variable under consideration per unit of time. The rate of change of „Yt“ per unit of time to express as a function of the degree of „Yt“ itself is usually termed as the compound growth rate (CGR) which can be expressed mathematically as:

$$\text{CGR} = [(1/Y_t)(dY_t/dt)] = [(Y_{t+1} - Y_t)/Y_t]$$

The above equation if multiplied by 100 gives the compound growth rate of „Yt“ in percentage term.

#### RESULTS AND DISCUSSION

##### 3.1 Growth rate of area under coffee

The compound growth trend of area under coffee cultivation in Nepal is presented in Table 3.1. The study period was divided into two sub-periods 1994-95 to 2004-05 and 2005-06 to 2015-16 i.e. in decades.

Table 4.1.1: Compound growth trend in area under coffee in Nepal 1994-95 to 2015-16

Particulars	Sub periods of study		Overall period of study
	FIRST 1994-95 to 2004-05	SECOND 2005-6 to 2015-16	
CAGR	21.5*	6.6**	43*
R <sup>2</sup>	0.96	0.91	0.94
f <sup>2</sup>	204.74	88.98	265.27

Source- calculated by author

Note - \* indicate significant at 1percent level of significance

\*\* indicate significant at 5 percent level of significance

The above table reveals that the total area allocated by the farmers in the country increased from 135.7 hectares to 2681 hectares during 1994-95 to 2015-16. The growth trend analysis recommends that it was raise with a compound growth rate of 43 per cent per annum throughout same period of study. The sub-period wise compound growth trend analysis for area under coffee suggests that, it

was positive growth trend in all sub-periods of study.

### 1.2 Growth rate of production under coffee, Nepal

In 1994-95, total coffee production in Nepal was 12.95 MT and it increased to the level of 519 MT by the year 2014-15. The growth trend analysis of coffee production in the country is presented in table 3.2 below-

**Table 4.1.2: Compound growth trend in production of coffee in Nepal**

Particulars	Sub periods of study		Overall period of study
	FIRST 1994-95 to 2004-05	SECOND 2005-6 to 2015-16	
CAGR	1.31*	1.04*	16.8*
$R^2$	0.96	0.41	0.86
$f^2$	205.88	6.27	119.57

Source- calculated by author

Note- \*indicate significant at 1percent level of significance

The above table reveals that it was increasing with a compound growth rate of 16.8 per cent per annum throughout same period of time. The sub-period wise growth trend analysis suggest that coffee production in the country was increasing during both sub-periods of the study.

### 3.3 Growth rate of yield under coffee

The growth rate of yield under coffee was calculated by dividing the period into two sub periods i.e. 1994-95 to 2004-05 and 2005-2016. The trend analyzed is presented in table 3.3 below-

**Table 4.1.3: Compound growth trend in coffee yield in Nepal**

Particulars	Sub periods of study		Overall period of study
	FIRST 1994-95 to 2004-05	SECOND 2005-6 to 2015-16	
CAGR	8.3**	-1.9**	2.3*
$R^2$	0.74	0.08	0.27
$f^2$	25.81	0.82	7.27

Source- Calculated by author

Note- \*indicate significant at 1percent level of significance

\*\* indicate significant at 5 percent level of significance

The growth trend analysis for coffee yield suggests that it was growing with a compound growth rate of 2.3 per cent per annum during the same time of period. The positive growth trend was observed during first sub-period of study The negative growth was observed for coffee yield during second, sub-periods of the

study, decreasing with a compound growth rate of -1.9 per cent per annum.

## CONCLUSION

The growth trend analysis for area under coffee recommends that it was increasing with a compound growth rate of 43 per cent per

annum during overall period of study. The sub- period wise analysis found that area under coffee cultivation in the country was increasing during sub- period of study. The growth trend analysis for coffee production Nepal was found positive growth and it was rising with a compound growth rate of 16.8 per cent per annum during over all study period (1994-95 to 2015-16). Sub- period wise growth trend analysis found that it was positive during both period of study. Growth of coffee yield was expanding with a compound growth rate of 2.3 per cent per annum during 1994-95 to 2015-16. The sub- period wise growth trend analysis for coffee yield suggest that it was positive growth for first period of study, whereas it was negative growth trend during 2<sup>nd</sup> period of study. There is need to enhance the area under production and productivity of coffee. For meeting this goal, emphasis should be given to develop high yielding varieties technological interventions should be made to reduce the cost of cultivation.

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