GROWTH RATES OF DIFFERENT WINE BRANDS OF NISARGA WINERY- A CASE STUDY

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ABSTRACT

The government of Karnataka has announced wine policy, as result of which many wine yards were established. Nisarga winery in Vijaypur district was one such unit. The specific objectives of the study are to estimate the growth rates in production and sale of different wines and to study per liter production cost of different wines. The primary data for the year 2017-18 was collected from the general manager of the unit. The growth rate analysis, descriptive statistics were used for the study. The Compound annual growth rate of production of Nisarga winery was 1.94 which was non-significant whereas its 1.86 for sale which was significant @ 1 per cent.
KEYWORDS : *Growth rates, Production cost*

INTRODUCTION
1.1 General
Historically, grapevine (*Vitis vinifera* L.) is grown mostly for wine making in the world over. In India on the contrary, remarkable success has been achieved in table grape production and yield levels of fresh grapes are highest in the world.

Table 1.1 Major Grape producing countries in the World (2010)

Country	Area(ha)	Production(tonnes)	Productivity(tonnes)	Per cent share of world in Production
China	533137	8651831	134263	12.89
Italy	777500	7787800	59316	11.60
USA	8001	6777730	195000	10.10
Spain	14942	6107200	174616	9.10
France	787133	5848960	100997	8.71
Turkey	19000	4255000	15625	6.34
Chile	188220	2755700	162282	4.11
Argentina	223685	2616610	116977	3.90

Iran	220836	2255670	100165	3.36
Australia	163785	1684350	102839	2.51
Other countries	4168293	18375404	6575047	27.38
World total	7104512	67116255	7737127	100.00

Source: FAO data (2010)

According to the table FAO data (2010) shows that, the leading grape producing countries in the world in terms of production are China (8651.83 thousand tons), Italy (7787.80 thousand tons), USA (6777.73 thousand tons) and Spain (6107.20 thousand tons). India's high productivity in grape has made it to reach 18th position in the world as far as production is concerned.

Table 1.2 Top grape producing countries in India (2016-17)

States	Area ('000 ha)	Production ('000 MT)	Productivity (In MT/Ha)
Maharashtra	90.36	2074.02	20.56
Karnataka	24.23	445.89	18.40
Andhra Pradesh	0.83	16.62	20.00
Tamil Nadu	2.44	34.10	13.27
Punjab	0.30	8.49	28.39
Haryana	0.04	0.20	5.16
Uttar Pradesh	0.02	0.10	2.11
Rajasthan	0.01	0.02	3.00
Madya Pradesh	**0.16**	**3.00**	**15.00**
Total in India	**122.88**	**2634.74**	**19.74**

Source: www.Indiastat.com (2018)

Table 1.2 shows that Maharashtra, Karnataka and Andhra Pradesh hold first, second and third position in the country in production, productivity and area of grapes. In India during 2016-17 Total area under grapes was 122.00 thousand hectares, production was 2634.74 thousand metric tonnes and productivity was 19.74 metric tonnes.

Table 1.3 Area, production and productivity of Grapes in Karnataka

Years	Area (ha)	Production (In tonnes)	Productivity (Kgs/Ha)
2004-05	9406	243329	25869
2005-06	5903	176796	29950
2006-07	11991	327513	27313
2007-08	10029	265199	26442
2008-09	12894	325199	25221
2009-10	12221	381955	31254
2010-11	13634	544351	39926
2011-12	15678	674703	43035
2012-13	**18348**	822085	**44805**
2013-14	**18187**	**679378**	**37355**

Source: www.indiastat.com

Table 1.3represents that There is an increase in Area under grape production in Karnataka from 2001-05 to 2013-14 and in production and productivity no constant increase or decrease rates.

Apart from this According to the report given from Gus trompiz in Business insider in 2017, in overall concern Production in Australia was expected to rise 6 per cent to 13.9 million hectoliters while Argentina was projected to post a 25 per cent jump to 11.8 million after a weather hit.

1.2   Nisarga Wine Industry Vijaypur

This Nisarga vineyard Pvt. Ltd is established in the year 2009-10 and it is located at Halagani village, adjacent to highway connecting the Vijaypur and Belgaum town and is just 25km away from Vijaypur city limits measuring five acres. The unit will produce both White wine and Red wine. There are total seven brands under the process. The production has been started in the year 2010 with a production of 386075 liters and in 2017-18 it is 358851 liters.

METHODOLOGY
3.1   Selection of the Study Area

The choice of Vijaypur district of North Karnataka was purposive, as more grape wineries were located and the huge area is under grape cultivation. Hence Nisarga wine industry is selected as it has better economic feasibility and profitable margin.

3.2   Collection of Data

Secondary data for the year 2017-18 regarding the Production, sales, financial information, production and marketing cost of the Grape wines was collected by survey method through personal interview with the manager of unit with the help of presented questionnaire.

The efforts were made to prepare report with the manager through the personal assistance of owner and other supervisors. The data were collected in January 2019.

3.3   Sources of Data

The study contemplates to assess the performance of Wine unit in Vijaypur Dist. of Karnataka. Obviously, the data were required on various factors of different wines which were being produced in that unit.

The major aspects of data requirements were as under:

1.   Primary information of the unit.
2.   Details of production and sale of grape wine.
3.   Initial investment of the unit.
4.   Fixed and operating cost of the unit.
5.   Repairs and maintenance cost.
6.   Fees, taxes, insurance and other relevant expenses.
7.   Labours, supervisory staff and decision makers engaged with their bills, salaries and allowances.

8.   Problems encountered by the unit in acquisition of raw materials, production and marketing processes.

Data was collected from the available records, registers of the Nisarga wine industry through discussion with the management.

3.4   Method of Analysis

To facilitate the analysis of data, the sample of wine is divided into Red and white with different brands and they are again categorized according to their capacity ranges 750, 375 and 180 ml.

The data collected from the unit was compiled according to their individual brands. The data so compiled was further analyzed to obtain averages related to different aspects.

3.4.1   Growth Rate Analysis

In order to study the trends in wine consumption, to estimate the growth of retail outlets and forecast the demand for Nisarga wine in future the compound growth rate analysis technique is used. The functional form of the compound growth rate analysis is,

$$Y = ab^t \, e^{ut} \dots\dots\dots\dots\dots\dots (1)$$

Where,

Y = Dependent variable for which growth rate is estimated
a = Intercept
b = Regression coefficient
t = Time variable
e^{ut} = Error term

The compound growth rate is obtained from the logarithmic form of the equation (1) as below and it was taken from the report Corporate finance and accounting report given by Chris murphy in 2019.

$$\ln Y = \ln a + t \ln b + Ut$$

The per cent compound growth rate (g) is derived using the relationship,

$$g = (\text{Anti ln of } b - 1) \times 100$$

Pattern of growth rates over the years was identified using the 'b' coefficient. If coefficient was statistically significant and positive then growth of the estimated parameters over the years was accelerating. If it is negative, it was implied that, growth was decelerating over the year.

RESULT DISCUSSION

The activity that is processing of grapes into wine being an important economic aspect in realizing the better price for the Agricultural product, the study of economic evaluation of Nisarga wine industry becomes an important activity. To study performance evaluation and managerial aspects of the unit some results were discussed below. In this chapter the economic performance of Nisarga Wine was studied. Therefore, an attempt has made in this chapter to study

the different objectives of the Wine unit which were enlisted below.

The results of the study are discussed in this chapter as under the following headings.

4.1   The growth rates in production and sales of grape wine.

4.1   The Growth Rates in Production and Sales of Grape Wine

4.1.1   Production of Grape Wine by Nisarga Winery

The information on Production of grape wine is depicted in the Table 4.1.

Table 4.1 Production of Red and White wine with combined total quantity

Year	Production ('000 liters)		Total ('000 liters)
	Red Wine	**White Wine**	
2010 – 11	3,08,860	77215	386075
2011 – 12	369542.4	92385.06	461928
2012 – 13	279434.4	69858.6	349293
2013 – 14	300362.4	75090.6	375453
2014 – 15	290422.4	72605.6	363028
2015 – 16	251854.4	62963.6	314818
2016 – 17	315716.8	78929.2	394646
2017 – 18	287080.8	71770.2	358851
CAGR	**1.27NS**	**0.67NS**	**1.94NS**

 (*, **, *** @ 10%, 5% and 1% level of significance)

The production unit was established in the year 2009, it was observed from the table that the production started from the year 2010-11 with wine production of 386075 liters and in the year 2017-18 production is 358851 liters. After the establishment of the Nisarga winery the production was decreased up to 2014 due to lack of market potential and then started increasing.

Here the estimated CAGR was 1.27 for Red wine and 0.67 for White wine and both are showing non-significant rate and the CAGR vale for total production was 1.94 which is also non-significant one.

4.1.2   Sale of Grape Wine by Nisarga Winery

The information related to sales of grape wine is presented in Table 4.2.

In 2009 when the unit was started, there was no sale in 2010. The amount of sale was 371928 liter. As the Nisarga wine is new to the market, the sales have been decreased to 296362 liters in 2011. As per the market demand of Nisarga wine sales has increased where we can say that in 2013 the sales were at 319153 liters.

Table 4.2 Sales of grape wine

Year	Sale ('000 liters)		Total ('000 liters)
	Red Wine	**White Wine**	
2010 – 11	297542.4	74385.6	371928
2011 – 12	237089.6	59272.4	296362
2012 – 13	255322.4	63830.6	319153
2013 – 14	280022.4	70005.6	350028
2014 – 15	249134.4	62283.6	311418
2015 – 16	165844.8	41461.2	207306
2016 – 17	194854.4	48713.6	243568
2017 – 18	150773.6	37693.4	188437
CAGR	**1.13*****	**0.73*****	**1.86*****

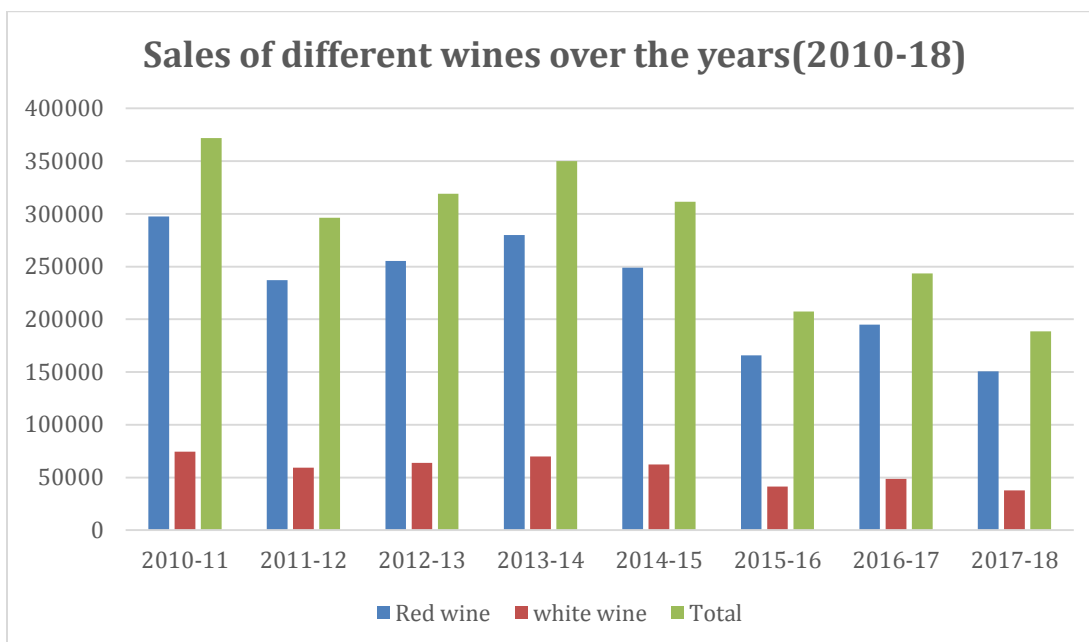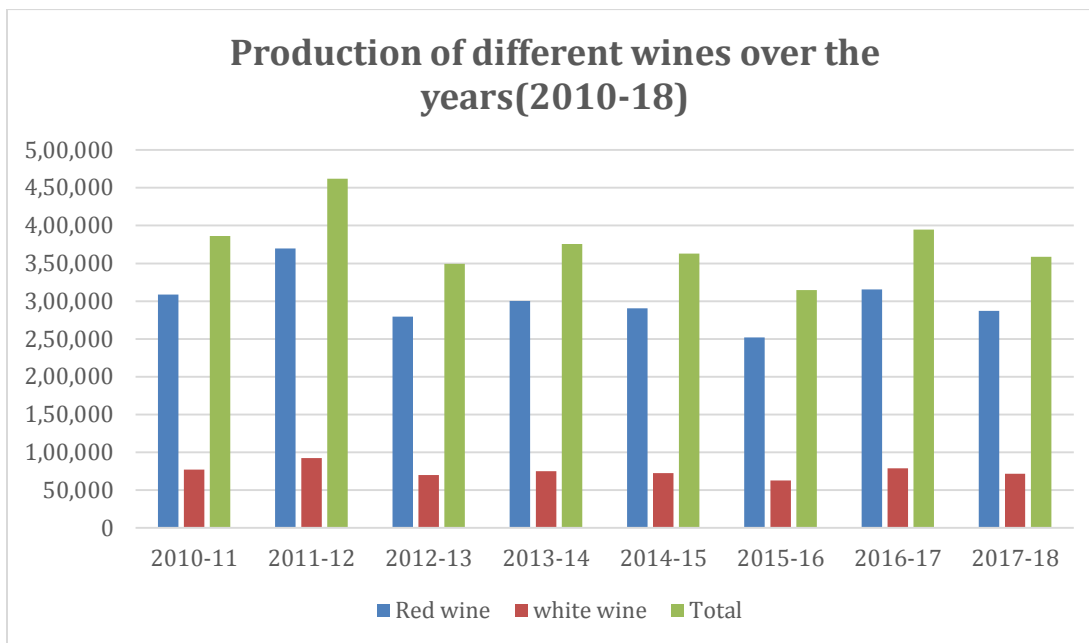(*, **, *** @ 10%, 5% and 1% level of significance)

4.1.3   Compound Annual Growth rates of Production and Sales of Nisarga winery

The information regarding Compound Annual Growth Rates of Production and Sales of Nisarga wine is represented in Table 4.3.

Table 4.3 Growth rates of Nisarga winery (2009-2018)

	Annual CGR
Production	1.94NS
Sale	1.86***

(*, **, * @ 10%, 5% and 1% level of significance)**

Production of different wines over the years(2010-18)

Sales of different wines over the years(2010-18)

It is observed that Compound growth rate of production is 1.94 per cent and it is showing non-significance as there was no accelerating growth. For sales it is showing 1.86 percentage with significant growth at 1per cent.

COCLUSIONS

1. The Nisarga winery firm started in 2009 produced grape wine of 386075 liters in 2010-11 which was 358851 in 2017-18. The compound annual growth rate of production of Nisarga wine worked out to be 1.94 per cent (NS) [Red wine 1.27NS and white wine 0.67NS). The sale of the Nisarga winery increased was 371928 liters in 201011 to 188437 liters in 2017-18 recording a compound annual growth rate of 1.86 per cent [1.13 per cent for Red wine and 0.73 per cent for white wine]. Around 96 per cent of wine produced was sold in the same year. The efficiency of resource use is 1.5 Kilogram og Grapes are required to produce one litre of wine i.e., 1 kilo gram of Grape gives 0.67 litres of Wine in this industry.

2. Nisarga winery offer 7 different brands of wine which comprises both red wine as well as the white wine. The brand names of the Nisarga winery are Nisarga, Samurai and Viraat. Cost amounted from the raw materials for red wine is ₹ 194.71 lakhs and for white wine it is ₹ 49.13 lakhs. Total cost amounted from raw materials for production of both red and white wine is ₹ 243.84 lakhs.In total wine production share of red wine was maximum i.e., 287 thousand liters (79.94%) followed by white wine i.e. 72 thousand liters (20.05%). Total production of wine from both red and white wine is 359 thousand liters.

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