AN ANALYSIS OF TREND AND PATTERN OF BLACK PEPPER IN INDIA

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Introduction:
In the liberalized and WTO AOA context spices export important because it is good foreign exchange earner. Black Pepper which is considered as the 'King of Spices' is one of the most ancient and important spices exported from India. Pepper trade was responsible for bringing at different stages in history, Arabs, Persians and Europeans to the Malabar Court and any wars had been fought over the control of pepper trade. With the World War II (1939-45) the contemporary history of the production and trade of pepper started, prior to World War II Indonesia was the exclusive supplier of pepper to the international market. But during the World War II period, Indonesia was occupied by Japan, and they destroyed pepper plantation for the cultivation of food crops. Therefore, the Western World had to turn to India as another source of supply and India became the key supplier of pepper to the world. After independence Indonesia started recreating the pepper economy and pepper production started rising quickly. At present more than 80 percent of world production of pepper managed by India, Brazil, Indonesia and Malaysia are the principal producers and exporters of pepper. The other producers are Thailand, Sri Lanka, Vietnam and Madagascar. India had a monopoly in world production in 1950s and till 2002 India was the largest producer. During 2014, Vietnam topped the list with a crop of 155,000 tons, 38.6 % share of global production, India shrugged off a 6 year decline in production bottoming during 2014 at 45,000 In 1991 Vietnam was in the 7th position in the production of pepper with a share of just 3.8 percent. There was a consistent increase in area, production and productivity in Vietnam over the period. Productivity of pepper in Vietnam is 1.3 tons per hectare.

Trend of black pepper in India:
Area, Production and Productivity of Pepper in India:
The area under India’s pepper was gradually fluctuating trend in the period between 1970s to 2015-16. From mid 1980s the area was increasing quickly and from 1995-96 the crop improved its area coverage substantially, but in the long term, this trend was not stable after 2001 it was again sharpe decline trend. The production trend of black pepper faced year to year fluctuations. There has been stagnation in the growth of productivity of pepper with year to year fluctuations. India’s pepper productivity is the lowest in the world. In Thailand productivity is 4.3 tons per hectare, Malaysia 2 tons per hectare and Vietnam 1.3 tons per hectare.
Kerala accounts greater share in the area of black pepper but at the same the trend of black pepper production were comparatively low. The low level clearly mentioned low level yield effect of black pepper.

Trends in State - Wise Area, Production and Productivity of Pepper:
Geographically, the whole of Kerala, coastal Karnataka, Southern part of Tamil Nadu and Pondicherry are the traditional pepper growing regions in India. The trend in area, Production and productivity in these states show that the area under black pepper showed increasing trend Compared to Kerala, area under the crop was very insignificant in Karnataka. Tamil Nadu area was just 19 percent of Kerala. Kerala has larger area of black pepper among the Southern states and in fact among all states of India.

The drastic decline in production and yield with no or negligible change in area under black pepper cultivation requires greater concern of central and state governments as the income of the farmers as well as foreign exchange altered . As area, production, and productivity of pepper in Karnataka and Tamil Nadu were much lower with less than that were of Kerala.

<table>
<thead>
<tr>
<th>State</th>
<th>Area under Pepper (in thousand ha)</th>
<th>Production of Pepper (in thousand tone)</th>
<th>Pepper yield per Hectare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerala</td>
<td>$=168.74 + 3.8t (6.598) (4.599)$</td>
<td>$=48.763* +1.546*t (13.357) (3.361)$</td>
<td>$=0.2915* + 0.0019t (14.72) (0.767)$</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>$=2.62* + 0.126*t (13.95) (5.3)$</td>
<td>$=0.439* + 0.042*t (6.69) (5.1)$</td>
<td>$=0.172* +0.005*t (10.23) (2.35)$</td>
</tr>
<tr>
<td>Karnataka</td>
<td>$-1.716 + 1.304*t (-0.830) (5.002)$</td>
<td>$-0.37 + 0.308*t (-0.79) (5.24)$</td>
<td>$0.249 + 0.0008t (29.69) (-0.810)$</td>
</tr>
</tbody>
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Kerala pepper yield per hectare increase was very small over years and was not statistically significant. Insignificant increase was mainly due to nearly 45 per cent decline in yield per hectare during 2005-06 and 2006-07 compared to yield per hectare during 2004-05 Karnataka pepper yield per hectare was also low and not statistically significant In Tamil Nadu though yield was low it was statistically significant.

**Price movement of Pepper:**

The decisional parameters of farmers is depends upon price. Cultivators decision to allocate land and other resources of a particular crop depends mainly on the price movements of the crop in question and also the price movements of other crops grown. The prices of pepper underwent some degree of annual fluctuations but at the same time there was a gradual increased tend of black pepper.

The harvesting of pepper in India generally starts in December and ends in March. These four months December to March is busy season for pepper, and prices are lower during harvesting months. The rests of the month's price are higher. Farmer's income can be increased if the produce is marketed after harvesting season. The net benefit of such postponement of sales depends on the cost of storage.

**Export of pepper from India:**

Although India exports more than terms of spices, pepper commands prime importance in terms of foreign exchange earnings. Indian pepper export registered more than two fold increase during the pre liberalization period (1950-51 to 1990-91).
When partial liberalization introduced in the economy from mid 1980s, there was a jump in the export in terms of quantity and value. There has been a wide year to year fluctuation in quantities and value of exports. The variability was high in terms of export earnings. There has been a rapid decline in the quantity exported in the post WTO period India could not take advantage of the emerging market opportunities.

Indian pepper area
\[=170.22* + 5.28*t (22.28) (6.28) \]  \( R^2=0.75 \)
Indian production of pepper
\[=-58.69* + 0.077t (13.41) (0.159) \]  \( R^2=0.002 \)
Indian yield per hectare of pepper
\[=-0.331* - 0.006*t (14.03) (-2.307) \]  \( R^2=0.29 \)
Indian export quantity of pepper (in tone)
\[=42.22*-1.61**t (7.01) (-2) \]  \( R^2=0.28 \)
Indian export value of pepper (Rs. in lakh)
\[=271.2 + 10.3t (1.789) (0.487) \]  \( R^2=0.023 \)

**Directions of Pepper Export and Import:**

In the past USSR, USA, Canada, Italy, Poland, Yugoslavia and Czechoslovakia were the major destinations of pepper export from India. USSR accounted for the lions share in the pepper export from India. Although India's spices and spice products reach 140 countries in the world, the major importer of Indian pepper is USA. USA is the largest buyer of pepper in the world market. India's pepper exports to US accounted for 43 percent of total pepper export. Other major buyers are UK, Italy, Canada, Japan and Germany.

With the removal of QRs under the WTO provisions and the import from Sri Lanka under Indo- Sri Lanka Free Trade Agreement, import of low quality of pepper to India has been quite increasing in recent times. The volume of import increased from 4028 tons in 2000-01 to 15750 tons in 2002-03 and 13120 tons in 2008-09. Between 2001-02 to 2002-03, import from Vietnam increased by more than 10 times and imports from Sri Lanka increased by 2.6 times. The unit value of imports from Vietnam increased by 638 percent and imports from Sri Lanka increased by 111 percent. The new Indo- Asean Free Trade Agreement is expected to further deleteriously affect pepper cultivation of India. From Vietnam and Indonesia there has been large scale smuggling of pepper to China. Hence Indonesian pepper will not appear in the global market.

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