

Trend and Growth of Export from Medicinal Plants and Aswahagandha in India

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Abstract

Medicinal plants defend the means of support of millions of people, predominantly in the Indian Himalayan region. The present paper deals with the trend and growth of export earnings from medicinal plants and aswahagandha in India.

The study has the following objectives

1. To study the earnings from medicinal plants during the 14 year period from 2004–05 to 2017–18.
2. To find out the trend and growth of export earnings from medicinal plants and aswahagandha in India.
3. To analyse the percentage share of Aswahagandha in medicinal plants exports from India.

The study based on secondary data from 2004–05 to 2017–18. The secondary data collected through internet, books, newspaper, journals records and brochures. The tools used for the study were percentage analysis, mean, standard deviation, linear trend and compound growth rate and coefficient of variation. It reveals that the earnings from these items gained momentum only in the 2010s and the trend in earnings from export of medicinal plants is found to be inconsistent. Earnings from Aswahagandha are found to have increased from ₹3542.02 lakhs to ₹16586.44 lakhs in 2015–16. The trend in export earnings from Aswahagandha continues to be positive except for the year 2005–06 and 2017–08. The share of Aswahagandha in the overall export earnings though not uniform in finding to be high and the percentage share varies from 25.84 per cent to 97.33 percent. Hence, the earnings from export of medicinal plants in India show a positive growth at a rate of 3.45 percent. In the case of Aswahagandha, it is showing a positive trend growing the rate of 10.55 per cent. The overall picture reveals that the demand for Aswahagandha is found to have increased and Aswahagandha has a good market in both Western and Eastern Countries.

Keywords: Medicinal plants; Export earnings; Health security; Pharmaceutical industry; Positive growth.

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Introduction

Medicinal plants play an essential role in the lives of rural people in India with few health amenities. Medicinal plants are not only a major resource base for the traditional medicine & herbal industry but also provide livelihood and health security to a large segment of Indian population (Marichamy 2013). Forty-five percent of all patents on the herb

or herbal based or related medicine is with China closely followed by Japan with a 28 percent share (Tannan, 2006).

Medicinal plants are gaining popularity globally as a source of raw material for pharmaceuticals and traditional health care system (Kandari *et al.* 2012). According to the World Health Organization, over 80% of the world's population, or 4.3 billion people, rely upon such traditional plant-based systems of medicine to provide them with primary health care (Bannerman *et al.* 1983).

According to the International Trade Centre, as far back as 1967, the total value of imports of starting materials of plant origin for the pharmaceutical and cosmetics industry was of the order of USD 52.9 million. From this amount, the total values grew to USD 71.2 million in 1971, and then showed a steady annual growth rate of approximately 5-7% through to the mid-1980s (Atisso 1983).

According to WHO (2000), nearly 80% of developing countries are dependent on traditional systems of medicine, which are mostly plant-based. The place of plant-based pharmaceuticals in global economy and also as component of healthcare delivery system is critical and this makes research on medicinal plants crucial [Shellard, 1979].

Annual expenditure on pharmaceutical per person was lowest for low-income countries such as Nigeria (\$1.2), India (\$0.75) and Sri Lanka (\$0.58) as against those of high-income like Germany (\$53.4), Japan (\$38.5) and USA (\$35.10). This clearly revealed the disparity in access to pharmaceuticals between the developed and developing nations, though low-income countries are said to spend more with total pharmaceutical expenditure of 24.9% on the average, with a range from 7.7% to 67.6% [Lu Y, Hernandez, 2011].

However, some of such low-income countries, mainly from SE Asia, that could not adopt such measures remained with high pharmaceutical expenditures. Such was the case with Bangladesh that had pharmaceutical expenditure of 63%, Nepal (44.3%), Thailand (30.5%), Burma or Myanmar (24.5%) and India (18.8%) [Ransome-Kuti, 1987].

Many of developing countries are rich sources of medicinal plants that are potential sources of many pharmaceuticals [UNESCO, 1998]. Indeed, the report revealed that the market share of the USA alone rose from 18.4% of the world total in 1976 to over 52% in 2000 while in low-income countries, the share of pharmaceuticals consumed fell from 3.9% of the total in 1985 to 2.9% in 1999 [World Health Organization, 2001]. The present paper

deals with the trend and growth of export earnings from medicinal plants and aswagandha in India.

Objectives of the Study

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Methodology

The study based on secondary data from 2004-05 to 2017-18. The secondary data collected through internet, books, newspaper, journals records and brochures. The tools used for the study were percentage analysis, mean, standard deviation, linear trend and compound growth rate and coefficient of variation.

Review of Literature

Kapur and Atal (1989) have analysed the market potential for Aloe vera. The major import markets are found to be U.S.A., and U.K. and most of the produce is shipped from Tuticorin and Bombay. The estimated world demand for Aloe vera is 10,000 tonnes per annum and India exports 4,500 tonnes per annum on an average. Hence, the authors have stressed the need to increase cultivation of Aloe vera in India.

Kazmi and Siddiqui (1953) identified 87 medicinal plants from Astore and upper Gurez, valley. They also reported their local names, elevation, distribution and medicinal uses.

Jain (1994) has reported that medicinal plants were pharmacologically screened for their cardiac activity on isolated rabbit heart palpitation. Out of these 7 plants showed significant positive cardio tonic activity, along with the effects on the heart rate and coronary flow. In this research crude ethanol and aqueous fractions were used.

Singh (1993) have carried out an ethnobotanical study in Andhra Pradesh. 106 plants were used to cure veterinary diseases. The plants are listed in alphabetical order of family, genus and species

with local names, voucher specimen number, parts used, methods of application and ailments treated.

VinayTandon (2006) have explained about the allopathic medicine too owes it tremendous debt to medicinal plants: one in four prescriptions filled in a country like the United States are either a synthesized form of or derived from plant materials.

Results

Export earnings from medicinal plants

The earnings from medicinal plants during the 14 year period from 2004–05 to 2017–18 are presented in Table 1.

Table 1 reveals that the earnings from these items gained momentum only in the 2010s and the trend in earnings from export of medicinal plants is found to be in consistent. Earnings from Aswahagandha are found to have increased from ₹3542.02 lakhs to ₹16586.44 lakhs in 2015–16. The trend in export earnings from Aswahagandha continues to be positive except for the year 2005–06 and 2017–08. The share of Aswahagandha in the overall export earnings though not uniform in finding to be high and the percentage share varies from 25.84 percent to 97.33 percent.

Hence, earnings from medicinal plants have increased considerably showing a positive trend in recent years. The earnings from Aswahagandha are also found to be a positive thread. The share of

Table 1: Exports Earnings from Medicinal Plants and Aswahagandha in India

(in Lakh of Rs.)

Year	Earnings from medicinal plants	Earnings from Aswahagandha	Share of earning of Aswahagandha in medicinal plant (percentage)
2004–05	8774.00	3542.02	40.40
2005–06	15836.00	4092.44	25.84
2006–07	13259.20	7404.40	55.84
2007–08	11591.20	10487.04	90.47
2008–09	15493.20	9646.60	62.34
2009–10	11642.00	10208.00	87.68
2010–11	11874.00	10696.40	90.08
2011–12	12264.00	11064.36	90.21
2012–13	15484.00	11927.5	77.03
2013–14	15864.00	13874.3	87.46
2014–15	16582.00	15643.84	94.34
2015–16	17042.00	16586.44	97.33
2016–17	16422.00	14495.1	88.27
2017–18	17858.00	15889.32	88.98

Source: Basic chemicals, pharmaceuticals and cosmetics Export Promotion Council, Bombay, 2017–18.

Aswahagandha in the overall earnings from export of medicinal plants in sizeable varying from 25.84 percent to 97.33 percent.

Trend and growth of export earnings from medicinal plants and Aswahagandha in India. Table 2 gives the trend and growth of export earnings

Table 2: Trend and Growth of Export Earnings From Medicinal Plants and Aswahagandha in India

Trend Equation: $\log y = a + bt$

Particulars	Trend Coefficients		R^2	CGR (percentage)
	a	b		
Medicinal Plants	8.82	0.091* (10.18)	0.50	3.45
Aswahagandha Leaves	7.91	0.175* (6.81)	0.80	10.59

* Significant at 5 percent level.

Note: CGR = Compound Growth Rate

Figures in parentheses indicate t-values.

from medicinal plants and Aswahagandha in India for the period from 2004-05 to 2017-18.

The result of the analysis reveals in Table 2 that the trend in earnings from exports of medicinal plants is statistically significant and positive. The compounded rate is 3.45 percent per annum.

On the other hands, earnings from export of Aswahagandha and pods show a positive trend

increasing at a compounded growth rate of 10.59 percent. The trend coefficient for medicinal plants and Aswahagandha is 0.091 and 0.175 percent respectively. Table 3 gives the percentage share of Aswahagandha in medicinal plants exports from India.

From Table 3 it could be observed that the share of Aswahagandha in the import medicinal plants

Table 3: Percentage Distribution of Aswahagandha in Medicinal Plants Export from India

Year	West Germany	France	United Kingdom	U.S.A.	West Asian Countries	East Asian Countries	West Europe	East Europe	Total
2009-10	63.20	91.79	76.19	74.03	81.82	71.25	92.46	94.53	71.64
2010-11	74.83	93.29	82.09	86.25	89.09	82.00	81.82	76.99	80.08
2011-12	73.33	70.69	77.08	69.39	84.71	68.18	86.59	76.91	73.90
2012-13	67.14	76.83	70.00	52.99	81.33	64.84	89.12	75.51	68.97
2013-14	75.23	78.45	76.67	76.81	94.29	84.76	94.15	83.73	80.28
2014-15	90.09	76.89	73.17	80.14	88.62	90.13	90.11	81.56	86.40
2015-16	97.35	90.76	86.96	80.51	88.15	97.20	96.56	87.61	92.96
2016-17	94.33	77.64	79.35	51.99	70.08	99.17	65.64	74.28	94.20
2017-18	93.32	97.46	73.21	74.93	81.95	99.01	84.76	71.19	87.76

Source: Basic Chemicals, Pharmaceuticals Cosmetics Export Promotion Council, Bombay, 2017-18

has increased for West Germany, East Asia, U.S.A. and East and West European Countries. The overall picture reveals that the demand for Aswahagandha is found to have increased and Aswahagandha has a good market in both Western and Eastern Countries.

Conclusion

The earnings from export of medicinal plants in India show a positive growth at a rate of 3.45 percent. In the case of Aswahagandha, it is showing a positive trend growing the rate of 10.55 percent. Success of cultivation will largely depend on the returns from medicinal plants, compared to other crops. Cultivation of medicinal plants is a viable option to improve the livelihoods of poor farmers.

Conscious and continuous effort to produce drugs in finished form locally would no doubt; help earn more foreign exchange in India. Strict adherence to quality in both samples sent and the produce exported would win steady market for Aloe vera in Western countries. Lack of training among the labourers in the collection of the herbs leads to impurity in the medicinal plants and its regeneration capacity is lost.

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