An Economic analysis of Production and Marketing of medicinal plants in Northern India

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**Background:** Over 80 per cent of World’s population relies on traditional medicine, largely plant based, for their primary health care as per WHO. India is one of the hot spots in Medicinal and Aromatic Plants (MAPs) in the world. India comprises of 16 different agro-climatic zones, 10 vegetation zones, 25 biotic provinces and 426 habitats for specific species and representing the twelve mega bio-diversity centers of the world. Out of 45000 plant species (nearly 20% of the global species), 3500 species are of medicinal value, 1100 species are used in different Indian System of Medicines. India produces herbal drugs valuing US$920 million annually of which nearly US$94 million is exported. Though nearly 650 – 700 species used in herbal industries, yet only 150 species are used commercially. In Indian sub-continent, the Ayurveda is the oldest medical system, which uses near about 2000 medicinal plant species. Thus MAPs have tremendous scope in India.

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**Research goal:** The present research mainly focuses on the economic profitability, resource use efficiency and marketing of selected medicinal plants

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**Methodology:**

The study is based on primary data collected from 118 respondent farmers of Safed Musli (*Chlorphyllum borivilianum*), Sonamukhi (*Cassia angustifolia*) and Mulethi (*Glycyrrhiza glabra*). 

**Study area:** Haryana state – 7 districts – 51 villages

Collection of data – Multi stage random sampling technique

**Analytical tools:** Multiple regression analysis : \( Y = \alpha X_1 + \beta_1 X_2 + \beta_2 X_3 + \beta_3 X_4 + \beta_4 X_5 + \varepsilon \)

Where, \( Y = \) Gross return from medicinal plants, \( \alpha = \) Intercept, \( X_2 = \) Land preparation (value in Rs.), \( X_3 = \) Planting material (Value in Rs.), \( X_4 = \) Manures and fertilizers (Rs. per acre), \( X_5 = \) Interculture and hoeing (Rs. per acre), \( \varepsilon = \) Primary processing (Rs. per acre), \( \beta = (1 = \hat{\beta}_1 = \hat{\beta}_2 = \hat{\beta}_3 = \hat{\beta}_4 = \hat{\beta}_5) \) indicate the regression coefficient of factor inputs.

**Marginal Value Production (MVP) :** \( b_2 \frac{\Delta Y}{\Delta X_2} \)

Where, \( Y = \) Average gross returns (in Rs.), \( X_2 = \) Mean value of \( 1^\text{st} \) resource, \( b = \) Production elasticity of \( 1^\text{st} \) input

**Table 1:** Economics of MAPs cultivation on sampled farms (Rs. per acre)

**Table 2:** Estimated production function for MAPs

**Table 3:** Marginal Value Product (MVP) and Marginal Factor Cost (MFC) ratio

**Conclusions:** Mulethi was found to be the most lucrative option among selected MAPs followed by Safed Musli. Market channel-I(Producer-commission agent/local trader-processor-consumer was found the most preferred channel through which 43 per cent of the growers sold their produce.

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**Policy Implications:** Development of adequate processing facilities and introduction of support price policy as in case of other crops is suggested to augment the development of MAPs.


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