

Trends in Arrivals and Prices of Minor Forest Produce (MFP) in High Altitude and Tribal (HAT) Zone of Andhra Pradesh

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ABSTRACT

An attempt has been made to study the trends in arrivals and prices of six selected Minor Forest Products Honey, Hill Broom (*Thysanolaena maxima*), Myrobalan (*Terminalia chebula*), Marking Nut (*Semecarpus anacardium*), Naramamidi bark (*Litsea deccanensis*) and Seeded Tamarind (*Tamarindus indica*) of five divisions @ Paderu, Chintapalli, Parvathipuram, Seetampeta and Rampachodvaram of HAT zone in Andhra Pradesh for the period of 2005 – 2019. The secondary data was collected from Girijan Cooperative Corporation (GCC). Compound growth rate (CGR) technique was adapted to estimate the annual CGR of market arrivals and prices of MFPs. Results of the study indicated that CGRs for prices of all selected MFPs showed increasing trend at 1 per cent level significance, except for Naramamidi bark in Rampachodavaram Parvathipuram and Seetampeta divisions. However, it is to say that market arrivals of all selected MFPs showed significant declining trends across the selected divisions, except for Honey in Chintapalli division with 3.49 per cent and Parvathipuram division with 5.46 per cent, Hill Broom with 1.41 per cent and myrobalan with 10.18 per cent in Seetampeta division showed increasing trend at significant at 1 per cent level.

Key words: Arrivals, Prices, MFP, compound growth rate and HAT zone

Historically, most of the Indian tribes relied on hunting and subsistence agriculture for sustaining themselves. At least, one-fourth of the world's poor depend partly or fully on forest products for subsistence (World Bank, 2002), and as significant sources of cash income (Mahapatra *et al.*, 2005; Davidar *et al.*, 2008; Howell *et al.* 2010). In India an estimated 100 million people derive their source of livelihood directly from the collection and marketing of MFPs (Report of the National Committee on Forest Rights Act, 2011). In India, out of the total land area of 329 million ha, only 78.29 million ha are classified as forests. India is rich biodiversity of 45,000 plant species is spread across 16 agro-climatic zones. MFPs play an important role in both national and local

economies. The various categories of MFPs include foods, spices, flavorings, perfumes, beverages, medicines, construction materials, paints, polishes and extracts used in the chemical industry (Arnold and Ruiz Perez 1998). MFP also gives good support and important role in the sustainable management of forests. It is disheartening to say that in many places the exploitation forest takes place due to unsustainable harvesting of MFPs. It reflects on biodiversity imbalance problems in long run. Harvesting of some of the MFP is illegal in forest areas; it may be difficult to obtain information about these products. The markets for MFP vary enormously and markets are informal and unstructured. Most of the MFP are seasonal and depend on natural growth and

regeneration, which makes their productivity and availability unpredictable in non-agricultural season. Prices may vary over the courses of the year in reaction to the seasonal changes and will also vary between years depending on nature's bounty.

In Andhra Pradesh, the HAT zone supplies a wide range of MFPs and this attracted considerable global interest in the recent years, as its value to local and national economies, food security and maintenance of biological diversity has been recognized in the last decade. Collection and marketing of MFPs is the backbone of tribal economy in Andhra Pradesh. Until the last decade and half, the MFP in tribal areas has been poorly transacted due to the subsistence and traditional systems. That has been able to keep up with the demand in the open markets that has been a constant uptake with every passing day. The present study aimed to investigate the behavior of arrivals and prices of MFP over the years in HAT zone of Andhra Pradesh.

MATERIAL AND METHODS

In the present study, the secondary data has been collected from the GCC, Visakhapatnam, divisional office and Girijan Primary Cooperative Marketing Societies (GPCMS) for the period of 2005 to 2019, on prices and arrivals of selected MFP.

Compound Growth Rates (CGRs)

Annual CGRs of market arrivals and prices of selected MFP were calculated by using log linear function

$$Y_t = A(1+r)^t$$

where,

Y = the value for which growth rate is to be calculated;

t = time in years;

r = growth rate.

Taking log on both sides of above equation,

$$\text{Log } Y_t = \log A + t \log (1+r)$$

$$\text{Putting } \text{Log } Y_t = Y, \log A = a \text{ and } \log (1+r) = b$$

$$Y = a + bt$$

$$1 + r = \exp^b$$

Finally, the CGRs is computed by the following equation:

$$r = (\exp^b - 1) * 100$$

RESULTS AND DISCUSSION

Growth trends in market arrivals and prices of MFP (Table 1) across GPCMS/ PPCs of selected divisions in HAT zone were worked out with help of CGRs during the reference period, 2005-2019. Results revealed that significant increase in trend was observed with respect to prices of all selected MFPs at 1 per cent level of significance. This finding is in line with those of (Chaudhary *et al.*, 2019; Mahalle *et al.* 2014), except for those of Naramamidi bark in Seetampeta, Rampachodavaram and Parvathipuram divisions. The informal discussions held with the Officials in GPCMS/ PPCs stated that a large quantum of previous years produce remaining stocked in godowns, quality standards of produce, and lack of adequate demand from processors side are responsible for declining prices of this commodity. In the recent period *ie.*, after 2014, with the strengthening of marketing infrastructure *viz.*, MIS, assaying facilities and link roads from remote villages *etc.*, in the selected divisions, there is increased competition among the buyers side which causes price escalation for selected MFPs. This result corroborates with the findings of (Chandra and sharma, 2019).

Further, the relative prices of selected MFPs are higher in GPCMS/PPCs when compared to local shandies in view of prompt dissemination of market information and improved assaying facilities. However, it is disappointing that market arrivals of all selected MFPs showed significant declining trends at 1 per cent level across the selected divisions. This result is

Table 1. Division-wise CGRs (%) of arrivals and prices of selected MFP in HAT zone (2005-2019)

Division	Hill Broom		Honey		Marking Nut		Myrobalan		Naramamidi bark		Seeded Tamarind	
	Arrivals	Prices	Arrivals	Prices	Arrivals	Prices	Arrivals	Prices	Arrivals	Prices	Arrivals	Prices
Chintapalli	-6.58**	8.92**	3.49**	5.93**	-8.9**	3.94**	-0.72**	12.69**	-3.74**	2.12**	-19.91**	8.82**
Paderu	-27.47**	12.16**	-3.11**	6.12**	-12.51**	3.4**	-13.09**	11.63**	-7.37**	1.39**	-16.75**	8.82**
Parvathipuram	-19.99**	10.91**	5.46**	5.86**	-17.51**	5.57**	-8.89**	11.28**	-5.18**	-0.13 ^{NS}	-10.96**	9.84**
Rampachodavaram	-5.18**	8.84**	0.31 ^{NS}	5.36**	-2.77**	3.62**	-5.86**	11.89**	-2.78**	-0.24 ^{NS}	-9.76**	9.98**
Seetampeta	1.41**	6.25**	-11.77**	5.91**	-9.22**	4.01**	10.18**	8.72**	-2.49**	-0.93 ^{NS}	-9.73**	9.39**

Note: ** - Significant at 1% level; NS – Non-Significant

Source: Girijan Co-operative Corporation (GCC)

in line with the findings of (Aparna *et al.*, 2008; Kerur *et al.*, 2010; Lakshmi and Devi 2013; Bera, 2017), except for Honey in Chintapalli division with 3.49 per cent and Pravathipuram division with 5.46 per cent, Hill Broom with 1.41 per cent and myrobalan with 10.18 per cent in Seetampeta division. Though these farmers are trained enough about the marketing infrastructure such as MIS in GPCMS and assaying, the declining proportion of workforce engaged in MFP transactions adversely affected the market arrivals of MFP. So, a stable market that ensures remunerative prices for MFPs, timely dissemination of market information, prompt payment of sales proceeds and proper supervision from PPC and GPCMS officials may contribute towards sustainability of tribal farmers in this business in the future.

The casual discussions held with the staff of PPCs and GPCMS revealed that fluctuating production is due to seasonality of the produce. This results corroborates with the findings of (Mishra and Kumar, 2012; Verma *et al.* 2018), migration of educated youth away from tribal areas in search for employment to other districts like East Godavari, selected MFP across the divisions in HAT zone.

findings of (Yadav and Misra 2012). The study revealed facts that the elderly farmers are still continuing collection and transaction of MFP, as their adaptability is too rigid to switch to other occupations where educated youth in tribal areas are showing less interest on these activities in HAT zone. This type of conditions adversely affected the market arrivals of selected MFP across the divisions in HAT zone.

prices for MFPs, timely dissemination of market information, prompt payment of sales proceeds and proper supervision from PPC and GPCMS officials may contribute towards sustainability of tribal farmers in this business in the future. A keen observation of the surveyed areas revealed that the arrival status of selected

MFP in Paderu division declined over the years, despite having increasing price trends. This could be attributed to conversion of forest cover by the farmers of the locality into Black pepper and Coffee plantations. The high percentage of educated population in Paderu division in comparison to the rest makes easier for educated person to speculate the prices and prefers to maximize his profits in the short run. Very few may be privy to the fact that long run sustainability results from the protection of forest cover and biodiversity. This kind of situations puts them at risk in the long run. Whereas, Chintapalli division farmers prefer to keep their forest cover intact, and cultivate Black pepper and Coffee, harmonizing it with their existing vegetation cover. This kind of situations explains why their arrivals of myrobalan and Honey are relatively stable. Similarly in seetampeta division, tribal farmers are aware about importance of forest and demand for forest produce like Hill Broom and myrobalan shows increasing trend of arrivals. Honey arrivals to GCC from Paderu, Rampachodavaram and Seetampeta noted a declining trend because of pollinating agent disturbances resulting from environmentally adverse human activities.

The divisions of Parvathipuram, Seetampeta and Rampachodavaram were characterized by high trader competition, proximity to the plain areas and better road connectivity over the rest of divisions stated earlier. Overall, arrivals of directly consumable produce fell over the years, and those that needed processing have showed increasing trends with the passage of time.

CONCLUSION

The research findings indicated that, arrivals of most of the selected produce showed decreased trend in contrast prices of selected MFP showed increased trend. Migration of educated youth away

from tribal areas in search for employment to other districts, incessant rainfall across the selected divisions, seasonal availability of MFP, unsustainable harvesting of MFP, elderly farmers are still continuing collection and lack of information about importance of MFP are mainly responsible for declining market arrivals. This calls for a need to create awareness about importance of MFP in long run to tribal youth and need to strengthen marketing information system augmenting it with improved communication technology in HAT zone of Andhra Pradesh.

LITERATURE CITED

- Aparna B, Shareef S M, Raju V T and Srinivasa Rao V 2008** Growth trends of major vegetables in Visakhapatnam. *The Andhra Agricultural Journal*. 55(1):68-69.
- Arnold J E M and Ruiz Pérez M 1998** The role of non-timber forest products in conservation and development. *Incomes from the forest: methods for the development and conservation of forest products for local communities*. 17- 42.
- Bera B 2017** A study on the variability in market arrivals and prices of potato in some selected markets of West Bengal. *International Journal of Agriculture Sciences*. 0975-3710.
- Chandra P and Sharma V 2019** Marketing information system and strategies for sustainable and competitive medicinal and aromatic plants trade. *Information Development*. 35 (5): 806-818.
- Chaudhary J, Lal H and Singh H P 2019** Behaviour of market arrivals and prices of the selected vegetables: a study of baijnath regulated market of district Kangra, Himachal Pradesh, India. *International Journal of*

- Current Microbiology and Applied Sciences*. 8 (1): 1454-1462.
- Davidar P, Arjunan M and Puyravaud J P 2008** Why do local household harvest forest products? A case study from the southwestern Ghats, India. *Biol. Conserv.* 141: 1876–1884
- Howell C J, Schwabe K A and Samah A H 2010** Non-timber forest product dependence among the Jah Hut subgroup of Peninsular Malaysia's Orang Asli. *Environ. Dev. Sustain.* 12: 1–18.
- Kerur N M, Banakar B, Vijay Kumar H S, Manjunath L and Basavaraj H 2010** Performance analysis of regulated markets in Karnataka. *Karnataka Journal of Agricultural Sciences*. 21 (1). 55-62.
- Lakshmi S B R and Devi I B 2013** Growth Trends of Major Crops in Coastal Districts of Andhra Pradesh. *The Andhra Agricultural Journal*. 60(1):194-200.
- Mahalle S L, Siddharth S and Kumar S 2014** Behavioural study of market arrivals and prices of pigeonpea in Maharashtra. *Indian Journal of Economics and Development*. 10 (1): 86-94.
- Mahapatra A, Albres H and Robinson E 2005** The impact of NTFP sale on rural Households cash income in India's dry deciduous forest zone. *Environ. Manag.* 35:1–8.
- Mishra R and Kumar D A 2012** Price behaviour of major vegetables in hill region of Nepal: An econometric analysis. *SAARC Journal of Agriculture*. 10 (2): 107-120.
- Report of the National Committee on Forest Rights Act, 2011**
- Verma D K, Sharma L, Sing H, Suman J and Patil P 2018** Seasonal pattern and comparative study of market arrivals of soybean crop in southern Rajasthan, India. *International Journal of Current Microbiology and Applied Sciences*. 2319-7706 (7): 481-490.
- World Bank 2002** A revised Forest Strategy for the World Bank Group. Washington D.C.
- Yadav M and Misra S 2012** Sustainable development: a role for market information systems for non- timber forest products. *Sustainable Development*. 20 (2): 128-140.