PRICE STABILIZATION THROUGH STAKEHOLDER SYNERGY: THE KEY TO REVITALIZE COCONUT SECTOR

Jayasekhar, S., Chandran, K.P., Thamban, C., and Muralidharan, K

Introduction

The coconut sector[1] in the country is internationally integrated and faces fierce competition from other major coconut producing countries especially in the post World Trade Agreement (WTA) and ASEAN treaty era. The coconut economy of the country is now facing one of the most awful crises in its recent history on account of price instability and profitability. Despite the importance of coconut with respect to its economic, nutritive and health contributions, coconut farming in India has been lately considered as unremenurative[2]. It has been indubitably proved that realization of higher productivity in coconut palms alone cannot improve the profitability of coconut farming in India. Moreover, it is wrong to blame lower adoption of improved technologies as the sole cause of crisis in this sector.

Endeavoring to prioritize the issues associated with coconut, we realize that coconut farmers are more confronted with market-related difficulties such highly fluctuating prices and difficulty to find favorable market outlets for their products rather than the technological challenges which result in low productivity in the farm. The failure to move up the global value chain and thereby resisting the market pressure on domestic prices in an open economy environment as indicated by Lathika and Ajith kumar (2009), is arguably one of the major causes of the price rigidity experienced in the coconut sector for a decade or so. Although in the very recent times, the coconut prices have become attractive, farmers are still skeptical. As a matter of fact, the confidence of coconut farmer can be elevated only when a stabilized price regime is experienced for a reasonable time frame. The major question arising in this context is: how do research, policy, and development initiatives could mitigate the ominous catastrophe experienced by the coconut farming communities?

A glance to the price movement of coconut

While examining the price movement of coconut for the past ten years, the price instability during the past four years is noteworthy (Figure 1). From 2004 till 2010, the prices were keeping low with comparatively low price fluctuations. On the other hand from the year 2010 onwards, the price fluctuations are quiet apparent wherein the prices started rising and reached peak levels during the mid 2011 and after that plummeted to low levels. But again from the beginning of 2013, the prices started improving and the prices still continuing as attractive. Jnandadevan and Jayasekhar, 2011, attempted to characterize the earlier price rise regime (during 2011). Their analysis revealed that steep rise in coconut price associated with less supply due to decline in productivity and high demand for export and processing units within the country. They attributed five major reasons to

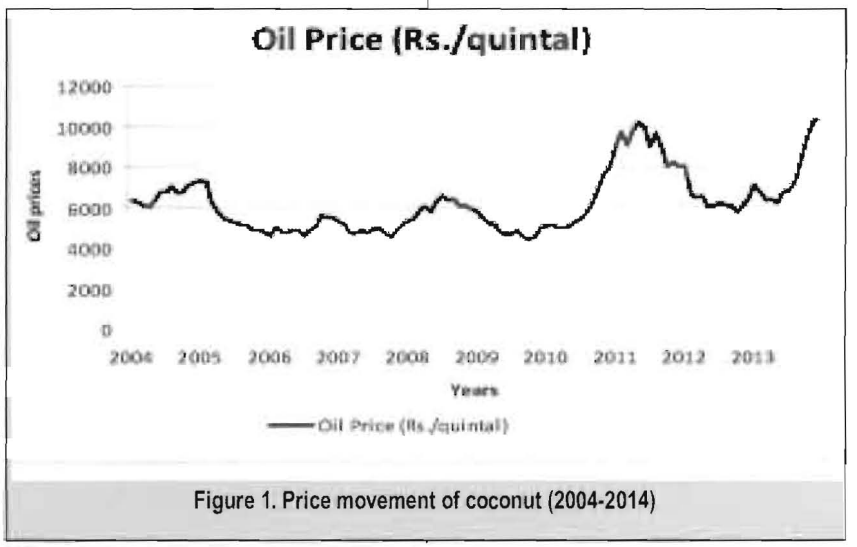

Figure 1. Price movement of coconut (2004-2014)

[1]. The coconut palm exerts a profound influence on the rural economy of the many states of India where it is grown extensively and provides sustenance to more than 10 million people. The processing and related activities centered on the crop, generate employment opportunities for over two million people in India. In addition, the crop contributes Rs.83000 million annually to the Gross Domestic Product (GDP) of the country. As an oil seed, coconut holds 15.2 per cent share of the total oilseed value output in the country.

the price escalations which are 1) the supply deficits, 2) price rise in substitute oils, 3) surging industrial demand 4) high volume of exports and 5) a global shortfall in edible oil supply. Any price rise due to the demand pull is always sustainable, or else the price rise period will not last for a long time. Such a scenario will create perplexity among farmers with respect to their approach towards coconut farming. Therefore, long term strategies for the price stabilization of coconut and coconut products are imperative in the current juncture.

Coconut sector: Operating environment

The coconut sector in India is unique wherein array of governmental agencies/institutes operates for the research and developmental aspects of the commodity with evidently lacking collaborative efforts. Hence, quite often the efforts of the agencies become duplicated and redundant, and also add to the confusion of the farmer with regard to the adoption of technologies. As far as market stabilization of coconuts is concerned, National Agricultural Cooperative Marketing Federation of India Ltd (NAFED), established in 1958 has been entrusted to procure the copra from market with a Minimum Support Price (MSP) in the event of price crash. Having said this, the procurement system of copra in India was always ineffective, and it never elevated the market prices to a higher level (see Figure 2). From the NAFED's point of view, the agency, though could procure large quantum of copra and has the capacity to convert the copra into coconut, never find the market to push their product with at least a minimum margin.

Unorganized producers with small and marginal holdings constitute the main component of the coconut sector. The intermediaries in coconut sector operates in a very large grey area forming syndicates, lobbies and also practices the copra/coconut oil hoarding which causes continuous price fluctuations in the market. In an earlier study, Mani and Sathakumar (2011), observed that there is no direct link between activities of different stakeholders in the coconut sector. They also observed that the co-ordination between research agencies and the concerted efforts of developmental agencies are the missing links in the coconut sector of India. This has apparently reflected in the technology channelization and technology adoption in many ways.

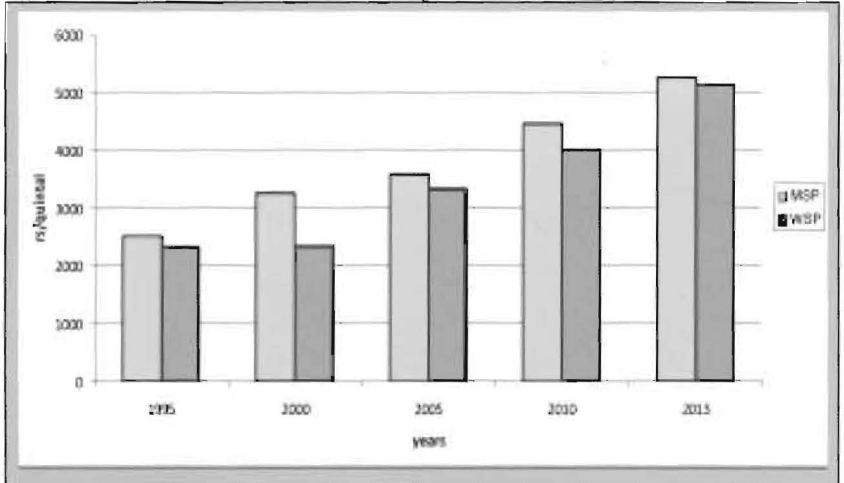

Figure 2. Comparison of MSP and market prices of copra in India

Technology adoption: A macro depiction

We have adopted the value output-input ratio method to analyze the total factor productivity of coconut sector in Kerala for a period of 12 years from the year 2001 to 2012. It was observed that there is no significant increase in the TFP of the sector (which fluctuated in ratio 1.4 to 1.8). The commodity price increase has been nullified by the input costs especially more than proportionate growth of wage rate in comparison to other input prices. We may infer that, though technology was developed and available for the sector, due to lack of scientific practices of the technology, the total factor productivity has not increased to the desired levels. The results on rate of adoption of the selected technology showed that only 12 per cent of farmers adopted hybrid palms and improved varieties in their gardens (Radhika *et al.* 2012). The study showed that education level of the farmer and his extension contact with government department such as Krishibhavan, state farms and research institutes are significant in influencing the use of hybrids and improved varieties in cultivation of coconut in their garden. Therefore, it is empirically validated that, concerted efforts of research and developmental agencies in the right mode would certainly enhance the potential for technology adoption.

Coping up strategies with Coconut based farming systems

There are possibilities of increasing the productivity and net returns from coconut gardens by raising compatible subsidiary crops and/or integrating with live stocks. The farming system models of Central Plantation Crops Research Institute (CPCRI) have conclusively

Sl No.	Models	Net Returns(rs/ha)
1	Coconut+Banana	288621
2	Coconut+Banana (50%)+EFY/Veg(25%)+Turmeric(25%)	259701
3	Coconut+EFY/Veg(50%)+Turmeric(50%)	230782
4	Coconut+Turmeric	199705
5	Coconut+EFY(Rainfed condition)	163101

Table 1: Crop combinations and net returns

proved that the scientifically designed coconut-based farming system is not only capable of generating higher income, but also generates additional employment for small-holders (Sahasranaman *et al.*, 1983 ; Hegde *et al.*, 1990 ; Das, 1991; Thamban and Arulraj, 2007). In a scientifically laid out coconut based farming, unlike the traditional ones, the resource use efficiency gets considerably enhanced from crop inter actions in the system.

In this context it is worthwhile mentioning the results of cluster level field interventions conducted by CPCRI at Kasaragod district under the NAIP project. The average yield of coconut in the selected gardens prior to the implementation of the project was 62 nuts/palm (in the year 2007-08). After three years of implementation of the project the coconut yield was increased to 112 nuts/palm, which is 80% more than yield reported from the base line survey. A number of compatible intercrops were grown in the farmers' garden as part of the project, that include banana (four varieties), root crops (elephant foot yam, dioscorea, tapioca), vegetables, fodder grass, turmeric. Besides, pepper, nutmeg and cocoa were also planted in the interspaces of coconut. It was observed that the yield of coconut is better in gardens with banana and root crops (EFY in particular) as intercrops.

Based on the economic performance of different intercrop combinations, five most profitable combinations are presented in the Table 2. Coconut garden intercropped with banana, recorded the highest net returns among the different crop combinations. However, this system is suitable only where assured irrigation facilities are available. A farmer with limited irrigation facilities may choose coconut+ EFY combination.

It is categorically proved that, scientific coconut based farming systems will mitigate the price risks of coconut monocropping by providing adequate addititional returns.

Product diversification

There exists a huge scope for coconut based agribusiness in India with reference to processing and value added products[3]. Technologies are available for individual processing for the production of snowball tender nut, coconut chips, copra, vinegar, desiccated coconut (DC), coconut shell charcoal, packed tender coconut water, coconut cream and milk powder. The economics of production of coconut based value added products indicates fairly high level of capital requirement towards establishment and operation of these enterprises (Sairam *et al.*, 2008). The attractive returns from the business will, act as the motivating factor and moreover, coconut farmers are expected to realize better price stability in the long run.

CPCRI has conducted consumer perception studies of value added coconut products like coconut chips and VCO. The impact study of coconut chips in major markets revealed that although coconut chips lack the quality of irresistible indulgence, it has a huge impact on specialty markets like organic product shops. In the case of rural units producing VCO and Chutney Powder, an assured steady neighborhood market was observed. Another noteworthy aspect is the year round demand for the product which enabled the rural processing units to earn a sustainable income throughout the year. Apart from the assured rural demand, the processing units were successful in pushing their products through the urban super markets, bakeries and margin free stores.

Recently, based on the study report of a nine member committee[4] Government of

[3] Government of India has notified Coconut Development Board as an Export Promotion Council (EPC) for all coconut products other than those made from coconut husk and fiber from April 2009. So far 985 exporters have been issued Registration cum Membership Certificate. During the year 2012-13 export of coconut products (excluding coir items) was valued at Rs. 105644 lakhs as against Rs. 83864 lakhs during the corresponding period previous year. This shows an increase in export by 26 percent in terms of value.

[4] The committee believes that at least 60,000 lakhs of neera can be tapped per district per day. The committee suggests that neera

Kerala, announced that neera can be produced as a beverage by registered Coconut Producers' Societies (CPSs) and there federations under CDB. Taking cues from the report, government announced a pilot level production of neera in a cluster of 1500 palms/district, wherein a total of 17 production units are coming to emerge with a base source of 25500 palms. The tapping license will be issued by the excise department to the CPS. The major challenges in this regard is the preservation of neera free of alcohol, because the difference between toddy and neera is subtle and therefore, it is crucial that the farmer has to acquire scientific knowledge on how to secure neera unfermented right from the stage of tapping to the stage of sale. More over, neera will be competing with other packed fruit juices/cola drinks but since neera is nutritionally far superior to other substitutes, it has to be appropriately positioned to evoke special attraction. Above all, from May 2014 onwards ASEAN products may flood the Indian market because of the phasing out of customs import duty as per the trade agreement, and the real competition will be set in then onwards. Most crucial part is how best farmers and farm labourers can co-ordinate their activities and efforts in an effective manner, and how best farmers can utilize the climbers for neera tapping. Scaling up of the neera production technologies for profitability and to meet the expectations of farmers is another key aspect.

Impact of collaborative efforts

The experience of integrated approach on coconut development in Edava Gram Panchayat (Trivandrum District) apparently reflects 10% increase in area of intercrops, 58% increase in social participation (which include participation in cluster meetings) and 17% increase in trainings attended. Besides, there has been tremendous improvement in basin management practices as well as application of chemical fertilizers. A remarkable reduction in the button shedding was observed in the coconut palms. A quite number of farmers initiated primary level processing of coconuts. All these factors evidently indicate the effectiveness of integrated institutional approach where CPCRI, CDB, KAU and farmers put their concerted efforts for achieving a common objective. Moreover, concurrent monitoring and evaluation by multiple agencies was really supportive in routing the activities in the most appropriate direction. The externality of this endeavour is such that the financial institutions voluntarily expressed there interest to become a party of the integrated coconut development programme.

Conclusion

The proliferating challenges faced by coconut sector to a large extent could be effectively tackled by synergized efforts of key stakeholders through a partnership mode. It is a matter of fact that wide array of opportunities are opened up before the country, enabling us to compete with other coconut producing countries in the global market. The necessary condition attained to be competitive is to create adequate marketable surplus and become market leaders by achieving higher productivity, lesser cost of production and technological advancement in value addition.

Developing a sturdy and vibrant coconut industry which does not depend on copra/oil should be the futuristic vision. In order to turn this vision true we need to come up with a breakthrough coconut product which is strong enough to capture the niche export market segment. Moreover, if we need to enter the competing world market, we should come up with a Unique Selling Proposition (USP).This could be either in the form of a geographical patenting or a Codex Alimentarius certification for product quality.

Positioning of the coconut products in the mind of consumer as a unique health beneficial product exceeding consumer expectations in taste and health benefits as a dairy alternative and thereby gearing to tap the growing demand for safe natural vegetarian products in the world. It is important to obtain FDA health certification for coconut products by development of substantive science-based evidence to support our claims on coconut products on its health benefits. The evidence should be supported with well designed-studies and endorsed by the USFDA. We need to have co-creative, innovative, vibrant social enterprises, which enable to pass the value creation in the coconut sector to farmers' in an appropriate manner reducing the social disparity.

The writers are researchers at the Central Plantation Research Institute (CPCRI), Kasaragod, India.

Source: Indian Coconut Journal, March 2014.

production and collection can be made at the level of CPSs while processing can be done at the federation level and marketing by coconut Producers Company. The committee also suggests that the neera production/processing and supply can be entrusted to the toddy shop workers/tapper's co-operative societies inorder to save the tapping trade.