

# Market for tender coconut water in Kerala

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**With health awareness growing among consumers and state governments banning pesticide residues in bottled drinks, a healthy and refreshing natural drink like tender coconut water has great potential and scope in the country as well as overseas. The changing lifestyle of the urban middle class is another factor conducive to the market. As such, adequate measures should be taken by government and other agencies to promote the consumption of Tender Coconut Water.**

Coconut, a multifarious agricultural product, having 7-8 month maturity is considered ideal for tender coconut use. Tender Coconut Water (TCW) is a wholesome and nutritious drink. This natural isotonic beverage has increasingly outrun other soft drinks in the keenly competitive market. There are several reasons for this. The drastic fall in the price of coconut during 2000, the awareness of people about the possible health hazards from soft drinks, the anti-cola agitation begun in 2003 and the promotional measures taken by the government and governmental agencies have contributed to the growth of the market for TCW. Besides, the medicinal properties of TCW are other factors favouring the increase in the demand of this natural drink.

The tender coconut market has become dynamic in recent years, especially after 2000. The factors that account for supply and demand for tender coconut invite some serious research. Taking a sample of seven districts in Kerala. (viz. Thiruvananthapuram, Kollam, Ernakulam, Thrissur, Palakkad, Kozhikode and Alappuzha) and interviewing 1026 respondents constituted by sellers, suppliers, farmers and consumers, the study arrived at certain findings.

## Background of Sellers

As against the general trend that trade is dominated by Muslim and Christian groups, this sector is dominated by traders belonging to Hindu religion. The background profile of sellers shows that males (89.40 % of total), mainly had rural background of Kerala (58.20 % of the sellers) and belong to Hindu religion (70.3%), dominate this category. By and large sellers are self-employed labour force with low opportunity cost and in a few cases with zero opportunity cost. Only around 10 per cent sellers have no other alternative other than doing this trade. On the basis of their family income, it is shown that half of the sellers are in the category of below poverty line, to apply one dollar a day principle. Thus poverty acts as a push factor for engaging in this business. Not only do push factors but pull factors also account for the entry of sellers in this market. The pull factors are attractive remuneration and the comparatively less strain of the job. However the sales force is formed within the state as 95.60 per cent of them are from Kerala, 3.3 per cent from Tamil Nadu and the remaining 1.1 per cent from the other neighbouring states i.e. the intra-state migration is strong compared to inter-state migration of sellers.

One interesting point observed during the period of study is that the

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total number of outlets remains the same but all of them do not function for the whole year at a particular location. A few sellers from Tamil Nadu shift between the two states during harvest and festive seasons. The same trend is observed among a small percentage of domestic sellers as they move out to their villages and rejoin the work place after a short period. They may be called 'circulatory migrants'. This feature is very conspicuous in Ernakulam dist in Kerala. Finally, the sellers are largely composed of middle aged persons as their average age is worked out as 42-51 years.

### Sales Details

The major chunk of the nuts sold is through the exclusive outlets located on four locations such as side ways of mainroads, other roadside space adjacent to hospitals, tourist and pilgrim centers. Street vendors operate 82 per cent of them. Regarding the time span of the outlets, it is found that 53 per cent of outlets have been operating for more than four years. About 14 per cent of them have started operating in the survey years (2008 and 2009) only. New outlets are less in Thiruvananthapuram and Kollam, while it is more in Ernakulam.

On an average, each outlet sells around 100 to 300 nuts per day depending on the location, nature of outlets and season. The average number of nuts sold by a stall during the survey period is estimated as 114.02 nuts per day. The regional difference in the sales volume ranges from 89 to 155 tender coconuts daily. The average increase in the sales between 2005-06 and 2008-09 is found to be 109 per cent. The

maximum increase in the sales is at Kozhikode, where the percentage increase between 2005-06 and 2008-09 is obtained as 237 per cent, and minimum at Thrissur with 21 per cent. The fact that has been observed is that the market for TCW is the oldest one as far as Kozhikode is concerned.

Of the four locations viz. main road, tourist centre, pilgrim centre

minimum price across districts ranges from Rs. 10 to 12 where as the maximum price ranges from Rs. 12 to 15. There are regional differences in the average price as it is Rs. 11 in Kollam and Rs. 12.50 in Alappuzha. The price seems to have kink at Rs. 10 in certain tourist places like Varkala. The price of red coconut is higher than ordinary one except Kollam. The former is sold at Rs. 15 per nut.

*Table1 Sale of Nuts at Various Prices*

Year	Average Price	Total sales	Elasticity
2005-06	9.70	30121	
2006-07	10.46	38057	3.367
2007-08	11.38	48973	3.26
2008-09	11.94	62943	5.79

*Source: Computed from Survey data*

and hospital, all centers except tourist spot show a general upward trend in total sales between 2005-06 and 2008-09. Sales increased in the order of main road (47%), tourist centers (12%) and hospitals (7 %) in 2008-09. The tourist centers and other centres did not register a positive growth in the year. But the average sales show a different pattern as it has gone up with exception to tourist and pilgrim centres. The highest average is found in the outlets nearby hospitals which are followed by main road outlets. While tourist centres report a continuous decline of average sales, pilgrim centres present an unsteady picture. Outlets in the tourist centres not only have had a consistent fall in the average sales since 2005 but also the lowest average sales.

The current average price at which a nut is sold is estimated at Rs.11.98 per nut. It is found that while the minimum price is Rs 10, maximum price is Rs. 15. The

One crucial question at this juncture is whether there exist any price differences across locations. Regression analysis indicates that selling price of tender coconut in tourism centres is on an average Rs. 0.496 less than the selling price at highways. The selling price at hospitals is higher about Rs. 0.138 on the average. These values are statistically significant at 5 per cent level.

### Consumption

The background profile of consumers shows that the majority of the consumers in general are from the high-income group. It facilitates a flow of income from the rich to low group, which demands a strengthening of this sector. However, there is regional difference in this respect. The main consumers in the districts of Palakkad and Kozhikode are from the low-income group. However, most of the consumers frequently use TCs (daily



or alternate days) in all districts. It is shown that health and natural features of tender coconut water are the most attractive considerations to the consumers. The survey reveals that there are high seasonal fluctuations in the demand for tender coconut. The practice of considering kernel as a food is more prevalent in Thiruvananthapuram, Kozhikode and Palakkad. The consumer can directly place order for kernel juice from fresh nuts for which a higher price is charged. It has been observed that the price for the same is Rs. 15, which has a value addition component. This system is popular in Kozhikode.

The relation between price and quantity demanded is an interesting point in understanding the nature of commodity. 25 per cent of consumers surveyed reported that they would not change their demand till 50 per cent of price is raised. Almost 15 per cent opined that they would not change the demand till the price is changed by 75 per cent. It means that the nature of demand for tender coconut is inelastic. It is further proved by the estimated value of demand elasticity, which is less than one. Adding to this, it needs to be emphasized that the supply and demand for tender coconuts have been operating in line with the traditional economic theory. While supply maintains a positive relation with price, demand keeps a negative relation between price and demand.

### Sales estimation

Using the data regarding the number of outlets, total sales and average sales, an attempt is made to estimate the total sales of TCs in the state during 2008. For this additional

information required was the number of working days. It is understood that the peak demand period for TCW is February-May, followed by October-January. It is evident from the fact that while the sellers work 6.73 days on an average during the first season, they work 4 days during the rainy season and 5.88 days during October-January. The total number of days they work in a year is estimated at 266 days. Using this information, the estimated sale of tender coconuts per day in seven districts is worked out as 870979 and for Kerala it is 1741958 tender coconuts. The annual sale is estimated at 463.36 million nuts in Kerala as it is found that the sellers work 266 days in a year. It comes to the extent of 7.65 per cent of total matured nuts produced in a year.

### Earning

There is no fixed capital for running this business except a cutting knife. The cost relating to plucking and transportation charges to the destination centers are borne by suppliers. A little interest cost and expenses for waste disposal are the additional cost incurred by the seller. The average rate of purchasing price is found as Rs.7.93 and it ranges

between 6.75 at Thrissur and 8.5 at Thiruvananthapuram. But sellers have to bear the cost of disposing the husk and other wastes, which is calculated as Rs. 50 per day by a seller. Altogether, it is worked out as 60 paise per nut. Using this information, the average earning is computed as Rs.388.80 per day. There is regional difference in earnings of the seller. The average earning of a seller is the highest in Kozhikode with Kollam, Palakkad, Thrissur and Ernakulam taking lines. It ranges from Rs. 548.48 in Kozhikode to Rs. 280.12 in Thiruvananthapuram. The average income is the lowest in Thiruvananthapuram; being Rs. 280 it is, still, a fair amount. The average number of days they work a year being 266 days, the average earning of seller in a year is Rs. 103421.

### Marketing Channels

50.45 per cent of nuts are supplied through middlemen who are known as 'suppliers' or 'agents' or 'middlemen'. While more than half of the nuts in Thiruvananthapuram, Kollam, Ernakulam and Thrissur are supplied through middlemen, this proportion is 70 per cent in Palakkad and Kozhikode. The supply chain of

Table 2 Projected estimate of sales turnover per day in 2008-09

Districts	Average sales per day per location	Observed number of locations	Projected number of locations	Projected sales per day
Thiruvananthapuram	107.74	66 (11.95)	917	98798
Kollam	144.74	32 (5.80)	445	64409
Ernakulam	95.95	118 (21.38)	1640	157358
Thrissur	90.20	34 (6.16)	473	42665
Palakkad	121.84	34 (6.16)	473	57630
Kozhikode	154.50	131 (23.73)	1820	281190
Alappuzha	88.77	137 (24.82)	1903	168929
<b>Total</b>		<b>552 (100)</b>	<b>7671</b>	<b>870979</b>

Source: Computed from Survey data. Figures in the brackets show percentage share

tender coconuts is simple, as there is less number of nodes. The sellers receive TCs from two channels viz. agents/ middlemen and farmers. Agents spread across three areas i.e. locals, rest of the state and outside the state. In terms of the quantum of supply of tender coconuts, it has been made clear earlier that the middlemen are enjoying more control than farmers. Most of the suppliers (middlemen) are scaled up from sellers.

Apart from the exclusive suppliers, sellers themselves are their suppliers. They directly collect the nuts from the farmers. A model which needs mention is the practice of collecting nuts from the farmers directly by the sellers on lease basis. By paying Rs 100-150 per tree to the farmer the seller is entitled to get the right of plucking the nuts for the whole month. Another successful model noted in most of the districts is that the collection of nuts from farmers is done by a team, consisting of the owner of the one or more outlets, a driver, a climber and a labourer who will be selling the nuts. The members, except the owner, are hired labourers. However, the most prevalent form is supply through middlemen and it is found that five to six suppliers monopolise the market in all districts.

### **Linkage**

To what extent the market for TCW is linked with domestic local economy is a crucial point to be explored? It is found that backward linkage to local farmers is very strong in Thiruvananthapuram and Kollam, while it is not weak in Thrissur. It is very low as far as other districts are concerned. It is found that 59.73 per

cent of TCs are coming from the regions belonging to the state. Though the supply of TC from other states is not dominant, it occupies a major role. Hence, the linkage of sellers with local regions is more dominant than with those outside state. The district wise data show that the sellers in Kollam and Tiruvananthapuram exclusively depend on local sources for tender coconut. Thrissur, Ernakulam, Palakkad and Kozhikode depend on both local and outside sources. But the source from the neighbouring states is significant with the highest being in Kozhikode. Two neighbouring states, viz. Tamil Nadu and Karnataka are linked with the TC market of Kozhikode. It is found that the market for tender coconuts in Kerala is a reflection of Ernakulam market in terms of average sales and price.

### **Relative Share**

It is found that unlike in certain agricultural products, the share of middlemen in price per nut is less in the final value of TCs. The farmers enjoy the highest share in the price of TC through value addition but this share includes the value of inputs like fertilisers they use. The relative share of seller in price through value addition is greater than that of a supplier. The respective relative share of farmers, suppliers and sellers are 49.07 per cent (including input cost), 17.43 per cent and 33.50 per cent. When the input cost like fertiliser is deducted, the share of farmers comes down to 24 per cent; still it is a fair proportion. In short, farmers enjoy a good share in the price of tender coconuts through value addition but the role of seller is slightly higher as compared to supplier.

To sum up, while suppliers enjoy control over the supply, farmers and sellers enjoy large share in the price value. Naturally, the share of suppliers in the total turnover is higher because of the bulk volume of business they are doing. To sum up there is no conclusive evidence to claim that any participant has special advantage in the tender coconut market, though the supplier has slight control over it.

### **Problems and Suggestions**

The most important constraint in TC market is its volatility in supply. Nearly 60 per cent of sellers pointed out a shortage in supply. Suppliers reported still a higher percentage of 81. At the state level more than 26 per cent of sellers pursue the strategies of local procurement and an extra payment in order to overcome the problem of inadequate and irregular supply of TCs. However, a sizable majority (65 %) sits with an indifferent face, which is relatively low in Ernakulam, Thrissur and Palakkad.

The attitude of farmers is attributed as a constraint. There is a perception that farmers in Kerala are not ready to sell TC. In contrast to this, a good percentage of farmers in the sample positively would prefer to sell tender coconuts. District-wise analysis shows that farmers in Ernakulam and Thrissur are hesitant to sell tender coconuts. The major reason for selling out tender coconuts is its high price which is an attractive factor. This is more important in Palakkad while farmers in Kozhikode find it difficult to sell matured coconut. The low price for matured nuts is also the cause for the selling of tender coconuts. This is a compulsive factor.

The disposal of wastes like husk, kernel etc does not cause much social or environmental hazards at present. There is every chance that it would be a problem in the future.

The following are the important suggestions on the basis of discussion with the experts.

- The under representation of youngsters as sellers is unfortunate. As the mean age of the sellers is 42.5 years, it is clear that youngsters are underrepresented. They, particularly unemployed youth, can be hired to this field if agencies like CDB are able to offer modernised stalls.
- Women belonging to all age groups are underrepresented. As in the case of Kudumbasree, special drive should be made to employ women in this sector. Simple and modified knives or any new innovative tool can ease the physical strain of the women in handling TCs. This is emerging as a potential area of self employment with substantial employment linkage to the local economy.
- In the context of threat to food security of the state, the consumers have to be made aware of fact that kernel of TCs must used to the maximum. If CDB's stall can be provided, the

stigma attached to the hygiene aspect of the same can be overcome.

- The simple system of value added products of tender coconuts (kernel juice) has to be developed and propagated. Further, other value-added attempts like packaged TCW and desiccated coconut has to be encouraged in Kerala to tap the export potentiality. A Minimal Processing Technique, which includes washing, trimming, slicing, peeling, and other similar steps administered to fresh commodities to improve the convenience for handling and consumption of TCW, can be thought of. Minimally processed tender coconuts could be conveniently arranged in plastic crates in delivery vans for supply at soft drinks parlours and similar outlets in the nearby towns and urban centres. It will also reduce transportation cost since reduction weight is achieved through minimal processing.

With health awareness growing among consumers and state governments banning pesticide residues in bottled drinks, a healthy and refreshing natural drink like tender coconut has great potential and scope in the country as well as overseas. The changing lifestyle of the urban middle class is another

factor conducive to the market .As such, adequate measures should be taken by government and other agencies to promote the consumption of Tender Coconut Water. As it is profitable for farmers, suppliers and sellers and there is growing demand for TC due to seasonal factors like long spells of summer in the context of global warming, the scope for expansion of this market is very high.

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### A coconut for even the babies to harvest

Babies at Visale in North West Guadalcanal do not have to wait until they are grown up to climb a coconut tree. This is because a coconut tree growing on the Catholic Parish's land has bear fruits just centimetres from the ground. It is a special coconut tree because the fruits are not growing

higher from the ground. Babies living in and around area can come and touch the fruits. However, Ministry of Agriculture and Livestock said this is not a new tree crop in the country. Chief Research officer on Tree Crop Agronomy, Martin Jackie said that similar coconut trees are planted around

the country mainly at Yandina and Gela. He said sometimes it is a hybrid crop or imported from outside the country. Solomon Islands is one of the tropical countries in the world.

(By JOHN TOKI Guadalcanal  
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