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NEWSLETTER

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Big Onion Production and Marketing

Big onion is a high value cash crop introduced in the early 1980s and it has been popular among farmers due to high profitability and high return that can be earned in the short run i.e., in a four months period. Hence, the total area under big onion has increased to 6,988 ha in 2007 from 258 ha in 1984, which indicates a 27-fold increase within three decades. Big onion cultivation is highly concentrated in two districts namely, Matale and Anuradhapura, contributing nearly 90 per cent to the national production.

Recently, one of the private television channels stated that big onion farmers face difficulties in selling their produce. As a national level socio-economic research institute, it is HARTI's responsibility to investigate the problem and suggest remedies to overcome these difficulties in order to avoid such situations in future.

Therefore, a study on big onion production and marketing was undertaken with the following specific objectives:

- ◆ to find out the age and educational levels of the farmers who have been engaged in big onion cultivation and their experience;
- ◆ to examine the utilization of inputs such as seeds, water and credit;
- ◆ to ascertain the time of harvesting;
- ◆ to study the economics of big onion cultivation;
- ◆ to examine the marketing of big onion at farm level; and

- ◆ to make recommendations for the improvement of the process of big onion production and marketing.

Findings

Marginal and small farmers have increasingly taken to big onion cultivation as shown in the study. It shows that 83 per cent of farmers in the sample have cultivated less than 3 acres. Unlike in paddy cultivation, educated young farmers have been involved in big onion cultivation. Study found that 45 per cent of the farmers interviewed were less than 40 years of age and nearly 40 per cent of the farmers have studied up to GCE (O/L) or beyond. This was further supported by the fact that 47 per cent of the farmers had started cultivating big onion during the last 15 years. Nearly 70 per cent of the farmers in the sample had cultivated Nasic Red variety while, only 17 per cent of the farmers in three locations out of six had used locally developed seed variety known as 'Dambulu Red'. Many farmers reported that local seeds were expensive and not readily available. Only 10 farmers out of 100 had used their own seeds and all others had to depend on private traders for seed supply. In terms of the quality of seeds, nearly 30 per cent of the farmers reported that seeds were low in quality. Only five farmers reported that seeds were extremely good and out of them only three had used local seeds. Majority of the farmers (74 per cent) had cultivated using agro wells for irrigation. Since big onion farming is expensive, the majority of the farmers (76 per cent) had

obtained loans and nearly 70 per cent from banks. In order to obtain the best crop harvesting had to be done when the big onion bulbs reached full maturity. But, the farmers were compelled to harvest big onion prematurely before the on set of the *maha* season rains leading to low quality products and low prices.

Total cost of production of big onion was Rs.235,326 including impute cost of family labour. It was Rs.183,926 excluding family labour. The unit cost per kg was Rs.28.31, including cost of family labour and Rs.22.55 excluding cost of family labour. Yield per acre ranged from 8,311 to 10,582 kg with an average of 9,252 kg. Yield losses at farm level were reported as 12 per cent. Accordingly, the net average yield was 8,154 kg per acre. As revealed, over 90 per cent of the farmers in the sample sell their harvest to the Dambulla Dedicated Economic Center. Though storage is imperative to avoid price depression, the study found that only 13 per cent of farmers in the sample had stored onions. It was further found that only 6 per cent of the farmers had storage facilities. High wastage (35 per cent) and market uncertainty had discouraged farmers for holding stocks. Absence of quality seeds, lack of storage facilities, low prices and high fertilizer prices were the major problems reported by big onion farmers.

Recommendations

Development of local seed production and storage facilities at farm level is necessary. Similarly, alternative marketing arrangements preferably with forward contracts with super markets, hotels, armed forces, etc. should be explored to control the market supply to the Dambulla Dedicated Economic Center. Big onion should be included in the "One Crop-One Village" programme and a strategy should be formulation to form small groups of farmers as has been successfully attempted in many countries.

The research team consisted of Dr. L.P. Rupasena (Co-ordinator) and Mr. Nalaka Wijesuriya (Co-researcher).

Completed Studies

Terms of Trade in Paddy Sector in Sri Lanka

Deterioration of farm income is one of the significant features in paddy dominated smallholding farm sector in Sri Lanka. It is due to several reasons such as high cost of production, small size of land holdings and unfavourable terms of trade for agricultural products. Moreover, the smallholding farm sector in addition to depending on hired labour, heavily depends on imported farm inputs such as machinery, chemicals and fertilizer. The cost of production of paddy has continuously increased at a higher rate than that of paddy price over the time even though the government has set apart a large portion of the public expenditure on the provision of subsidized fertilizer. Nevertheless, the farmers do not receive reasonable prices at farm level. These have caused low profitability in the paddy sector. Therefore, this study was focused on examining the terms of trade in the paddy farm sector and examine price changes that affect the terms of trade/price parity ratio of the paddy farmers.

Further attention was paid to:

- ◆ examine the trend in farm gate price of paddy and inputs and retail prices of selected consumer goods in the economy of the paddy farming during the period of 1990-2008;
- ◆ ascertain the behavioural pattern of paddy prices in comparison with the prices of inputs and other consumer goods, measured in terms of trade/parity price ratio; and
- ◆ study the implications of these changes of price movements on the paddy farm economy.

Findings

Paddy prices have increased very slowly during the period 1990-2005. But, towards the end of 2007, the farm gate price of paddy has risen faster with the global food crisis. Paddy prices that prevailed in some of the selected markets have not fluctuated much during the relevant period. Market integration could also be expected, since higher correlation values were found.

Producer price of paddy has not increased commensurately with the price increase of inputs. This has resulted a downward trend in profitability and terms of trade in paddy sub-sector. Since the profit margins were not commensurable with the expenses, return from paddy farming has declined during the last few years.

Labour cost has increased rapidly due to shortage of labour in paddy cultivation and the high cost of machinery and agro-chemicals, while the cost of fertilizer has been subsidized by the government.

There were no significant variations found in calculating terms of trade values within the selected districts in terms of input prices. The results suggest that the terms of trade in the paddy sector has declined over the years.

Terms of trade has risen to 0.79 during the *maha* harvesting season and 0.72 during the *yala* harvesting season in 2008, compared to the base year (1990). This shows some positive signals of terms of trade due to attractive paddy prices. However, the terms of trade value, have not reached up to the value of the base year, considering the prices of inputs.

The terms of trade with regard to consumer goods namely, bread, milk powder and kerosine oil have deteriorated during the study period, showing the decline of living standard of paddy farmers.

As the end result, the study found that the terms of trade in paddy sub-sector has deteriorated during the period under study both in terms of inputs and consumer goods.

Recommendations

In order to improve terms of trade in the paddy sector, selling paddy directly to millers, improving the quality of paddy and holding the stock till the price increases are recommended. It is also suggested that labour saving machines be introduced as a solution for labour shortage and higher wage rates.

Attention should also be paid to reduce the yield gap between actual and potential in order to minimize the cost of production.

The study was conducted by Ms. Chathura Wijethunga.

Rapid Assessment on the Programme of Providing a Glass of Milk

Providing a glass of milk to the children between 24-60 months suffering from malnutrition in low income families is a concept that comes under the *Mahinda Chinthana* manifesto of 2005. Accordingly, this programme has been conducted since 2006. HARTI has undertaken a rapid assessment on this programme as a response to a request made by the Ministry of Child Development and Women Empowerment through which this programme is now being implemented. Since this programme was implemented amidst several difficulties and limitations during the past few years, this rapid assessment would be beneficial to overcome these difficulties and to make the programme a success in 2010.

The major objective of this assessment is to review the progress of the programme of providing a glass of milk to the children at rural level and also to make necessary recommendations for the improvement of the programme.

The specific objectives of the assessment are as follows:

- ♦ to examine the way in which the programme is being conducted at rural level;

- ◆ to identify conditions that have caused the overall and local level success/low success of the programme; and
- ◆ to provide necessary recommendations for further improvement of the programme.

Ten Divisional Secretariat divisions were for the study namely, Ambagamuwa, Millaniya, Eravur, Mundal, Sooriyawewa, Rideemaliyadda, Rasnayakapura, Moneragala, Thambuththegama and Imaduwa.

Findings

- ◆ The programme is being implemented in 48 per cent of the Grama Niladhari divisions in the study locations and 45 per cent of the total number of mal-nourished children in the study locations are receiving the benefits.
- ◆ In terms of age criterion which is 24 to 60 months of age, the eligible beneficiaries amount to 92 per cent.
- ◆ Distribution of milk takes several forms such as collecting fresh or boiled milk from a distribution centre by the beneficiary, supply of fresh or boiled milk to the residences of the beneficiaries or to closeby places, drinking boiled milk by the beneficiaries at a distribution centre and provision of pasteurized milk to beneficiaries.
- ◆ Even though it was expected that each beneficiary should be provided 200 ml of milk at least for 25 days per month, only 30 per cent of the beneficiaries enjoy this benefit. Thus the milk distribution procedure is encountered with many inconsistencies.
- ◆ Dairy farmers supplying milk to this programme consist of two types. The majority (72 per cent) are involved in both production and distribution, while the rest only supply milk to a distributor who is identified by the village level officers. Around 61 per cent of the milk suppliers are small scale dairy farmers who supply less than 5 litres of milk/day. Also 34 per cent of the dairy farmers have one milking cow

at the moment and 10 per cent farmers have only one cow in their herds.

- ◆ The supply of milk for the milk glass programme ranges from 0.2 per cent to 11 per cent out of the total production within the studied divisional secretariats.
- ◆ The main problems highlighted by the dairy farmers are: delay in reimbursement of cash; difficulties in distribution of milk; lack of incentives; low milk price; and problems related to some several administrative decisions.
- ◆ While practising the milk glass programme, the village level officers also experience many difficulties. Finding suitable dairy farmers and/or distributors who could supply sufficient milk of high quality, problems of selecting beneficiaries, limitations of supervision, inadequacy/lack of awareness and interest among different stakeholders and low prices for milk are the problems posed by the officers.

Recommendations

The programme experiences several shortcomings which could be attributed to extended nature of implementation which constitutes many procedures, different activities and variety of stakeholders. Hence, the institutionalization of the implementation part of the programme is essential so that a number of vital aspects such as convenience of many parties, simplicity, record keeping and supervision will be ensured for the ultimate advantage of the eligible beneficiaries. This will also enable formal means of progress monitoring to help measure the outcomes of the milk glass programme. To achieve this end, it is recommended that the programme be implemented through pre-schools on a pilot basis. Replacement of the current procedure with pre-school system could be done on the successfulness of a pilot programme. A programme to encourage dairy farmers who assist the programme, increasing the price of milk, awareness

programmes to all stakeholders, introducing a better supervision mechanism and progress monitoring are other vital components which will make the programme a success.

The research team consisted of Mrs. Renuka Weerakkody (Co-ordinator) and Prof. Ranjith Premalal De Silva (Co-researcher).

On-Going Studies

Impact of Using Plastic Crates on Vegetable and Fruit Marketing in Sri Lanka

High post harvest loss of agricultural products in Sri Lanka as in other developing countries is a major impediment to increasing agricultural production. Post harvest losses of fruits and vegetables are greater compared to other crops due to huge content of moisture and highly perishable nature of such products. They occur quantitatively as well as qualitatively.

Post harvest losses of farm products occur in different stages of the supply chain, at different levels due to various reasons. At farm level, inadequate means of harvesting, poor handling practices and delays in taking the harvested products to the market cause losses. At the transporting stage, poor road conditions, over loading, lengthy market channels and poor handling/packing are the causes of this problem. Post harvest losses at retail level are due to bruises during transportation as well as delays in the sale of produce which lead to physical losses and quality deterioration. As estimated, the post harvest losses at wholesale and retail levels are greater than at farm level. About 11 metric tons of vegetable and fruit wastes are removed per day from Colombo Manning Market alone.

In order to reduce the wastage of fruits and vegetables, the Institute of Post Harvest Technology has promoted plastic crates among the farmers, collectors,

wholesalers and retailers for packing and transporting of fruits and vegetables. Under the programme *Api Wawamu-Rata Nagamu*, it is expected to distribute 300,000 plastic crates at subsidized prices. In addition to the reduction of post harvest losses, it is also expected to increase the farm gate prices of vegetables and fruits and providing consumers with quality products.

HARTI has undertaken this study with the principal objective of evaluating the use of plastic crates and its impact on marketing of fruits and vegetables in the country.

The specific objectives of the study are:

- ◆ to investigate the system of distribution of plastic crates among different stockholders in the supply chain and in different districts;
- ◆ to examine the purposes for which the purchased plastic crates are used and underlined reasons;
- ◆ to identify market channels which use plastic crates and measure the impact of using them on the post harvest losses, the quality of products and the producer prices; and
- ◆ to make recommendations for better utilization of plastic crates for vegetable and fruit marketing.

Primary data will be collected through a sample survey; discussions with officials in trade associations, economic centres and wholesale markets; key informant interviews of farmers, different types of traders and consumers; case studies and field observations. Finally, a tabular analysis will be carried out. At the moment, the study is in progress.

The research team consists of Mr. J.K.M.D. Chandrasiri (Co-ordinator), Dr. L.P. Rupasena (Co-researcher) and Mr. S. Epasinghe (Co-researcher).

Pre-Feasibility Study of the Proposed Sugar Project in Anuradhapura and Trincomalee Districts

The development policy statement presented by the Executive President of Sri Lanka has placed high priority on the development of the sugar industry and has set the target to reach 50 percent of the national requirement. If the target could be achieved, the sugarcane cultivation could play a major role in transforming agriculture and boosting agricultural GDP. In view of realizing these goals, the Ministry of Supplementary Plantation Crops Development in Sri Lanka has been planning to establish new sugar factories in Bibile, Siyambalanduwa, Anuradhapura and Kurunegala. Since land is a key factor for sugarcane cultivation and establishment of new factories, it is compulsory and necessary to review and work out a plan to determine the land availability for the proposed projects in those areas.

As a result, the Sugarcane Research Institute (SRI) under the Ministry of Supplementary Plantation Crops Development requested Hector Kobbekaduwa Agrarian Research and Training Institute (HARTI) to conduct a pre-feasibility study on the proposed Anuradhapura and Trincomalee sugar project. The factory is expected to set up at Kahatagasdigiliya and the supplies of sugarcane are expected from the Divisional Secretariat (DS) areas of these two districts. Out of the selected DS divisions, 10 are located in the Anuradhapura district and other three are in the Trincomalee district.

This socio-economic study was implemented with the following objectives:

- ◆ to study demographic characteristics, education and employment condition of the people residing in the command area;
- ◆ to ascertain the land ownership, land size and the land use pattern in study locations through identification and classification of the highlands

within the concerned Divisional Secretariat areas;

- ◆ to examine the cropping patterns, competitive profitability of cultivation of sugarcane versus competing crops and farmers' willingness to cultivate sugarcane;
- ◆ to examine infrastructure facilities available in the area and improvement required; and
- ◆ to find out areas suitable and potential for sugarcane cultivation under rain-fed and supplementary irrigation in the identified highlands of the project area.

The survey was conducted in 13 Divisional Secretariat (DS) areas covering nearly 300 Grama Niladhari divisions. Indirect oral examination method was applied to collect information to achieve the study objectives. Accordingly, Grama Niladharies in the study area were interviewed and a structured questionnaire was administered to gather information. Besides, focus group discussions and key personnel interviews were conducted to get farmers' opinions on cultivation of sugar cane and to identify the types of farmers who were willing to cultivate sugarcane. In addition, a rapid appraisal survey was conducted to collect information on cost and return of competitive crops for profitability analysis. Simple statistical methods such as average, percentage and ratio were used to analyze the data.

The report writing is still in progress. The study is co-ordinated by Prof. Ranjith Premalal De Silva. Dr. L.P. Rupasena and Dr. T.A. Dharmaratne are the co-researchers.

Training Programmes

As the national training institute of the country in the agrarian sector, HARTI functions in designing and initiating its regular training programmes and it caters to the emerging demand of training on contemporary issues. Further, it provides training experts to

other government organizations in planning and conducting their training programmes. In addition to the training programmes, HARTI also collaborates with local and international organizations and foreign institutes in organizing seminars and workshops on subjects relevant to the agrarian/rural sector.

Training Programme on Participatory Techniques for Planning and Management of Rural/Community Development Project

The training programmes conducted by HARTI on the above theme were designed to promote awareness among officers directly involved in the *Gama Neguma* programme. The objectives of the programme were to enhance participants' knowledge on preparation of community action plans and to introduce the participants to the concepts and methods used in participatory planning and management.

Two programmes on the above subject were conducted from 12th–16th September and 4th–8th December 2009 for the officers who are directly involved in the *Gama Neguma* programme in Moneragala and Kandy districts respectively. Under these training programmes, Community Action Plans were also prepared during the field exercises.

These programmes were co-ordinated by Mr. N.S.B. Epakanda. The training team consisted of Mr. J.K.M.D. Chandrasiri, Mr. S.M.A. Samarakoon, Mr. R.L.N. Jayatissa and Mr. S. Epasinghe.

Training Programme on Marketing Extension

As the prevailing agricultural extension system in the country aims at increasing production, the farmers tend to grow crops convenient to them and look for markets after production. This system is production-oriented and focuses on increasing yield per crop but scant attention has been paid on farm planning

and marketing. As a result, the production does not tally with market demand. A system of market-oriented production is an urgent requirement to implement the sustainability of agriculture. In order to achieve this, the market extension should be added to the present extension system. Therefore, this programme was designed to create awareness on marketing extension among the extension staff.

General objectives of the programme were:

- ◆ to enhance participants' knowledge about the concepts on marketing extension;
- ◆ to understand ways and means of delivering marketing extension among farmers; and
- ◆ to develop forward and backward linkages among market participants to improve the supply chain management.

Two training programmes on marketing extension were held for the Extension Officers (AIs) of the Department of Agriculture in Hambantota and Moneragala districts in August and December respectively. On the request of the Mahaweli Authority of Sri Lanka, two programmes were conducted in October and November, 2009 in Girandurukotte and Thambuttegama respectively. Institutional Development Officers, Agricultural Officers and Unit Managers participated in these programmes.

Social Mobilization and Participatory Development Programme

HARTI organized and conducted the above training programme from 20th–24th December, 2009 at the Wayamba Training Centre, Wariyapola. It was designed for the field level officers of the Rural Development Department of the North-Western Province. The main objective of the programme was capacity building of the officers in social mobilization of rural sector.

The programme was co-ordinated by Mr. N.S.B. Epakanda. The programme was conducted by Mr. J.K.M.D. Chandrasiri, Mr. R.L.N. Jayatissa, Mr. S.M.A. Samarakoon and Mr. S. Epasinghe.

Food Market at a Glance: Last Quarter of 2009

High food prices and low food supply to the market are the most controversial and conventional issues in the recent socio-economic and political scenario of the country. In the last quarter of the year, 2009, the price of paddy/rice has increased considerably, compared to previous year. This was marked as the highest price increase of paddy/rice in recent past due to scarcity of paddy/rice stocks. It was because the paddy production of the *yala*, 2009 season had declined by 28.41 per cent due to drought in major producing areas. Except for rice, dried chillies and potatoes are two sensitive food items in the food basket. Market supply of dried chillies comprised only imported stocks. The market supplies of potato decreased due to the dwindling of harvest at the tail-end of the harvesting season. Hence, the prices of both local and imported potatoes had increased with effect from 10th November 2009. Special commodity levy has been reduced from Rs.40/kg to Rs.20/kg and Rs. 25/kg to Rs.15/kg respectively.

Even though, the special commodity levy for big onion and red onion has also been reduced by Rs.15/kg and Rs.10/kg respectively, an increasing trend of prices could be observed in November due to limited supply of local varieties and increased CIF prices. Compared to the CIF prices of big onion recorded during last five years, the highest price was recorded during the last week of November 2009 (Rs.56.23/kg). Production of pulses in *yala*, 2009 season declined due to the scarcity of water in major producing areas. As a result, both producer and retail prices of green gram and cowpea were high during the last quarter of 2009. Since the government reduced the special commodity levy of imported food commodities in the 2nd week of

November, the price of red dhal continuously decreased during November and December.

From October to December 2009, the prices of most of the vegetables increased compared to the corresponding period of the previous year. More than 90 per cent of *yala* harvest of vegetables had been supplied to the market by the end of November. But, the supply of vegetables was at a lower level due to the rainy weather condition that prevailed in most of the producing areas. The demand increased in December due to the year-end festival season and hence, the prices of vegetables have increased during the latter part of the year.

A decreasing trend of prices could be observed among most of the fruit varieties due to the onset of the major harvesting season. In November, the supply of mango, papaw, wood apple and pineapple has increased and the prices have decreased significantly. By the end of December, the prices of all varieties of banana have increased compared to October and November due to increased demand.

Price of fish has declined in October and November. However, it has slightly increased in the latter part of December due to unfavourable weather conditions and increased demand in the festival season. Supply of both local and imported dried fish was at a satisfactory level. A price fluctuation could not be observed for both varieties during the last quarter of the year.

Prices of both brown and white eggs have increased sharply due to short supply. Insufficient market supply and the high demand during the festival season caused the price increase of eggs. As a result, the price increase in December was recorded as the highest price increase in 2009.

With regard to the prices of meat varieties, a significant price fluctuation could not be observed during the latter part of the year and the supply of meat varieties was sufficient to fulfill the demand.

FOOD COMMODITIES BULLETIN

The Marketing, Food Policy and Agri-business Division of HARTI issues a weekly Food Commodities Bulletin every Friday providing wholesale and retail prices as well as supply information of food commodities. Subscription rates are as follows:

One year	-	Rs.520.00 (52 copies)
Six months	-	Rs.260.00 (26 issues)
Single copy	-	Rs.10.00

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Information on agricultural research and development programmes implemented by other organizations is welcome and will be included under "MISCELLANY".

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