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NEWSLETTER

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NATIONAL FOOD WEEK - 2009

A National Food Week was declared from 22nd-28th June 2009 by the Ministry of Agriculture Development and Agrarian Services under the local food production drive programme, *Api Wawamu-Rata Nagamu*.

The major intention of the national food week was, promoting local food production and consumption. In addition, the programmes of the food week were based on several other objectives:

- ◆ To ensure the food security in Sri Lanka by eradicating food insecurity and vulnerability;
- ◆ To increase the production and consumption of local food and strengthen the agricultural extension;
- ◆ To educate the people about the importance of having a nutritious food diet for each meal and to promote traditional food practices/habits and patterns;
- ◆ To reduce the import of food which can be produced within the country so that foreign exchange can be saved;
- ◆ To get the maximum use of the government and private lands and other agricultural resources;
- ◆ To resuscitate the programmes, projects and activities that have been already implemented under *Api Wawamu - Rata Nagamu* programme.

Each day of the food week was allocated for a specific theme. Accordingly, the first day of the week was allocated to create awareness on local food

production and consumption. Hence, the Hector Kobbekaduwa, Agrarian Research and Training Institute (HARTI) held a media conference to explain the major objectives to the media and brief them on the performance of the farm economy after independence. Hon. Hemakumara Nanayakkara, the Minister of Agriculture chaired the media conference.

Hon. Minister Nanayakkara at the outset, explained the need of a national food week. He said that the agricultural production has increased under the present government whereby it is expected to eradicate poverty and develop the economy of the country. According to the Minister, action has been taken to promote 33 agricultural products which are now being imported by the country. It is intended to stop completely the importation of such products by 2010. This would save foreign exchange.

In the past, the people were used to having traditional food which was produced in the country itself. Hence, those people were stronger and healthier. But after independence, the traditional food pattern changed and the people became slaves of wheat flour. Therefore, in order to promote local food production and consumption, a national food week was declared, the Minister further said.

Answering a question asked by a journalist, the Minister mentioned that restoration of ancient reservoirs in the North is in progress. He also said that it is expected to develop the Thirunelveli agriculture farm and convert it as an

agricultural training centre.

A special issue of *Govi Janatha* magazine published by HARTI was launched on behalf of the National Food Week and it was presented to the Minister by the Director/HARTI.

Dr. L P Rupasena, the Deputy Director (Research) of HARTI made a presentation on the economic situation of the country after independence. His presentation included the information on agricultural economy and its progress and the challenges it has faced.

In his presentation, he divided the economy of Sri Lanka into 3 sectors i.e. agriculture, industries and services. The contribution of agriculture to the economy of the country is 12.1%. Further, he divided the Sri Lankan agriculture into several sections and the non-plantation sector of the crops sector was called farm economy.

He further explained, that the production of non-plantation sector and its contribution to the economy have increased due to the higher patronage given by the present government. He emphasised that the cultivated land extent has also increased because of the fertilizer subsidy and the increased guaranteed price for paddy. With regard to maize, the production has increased and the imports have decreased due to increased tariff rates for maize imports.

It can be expected that the food production would increase further since the cultivation (crop production) has increased under development programmes called *Uthuru Wasanthaya* and *Nagenahira Navodaya* said the Deputy Director. Since, food consumption is on the increase, he proposed to increase the number of cultivating seasons without being limited to only two seasons in order to increase the production. As he pointed out, increasing the profit is the biggest challenge that the agricultural economy faces today. Therefore, the income should be increased while reducing the expenses. "Factors such as weakness of the extension services and lack of quality

seeds were also causes for the decline of productivity" said the Deputy Director.

Concluding the presentation, the Deputy Director proposed that agriculture should be transformed into agri-business and the farmer should be converted into agri-businessman.

At the end of the programme, a brief account on the research projects conducted by the institute, their findings and recommendations were presented to the media.

Concluding the media conference, the Deputy Director of the institute emphasised that the assistance of the media is essential for dissemination of information and educating farmers.

Completed Studies

RE-STUDY OF PUL ELIYA VILLAGE

Over a half-century has elapsed since the late professor Edmund Leach conducted the study on Pul Eliya, a village in the Anuradhapura district, in 1954. The publication of his research findings in 1971 under the title, "Pul Eliya, a Village in Ceylon; A study of Land Tenure and Kinship" consists a benchmark in the history of social anthropology in general and studies of kinship and land tenure in particular. Conducting a similar type of study again would be beneficial to identify the nature and magnitude of changes in the society and economy of the village, a team of researchers thought. Therefore, HARTI carried out this study. The general objective of the study was to document, analyse and assess the impact of macro level changes in the Pul Eliya society.

The study has been completed and the findings are as follows:

- ◆ The process of evolution of agriculture from a subsistence to a commercialized mode which is a

- prerequisite for development of a country has taken place in Pul Eliya also to a certain extent;
- ◆ The role of essentials was more prominent than that of drivers or accelerators and now a market for farm products, constantly changing technology, supplies and equipment, incentives and transportation were available but combined in different ways to produce the desired change;
 - ◆ Low productivity in paddy cultivation due to inadequate supplies of water and land fragmentation due to increase of population were the main incentives for adoption of commercial agriculture by Pul Eliya people.
 - ◆ The physical expansion of the settlement area has led to a dissolution of the old settlement and its associated house sites;
 - ◆ People not only earned extra money from commercial enterprises but also re-invested some of the earnings to purchase new agricultural equipment that accelerated the change process further;
 - ◆ Of those who successfully engage themselves in commercial cultivation, there is a number of farmers who do make significant levels of profit despite changing price levels. Farmers who have already accumulated sufficient capital and have their own machinery were the most successful ones;
 - ◆ One of the social outcomes of participation of some of the villagers in the open market economy funneled by highland cultivation is the emergence of a new class of elites whose position is not based on traditional status criteria;
 - ◆ A system of social stratification has evolved in the community as expressed in differential degrees of access to household amenities, housing construction household assets and differences in income and expenditure patterns;
 - ◆ The emergence of cash cropping has had important ramifications for gender relationships; it has provided women to be more involved in agricultural activities in contrast to their role in paddy cultivation;

- ◆ The number of farmers who cultivate small highland areas for home consumption has increased and it recalls the old subsistence method.

Conclusions

- ◆ Pul Eliya people have definitely demonstrated that nothing is unalterable contrary to the expectations of Leach who held firmly to the view that physical layout of the old field and the settlement area were the only continuing entities;
- ◆ However, there is a continuing entity and that in the collectivity of norms and values that Pul Eliya people have held throughout a century or more. While changes in the agrarian order were unavoidable, they have held on to some basic values. Among them, prominence is given to the principle that land in the village should remain in the hands of the members of the clan, not outsiders;
- ◆ It is noteworthy that the sort of change that has taken place in Pul Eliya has not been orchestrated by any extension workers or other outside agents but are the outcome of decisions of individual farmers and their households;
- ◆ Although, external intervention has not been a fact in the equation, it certainly would have played an important role in minimizing or eliminating some of the negative consequences of agrarian change in the village such as indiscriminate use of agro-chemicals, the depletion of soil fertility, loss of livestock and depletion of ground water resources due to use of water pumps.
- ◆ It is difficult to predict the sustainability of commercial cultivation of highland crops due to unpredictable nature of market prices and the competition from the farming sectors. Suffice it to say that going by present trends, the growth trend appears neither linear nor unidirectional in the long run.

The research team consisted of Miss. M.K.N. Damayanthi (Co-ordinator) and Prof. A.J. Weeramunda (Consultant).

STUDY ON PROBLEMS AND CONSTRAINTS IN ORGANIC FERTILIZER UTILIZATION

Utilization of organic fertilizer is an important activity in cultivation. After the introduction of "green revolution" concept, most of our farmers are addicted to use inorganic fertilizer for their cultivations. However, in line with the world fuel prices, the cost of fertilizer increased remarkably during the last decade. Therefore, the government introduced the present fertilizer subsidy programme in 2005, as a relief to the farmers. However, this is a huge burden to a developing country like Sri Lanka. On the other hand, the continuous utilization of inorganic fertilizer leads to reducing the quality of the soil. In order to overcome these problems, the Ministry of Agriculture Development has implemented programmes for promoting the utilization of organic fertilizer under the national programme called *Api Wawamu-Rata Nagamu*. Therefore, the training programmes on utilization and production of organic fertilizer were conducted for farmers with the assistance of Agrarian Service Centres. It was expected to increase the utilization of organic fertilizer while reducing the utilization of inorganic fertilizer by 25 percent. This study was therefore implemented by HARTI with the objective of examining the problems and constraints in utilization of organic fertilizer.

Further, the following specific objectives were also taken into consideration.

- ◆ Finding out the knowledge of the farmers gained through the training programmes and their attitudes towards the utilization of organic fertilizer;
- ◆ Investigating the level of organic fertilizer utilization;
- ◆ Identifying the methods used in producing organic fertilizer;
- ◆ Identifying the problems and constraints in utilization of organic

fertilizer and providing necessary recommendations to improve the utilization of organic fertilizer.

Findings

The result of the study shows that 94.2 percent of the trained farmers produce organic fertilizer. They use different methods to produce compost fertilizer such as *wala* method, *goda* method, *live fence*, *wormicompost* and *wormiwash*. According to the survey, the most popular method is the newly introduced *goda* method. The study shows that only 3 percent of the sample farmers use organic fertilizer for their cultivations and the rest of the farmers use both organic and inorganic fertilizer.

The survey also reveals that the national programme implemented to enhance organic fertilizer utilization under *Api Wawamu-Rata Nagamu* is successful. Moreover, the farmers stated that the training given by the Agrarian Service Centres was very useful. This study also indicates that the material needed for organic fertilizer production can be found locally. But, the finding of animal manure is somewhat difficult in the area.

Further, most of the farmers do not know about the proper amount of organic fertilizer recommended for different crops. On the other hand, the quality of the organic fertilizer depends on the material used for the production. Therefore, the correct amount of utilization is also problematic.

The study found that the number of demonstration plots available in the local level is not adequate to promote organic fertilizer.

Recommendations

- ◆ Make it compulsory to produce organic fertilizer to obtain fertilizer subsidy;
- ◆ Establish a demonstration unit of organic fertilizer preparation in each Agrarian Development Centre;
- ◆ Educate farmers continuously about the benefits of organic fertilizer utilization;

- ◆ Conduct awareness programmes through media;
- ◆ Provide incentives for successful organic fertilizer producers.

The co-ordinator of this study was Ms. Sagarika Hitihamu and the co-researcher was Mr. S. Epasinghe.

ANICUT SYSTEMS OF SRI LANKA: A SOCIO-ECONOMIC ANALYSIS IN NILWALA RIVER BASIN

Many studies on small tanks that falls into the category of minor irrigation schemes have been carried out and there are a large number of publications on this theme. However, the attention given to anicut schemes by the relevant government authorities and researchers in the past are very limited and only a few research studies were conducted on small anicut schemes. In the low country wet zone the highest density of small anicut schemes is found within the Nilwala river basin in the Matara district. Therefore, this study was planned to identify the main features of the livelihoods, economic diversification and other problems related to anicut scheme based agriculture in the Nilwala river basin.

Findings

Labour force is about 64 percent in both Urubokka ganga and middle Nilwala sub-watershed areas. Employment pattern is also similar in both sub-watershed areas. About 39 percent of the total employed population is involved in agricultural activities as their main employment. About 5 percent of the total employed population is involved in agricultural activities as their secondary employment. Percentage engaged in government and private sector employment is about 31.

Animal husbandry is not popular within the study area. Only 8 percent of the farmers are involved in it for the purpose of income generation. The main problems faced by the farmers who are involved in animal husbandry are scarcity of labour and high cost of animal feed.

An indication that the younger generation is moving away from farming is that the farmers who are in the age group of 20-40 years are only 9 percent from the total number of farmers in the study area.

Since paddy is cultivated mainly for the purpose of home consumption, the farmers are very reluctant to cultivate OFCs in the lowlands even in the *yala* season.

In the Urubokka sub-watershed area, about 40 percent of the households earn more than 50 percent of their annual household income from tea plantation, while in the middle Nilwala sub-watershed area, about 70 percent of the households earn less than 10 percent of the annual household income from tea plantation.

A complex system of land tenure is observed in the area. In the middle Nilwala sub-watershed area, share cropping is the most common type of land operation. Owner operators are cultivating about 46 percent of the total extent of lowland. In the Urubokka sub-watershed area, the owner operators are cultivating about 78.5 percent of lowlands.

In the middle Nilwala sub-watershed area, 71 percent of the holdings of lowland are within the size class of less than 0.5 acres of land. Percentage holdings belonging to that particular size class in the Urubokka Ganga area is 76.

Average paddy yield is less when compared to dry zone areas. Cropping intensity of the low land paddy was 186 and 177 respectively in the middle Nilwala and Urubokka sub-watersheds.

Cost of production of paddy in the middle Nilwala sub-watershed is higher than Urubokka sub-watershed.

In the middle Nilwala sub-watershed, 54 percent of lowlands are cultivated by anicut systems, while it is 32 percent in the Urubokka Ganga sub-watershed area. In both sub-watershed areas, about 63 percent of households get less

than 10 percent share to their annual household income from anicut systems based paddy cultivation.

According to the farmers' view the reason for most abandoned anicut systems in the area was improper placement. Major problems faced by the paddy farmers in the area are lack of quality seeds at the proper time and high degree of pest and weed problems. Problems of the anicut systems were mostly about the poorly maintained delivery channels. Demerits of the Nilwala flood protection scheme should be rectified to cultivate currently abandoned paddy lands in the middle Nilwala sub-watershed.

Recommendations

- ◆ Strengthening the marketing network of seed paddy in the Matara district to avoid delays;
- ◆ Rice varieties that are resistant to diseases in the wet zone conditions should be provided with regular advice on pest and disease control from the Agricultural Instructors in the area;
- ◆ Demerits of the Nilwala flood protection scheme should be rectified to cultivate currently abandoned paddy lands in the middle Nilwala sub-watershed;
- ◆ Crop varieties suitable to the local environment can be used to increase average paddy production in the area if proper agricultural practices are adopted while using sufficient quantities of input;
- ◆ Strengthening the farmer organizations to successfully carry-out the activities of maintaining the irrigation works;
- ◆ While giving the responsibility of maintenance work to the respective farmer organization, a systematic monitoring by the relevant government officials should be carried out;
- ◆ When constructing a new anicut system, systematic prior investigation by obtaining the farmers' traditional knowledge and wisdom regarding the hydrological environment of the area and the

location of the existing irrigation works is recommended.

The research team consisted of Mrs. G.G. de L.W. Samarasinghe (Co-ordinator) and Mr. M.A.C.S. Bandara (Co-researcher).

ECONOMIC EVALUATION OF INSTITUTIONAL LEVEL RAINWATER HARVESTING (RWH)

Although water need has become a central issue to industries and service sectors that consume substantial quantities of water, the potential of rainwater harvesting has not received adequate attention. Only a few commercial ventures and public buildings have incorporated rainwater harvesting in their building premises, but with large investment. Various public and private sector institutions have made investment for rainwater harvesting to meet their part of water requirements and also in line with their Corporate Social Responsibility (CSR) to save the environment. The performance of these projects, usefulness of harvested rainwater, and economic return to the investment made and the problems and constraints of these projects are useful in the policy arena. Therefore, this study was aimed to study the performance of the current institutional level of rainwater harvesting facilities in the country with special focus on the economic perspectives.

The major objective of the study was to conduct an economic appraisal for institutional level rainwater harvesting projects implemented in selected areas in order to assess the suitability of rainwater harvesting as an alternative option for industrial/commercial sector and the public institutions and to make recommendations to promote rainwater harvesting at institutional level.

Findings

The RWH in the case study areas has helped to reduce the risk and uncertainty

in the production process caused by restricted public water supply and limited water availability in the groundwater aquifer especially during dry periods.

Reduction in water tariff or cost of water extraction from an alternative water source has been reported in all the places due to utilization of rainwater.

Pressure on groundwater resources and the occurrences of flash flood has been greatly reduced in the vicinity.

Higher initial investment, need of a large surface area for water storage and extended dry periods are the major constraints that hinder the water harvesting.

Results of two case studies out of three examined in this report readily show positive economic results and the investment made is recoverable within 7 to 15 years.

Recommendations

- ◆ The government agencies engaged in the drinking water supply and groundwater resources management should provide the users an incentive package to promote rainwater harvesting at institutional level;
- ◆ The RWH should be mandatory for public and commercial buildings through appropriate legal framework and institutional arrangements. The government should enforce necessary bylaws in respect to this;
- ◆ Low cost appropriate technologies should be developed for large scale rainwater harvesting in order to increase the economic efficiency;
- ◆ Regulation should be in place to control the unlimited tapping of groundwater and the policy of 'groundwater is free for all without any limit' should be changed, not only to preserve the environment but also to motivate users to shift towards RWH;
- ◆ Education and awareness building are essential to advocate and influence the people towards RWH;

- ◆ Measures should be taken to introduce the concept of RWH as a part of CSR among the private sector.

The research study was conducted by Mr. M.M.M. Aheeyar (Co-ordinator) and Mr. M.A.C.S. Bandara (Co-researcher).

On-Going Studies

IMPACT OF HIGH FOOD PRICES ON SRI LANKAN HOUSEHOLDS

World food prices have been increasing rapidly since 2006 and it has accelerated during the period of 2007-2008. The rate of price increase was higher than the average. In line with this global situation, the food prices in Sri Lanka have also increased during the above period. As a result, the households of each sector i.e. urban, rural and estate have to increase their budgets to cope up with the increase of food prices. Since their purchasing power has decreased, they have fallen into food insecurity. The possible alternatives to cope with the impact of high food prices vary according to the livelihoods within each group.

Therefore, this study was implemented with the purpose of investigating the alternative strategies to cope with the increase of food prices and to study the impact of high food prices on food security of the households in each sector.

The specific objectives of the study were:

- ◆ To review the price behaviour of food sub-sector in 2007 and 2008;
- ◆ To study the impact of increase of food prices on food security of Sri Lankan households;
- ◆ To access the coping strategies followed by each sector (urban, rural and estate);

- ◆ To identify an appropriate food supply mechanism to ensure the food security in each sector.

Both primary and secondary data were used for the study. Analysis of price trends was based on systematic price collection of the Department of Census and Statistics and Hector Kobbekaduwa Agrarian Research and Training Institute. Primary data generation was based on the details of the sample survey. A Multi-Stage/Random sampling method was used for the selection of the sample. The size of the sample was 300 households which were spread in 6 districts. They were from 12 Grama Niladari Divisions and cover 6 Divisional Secretariat Divisions.

Primary observations of the study are:

- ◆ Consumption of wheat flour and bread has declined in urban and rural sectors, while the rice consumption has fairly increased;
- ◆ Milk powder consumption has considerably declined in all the three sectors;
- ◆ Consumption of pulses, yams and fruits has also declined considerably;
- ◆ Expenditure on healthcare has declined;
- ◆ Even though the cash income has increased, it is not adequate to cover the expenses due to high food prices;
- ◆ Liquor consumption has declined in each sector;
- ◆ Purchasing of durable goods has sharply declined in the past two years;
- ◆ High food prices have not highly affected the food security of rural and urban sectors, while it has considerably affected the urban slums, fisheries communities and estate sector.

The research team consists of Mr. T. G. Somaratne (Co-ordinator) and Mr. H. M. J. K. Herath (Co-researcher).

Training Programmes

TRAINING PROGRAMME ON MARKETING EXTENSION

Sri Lankan agriculture has not yet been commercialized in the context of the open economy. Therefore, the income of the people who are engaged in the agricultural activities is at a very lower level.

The present agricultural extension service is only production oriented even though it should also be marketing oriented.

Accordingly, farmers increase production. But the produce does not arrive in the market at the right time with the right quantity. Therefore, the producer does not get the right price. In order to overcome this problem, agriculture should be transformed to a commercialized industry which fulfils the market demand and increases the profit of the farmer. Hence, the marketing extension service is an essential and timely feature which should be included in the agricultural extension service.

HARTI conducted this training programme on the above subject with the purpose of enhancing the knowledge on the concept of marketing extension, emphasizing the need of creating mutual understanding between the farmer and the purchaser, the ways and means of delivering market intelligence among farmers, and forward and backward linkages aiming at market participants, so as to improve supply chain management, etc.

The training programme was held for 41 field officers of the Department of Agriculture of Southern Province from 26th-28th August 2009 at Angunakolapalassa.

Co-ordinator: Mr. N.S.B. Epakanda

TRAINING PROGRAMME ON PARTICIPATORY TECHNIQUES FOR PLANNING AND MANAGEMENT OF RURAL/COMMUNITY DEVELOPMENT PROJECTS

HARTI conducted this training programme paying special attention to the importance of preparing a community action plan for sustainable development in the rural areas. The training programme was to advocate the Development and Planning officers of the Moneragala district and to enhance their knowledge on preparation of an agriculture based community action plan. Further, it was also expected to enhance the participants' knowledge on the concepts and methods used in participatory planning and management in addition to development of their skills in using participatory techniques such as RRA/PRA and PCM in rural/community development, planning and management.

The training programme was conducted at the Agrarian Training Centre in Bibile from 12th-16th September, 2009.

Co-ordinator: Mr. N.S.B. Epakanda.

HARTI's New Director

The major event that took place at the institute recently was the appointment of the new Director, Prof. Ranjith Premalal De Silva. He is a Professor of Agricultural Engineering of the University of Peradeniya. He is a consultant to FAO, WFP, World Bank, DANES and British Gas, UK.

Prof. De Silva is the founder president of Geo-Informatics Society of Sri Lanka and the former Head of the Department of Agricultural Engineering of the University of Peradeniya. He has written several text books and also edited a large number of publications. Moreover, he has published more than 75 research papers in reputed journals.

He serves as a member of the editorial and review committees of the International Journal of Earth Observation and Geo-Information.

Prof. De Silva obtained his B.Sc degree in Agriculture from the University of Peradeniya in 1986 and M.Sc degree in Natural Resources Management from the Asian Institute of Technology, Thailand. Also, he has obtained the post graduate certificate in Water Resource Management from the Italian University for Foreigners in Italy and the Ph.D in Applied Remote Sensing and Geographic Information System from Cranfield University, UK.

Compiled by Saumya Amarasinghe and Printed at HARTI

FOOD COMMODITIES BULLETIN

The Marketing, Food Policy and Agri-business Division of HARTI issues a weekly Food Commodities Bulletin on 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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Unsolicited information on agricultural research and development programmes implemented by other organizations is welcome and will be included under "MISCELLANY".

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