HECTOR KOBBEKADUWA
AGRARIAN RESEARCH AND TRAINING INSTITUTE

ANNUAL REPORT 2005

Hector Kobbekaduwa
Agrarian Research and Training Institute
114, Wijerama Mawatha,
Colombo 7

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Colombo 7

Board of Governors

Mr. Tissa Warnasuriya	-	Chairman, Board of Governors and Secretary, Ministry of Agriculture, Livestock, Lands & Irrigation
Mr. V.K. Nanayakkara	-	Director, HARTI
Mr. W.M. Jayathilake	-	Addl. Secretary (Lands), Representative, Ministry of Agriculture, Livestock, Lands and Irrigation
Mr. M. Weerasinghe	-	Addl. Secretary (Development), Representative, Ministry of Mahaweli and River-basin Development
Mr. K.P. Indran	-	Director, Public Enterprises Department. Representative, Ministry of Finance
Mr. C.P.Siriwardena	-	Addl. Secretary, Representative, Ministry of Small and Rural Industries
Mrs. Indrani Sugathadasa	-	Addl. Secretary, Representative, Ministry of Plantation Industries
Mrs. W.M.K.R. Balachandra	-	Senior Asst. Secretary, Representative, Ministry of Trade, Commerce and Consumer Affairs
Mrs. Malini Pieris	-	Addl. Secretary, Representative, Ministry of Education
Mr.K.L. de Silva	-	Senior Economist, Centre for Banking Studies, Representative, Central Bank of Sri Lanka
Dr. C. Kudagamage	-	Director General of Agriculture
Mr. K.S.R. de Silva	-	Director General of Irrigation
Mr. Lucas Indurugalla	-	Commissioner General of Agrarian Development
Mr. S.J. Pathirana	-	Land Commissioner General
Mr. H.L. Tissera	-	Commissioner of Co-operative Development
Mr. Pote Chumsri	-	Resident Representative, FAO
Mrs R. de Silva	-	Secretary, Board of Governors

Hector Kobbekaduwa Agrarian
Research and Training Institute,
114, Wijerama Mawatha,
Colombo 7.

28th February 2006

The Hon. Minister of Agriculture, Livestock, Lands and Irrigation,
Ministry of Agriculture, Livestock, Lands and Irrigation,
"Govijana Mandiraya",
80/5, Rajamalwatta Avenue,
Battaramulla.

Annual Report and Audited Accounts 2005

In terms of section 14 (2) of the Finance Act No. 38 of 1971, I submit herewith on behalf of the Board of Governors, the following documents for the year ended 31st December 2005.

(1) The Annual Report
(2) The Audited Statement of Income and Expenditure
(3) The Audited Balance Sheet
(4) The observations made by the Auditor General on Accounts

I remain,

Yours faithfully,

Tissa Warnasuriya,
Chairman,
Board of Governors.

Annual Report – 2005

Overview

HARTI entered its thirty third year of operation with the onset of the year 2005. The establishment of this institute in 1972 underscored the need to give recognition to socio-economic research in the agrarian sector, as technical research alone could not cater to the strengthening of the rural economy. At the initial stages, the institute emphasized themes such as land tenure, land settlement, rural sociology, co-operatives and credit, marketing, agricultural extension, production, economics etc. Much research has been done and recommendations have been submitted to the relevant governmental authorities over the years. Further training had been conducted for the farmers and government officers.

However, with the reduction of government funds for research, the institute had to search for external assistance which resulted in catering to the needs of such clients rather than working on issues important to the country as a whole. Further, the institute had to compete with other similar organizations in the private sector to obtain such assignments.

As reliable information is a pre-requisite for optimum decision making in development, Marketing Food Policy and Agri-business Division of HARTI continued the food commodities review through the weekly and monthly bulletins. One of the most significant contributions by HARTI during the year was the analysis and forecast of the crop situation outlook.

Food Information Bulletins issued during 2005 highlighted the fact that after the bleak performance of the paddy sector in the year 2004, the country recorded the historical highest production of paddy in the year 2005, surpassing 3.2 million mt of paddy, equivalent to 2.2 million mt of rice which is little above the national rice requirement. This bumper harvest was attributed to both the area expansion and the yield increases in the paddy sector. *Maha* cultivation exceeded 580,500 ha while the *yala* cultivation recorded over 356,600 ha under cultivation.

The year 2005 was characterised by good weather for cultivation. Heavy inter monsoon rains experienced during October and November 2004 in the major paddy producing areas assured adequate water for *maha* cultivation. Very high rice prices that prevailed during the year 2004 following the deficit of production, also tempted farmers to go for paddy cultivation in the *maha* season 2004/05. The Ministry of Agriculture recommenced the government purchasing programme to guarantee a minimum price for farmers especially during the peak harvesting season. Government also initiated a programme to cultivate the abandoned paddy fields in the wet zone areas. The year 2005 also records very high yields particularly in the Mahaweli areas. Mahaweli H recorded a 5,756 kg/ha of yield during the *maha* season 2004/05. The year 2005 also records the highest ever *yala* national average yield of paddy in the country.

Inevitable price drops after a bumper harvest of paddy, however, did not suffocate the farm communities resulting in social unrest in the country. Although the production recorded the highest ever figure in the country, the price fluctuation at the farm gate conformed to the general pattern of a usual year. Though the government paddy purchasing program was not optimally operated throughout the country, this program was able to curtail the swing in prices to some extent. Consumers benefited by having lower rice prices at the retail market. Rice prices were as low as 15-35 % compared to the previous year easing the burden on the consumer budget.

The year 2005 provides invaluable lessons to review the national policy of increasing production in the country rather than relying on imports except for indispensable situations. Surplus management is the biggest challenge that government needs to address for better planning and success of this strategy.

HARTI functioned as the focal point for implementing the Food Insecurity and Vulnerability Information and Mapping System (FIVIMS), a project funded by the FAO for the purpose of achieving the following objectives:

i. Assessment of food insecurity and vulnerability at sub-national level.
ii. Elaboration of policy options and interventions to reduce vulnerability to food insecurity in the country.
iii. Dissemination of FIVIMS information via the internet and newsletter.

Soon after the establishment of the FIVIMS Secretariat at HARTI, the existing information systems related to food insecurity and vulnerability at various institutions were brought into one focal point. The FIVIMS Secretariat established an information and mapping system covering data and information in relation to food insecurity and vulnerability at national, district, divisional and *grama niladari* level. This includes geographical, climatic, agricultural, economic, health and social sector data. Moreover, it is intended to develop resource profiles at Divisional Secretary level to provide user-friendly information system for use in any poverty alleviation or food security intervention programme. According to the vulnerability assessment carried out by the project, the food insecurity problem in the country is a multifaceted phenomenon having a number of dimensions to look at. This highlights the need to have a better information system before implementing any targeted interventions to alleviate poverty and hunger in the country.

A combination of research, action research, training and information dissemination provides the operational framework for programme implementation of HARTI. The research contribution during 2005 covered the areas of agricultural marketing, land titling, water allocation, agricultural economics and agricultural insurance etc. which is described more fully under the respective Divisions.

V.K. Nanayakkara
Director

Hector Kobbekaduwa Agrarian Research and Training Institute
114, Wijerama Mawatha,
Colombo 07.

BOARD OF GOVERNORS

The following changes took place in the composition of the Board of Governors during the year 2005:

Mr. D.G.P. Seneviratne ceased to be a member of the Board of Governors on relinquishing duties as the Director of the Institute on 30th April 2005.

Dr Prasanna Cooray became a member of the Board of Governors on assuming duties as the Director of the Institute on 04.05.2005.

Mr. V.K. Nanayakkara became a Member of the Board of Governors on assuming duties on 31st August 2005 when Dr. Prasanna Cooray relinquished his duties.

Dr. S.L.Weerasena ceased to be a member of the Board of Governors on his retirement.

Dr. C. Kudagamage became a member of the Board of Governors on his appointment as Director General of Agriculture.

Mr. A. Bedgar Perera, Director (Agriculture Development) ceased to be a member of the Board of Governors on his retirement.

Mrs. Malini Pieris, Addl. Secretary, Ministry of Education became a member of the Board of Governors to represent the Ministry of Education

Mr. G.S.L. Fonseka ceased to be a member of the Board of Governors on his retirement and his successor Mr. H.L. Tissera, Commissioner General of Cooperative Development became a member of the Board of Governors.

Mr. Mazlan Jusoh ceased to be a member on his leaving the post of FAO Representative. his successor Mr. Pote Chumsri became a member of the Board of Governors.

STAFF DEVELOPMENT

Post-Graduate Degree Programme

The following Research Officers were engaged in Post-graduate studies:

Mr. L.P. Rupasena	-	Ph.D. in Agribusiness Management at the University of Agricultural Sciences India.
Mrs. P.R. Weerakkody	-	M.Sc. in Forestry and Environmental Management at the University of Sri Jayawardenapura Nugegoda.
Mr. M.A.C. Sidath Bandara	-	Special M.Sc in Integrated Water Resource Management at the Post Graduate Institute of Agriculture, University of Peradeniya.
Ms. G.G.de L.W. Samarasinghe	-	Special M.Sc in Intergrated Water Resource Management at the Post Graduate Institute of Agriculture, University of Peradeniya.
Mr. D.G. Karunaratne	-	MSc/PGDIP Natural Resources/Sustainable Environmental Management, United Kingdom

PARTICIPATION IN TRAINING PROGRAMMES AND WORKSHOPS

The following officers attended training programmes and workshops:

Mr. T. Ravichandran, Research Associate attended "Seminar on Improvement of Agricultural Marketing System for Enhancing International Competitiveness" held in Pakistan from 7-12 February, 2005.

Dr. M.S. Senanayake, Actg. Head, Agricultural and Environmental Resource Management Division attended"International Conference on Business Economics and Management" held in Turkey from 16-19 March, 2005.

Dr. G.M. Henegedara, Research Fellow attended "Regional Training Programme on Geographic Information System and Information Technology Application for Rural Development" held in India from 16-18 June, 2005.

Mr. M.M.M. Aheeyar, Research Associate attended "15th Stockholm Water Symposium" held in Sweden from 21-27 August, 2005.

Dr. M.S. Senanayake, Actg. Head, Agricultural and Environmental Resource Management Division attended "Seminar for Agricultural Management of Asian Countries" held in China from 12-25 September, 2005.

Dr. Mrs. W.D. Wickramasinghe, Senior Research Officer attended "Meeting on Food Insecurity and Vulnerability Assessment Methodologies and Lessons Learned in Asia" held in Thailand from 15-18 November, 2005.

Dr. W.M.G.B. Giragama, Head, Irrigation Water Management and Agrarian Relations Division attended "COE/JEPA Joint International Conference" held in Japan from 12-23 December, 2005.

Mr. R.L.N. Jayatissa, Senior Research Officer attended "COE/JEPA Joint International Conference" held in Japan from 12-23 December, 2005.

Mr. V.K. Nanayakkara, Director attended "21st CIRDAP Technical Committee Meeting" held in Malaysia from 15-17 December, 2005.

STAFF POSITION

The staff position of the Institute during the year was as follows.

	Position as at 31.12.2004	Termination, Resignation during the year	Appointment	Position as at 31.12.2005
Director	01	01	01	01
Deputy Director (Research)	01	-	-	01
Head of Division	06	-	-	06
Research Staff	30	01	-	29
Administrative Staff	04	01	02	05
Senior Staff of Library	02	-	-	02
Data Development Unit	02	-	-	02
Computer Unit	01	-	01	02
Publication Unit	03	-	-	03
Statistical Staff	25	-	-	25
Technical Staff	02	01	-	01
Clerical, Secretarial & Parallel Grades	51	-	-	51
Operative & Allied Grades	39	-	-	39
TOTAL	**167**	**04**	**04**	**167**

AGRICULTURAL POLICY AND PROJECT EVALUATION DIVISION

Staff:

Mr. J.K.M.D. Chandrasiri	-	Actg. Head of the Division
Mr. G.M. Henegedara	-	Research Fellow
Mrs. S.R. Bandara	-	Senior Research Officer
Mr. R.L.N. Jayatissa	-	Senior Research Officer
Mr. N.P.G. Samantha	-	Research Officer
Miss. M.K.N. Damayanthi	-	Research Officer
Miss. Sagarika Hitihamu	-	Research Officer
Mr. W.H.D. Priyadharshana	-	Research Officer
Mr. N.N.A. de Silva	-	Senior Statistical Officer
Mrs. S. Senanayake	-	Statistical Officer

COMPLETED STUDIES

1. Factors Affecting Cost of Production of Milk

Coordinator: Miss. H.M.S.J.M. Hitihamu
Researchers: Mr. N.P.G. Samantha
Mr. R.M.G.K.B. Rathnayake

The main objective of this study was to identify and measure the cost of production of milk in Kurunegala district in terms of scale of production, management practices and technologies. The specific objectives of this study were to analyze the cost and benefit in dairy farming, to examine the importance of institutional factors in milk production, to identify the efficiencies in different cattle management systems related to the agro ecological zones, to examine the existing situation in the dairy production sector and to suggest policy measures to improve the efficiency in milk production.

The study was conducted at Kurunegala district, which consists of three different agro ecological zones: Wet Zone (WZ), Intermediate Zone (IZ), Dry Zone (DZ). Considering the features of these agro climatic zones, six Veterinary Surgeon divisions were selected, and within these divisions 12 LDI ranges were selected for the study. Forty farmers were taken from each VS range and the total sample population was 240. Data collection consisted of 3 main components including a comprehensive literature review, focus group and key informant discussion, and a structured questionnaire survey to understand the livestock cattle rearing systems in the area.

Findings of the Study

i. According to the study, the cost of production per liter of milk per day was calculated with and without family labour cost. The cost calculated per liter/day with family labour was Rs.10.79, Rs.11.40 and Rs. 10.95 in WZ, DZ, and IZ respectively. The calculation included the fixed cost for animals, lands and buildings; other capital investments were not considered because the study was carried out to calculate the short run basis within a one-year period.

ii. The COP cow/day was calculated as Rs.82.54, Rs.66.28, and Rs.71.03 in WZ, DZ, and IZ respectively. The total average COP cow/day was Rs.73.33 in Kurunegala district. The COP cow/day without family labour was Rs.32.28, Rs.21.04, and Rs.24.66 in WZ, DZ and

IZ respectively. The average COP cow/day was Rs.26.19 in Kurunagala district. The concentrate cost was the highest input cost, when considered without family labour.

iii. Generally, in Sri Lanka, the dairy industry is maintained on a herd basis. It includes productive and non-productive animals. The COP herd/day without family labour was Rs.l53.16, Rs.l56.38, and Rs.l60.10 in WZ, DZ and IZ respectively. Without the above-mentioned fixed costs, the profitability of the dairy industry is around 32%, but if the fixed costs were included, such as the cost for animals, land, buildings and capital, the profitability of the industry will be much reduced. According to the socio economic standards, dairy farmers are earning a higher income compared to that of the other agricultural farmers.

iv. A production analysis, using a backward selection of explanatory variables was applied to develop the economic relationship. The model explains that, out of total variations in the production of milk, 30% wet zone, 40% intermediate zone, and 28% dry zone of the variations were caused by independent. The variables such as labour, feed, cost of veterinary medicine, and fixed costs were the determining factors on the profitability of dairy farming.

v. The partial factor productivity indicates the net positive production related to labour and the capital. It gives signs to the profitable margin. But, it can be increased up to the optimum level.

vi. Thus, by intensifying dairy farming in Kurunegala district, it would increase the milk production and the profitability of the farmers. Dairy farming could also emerge as a much profitable enterprise if those farmers could be diverted to production of value added products with assured feed supply.

Recommendation

To develop the dairy sector in the study area, the study recommendations are as follows:

i. Maximize the utilization of crop residues, natural grasses and legumes and providing proper technical knowledge through training programmes.

ii. Identify and establish pasture subsidy schemes, credit facilities, and other facilities needed to the dairy farming industry.

iii. Establishment of common pasture lands in prominent dairy production areas, especially in the dry zone of Sri Lanka, and encourage the farmers to grow grass on small plots of available land.

iv. Researchers should be encouraged to develop low cost feed rations for different regions using locally available feed resources.

v. Implement and propose projects to grow compounded feed crops locally, facilitate marketing of the products, and encourage regional entrepreneurs to establish small-scale animal feeding mills.

vi. Establishment of AI units in highly dense cattle villages and introduce improved suitable breeds related to the climatic conditions of the region.

vii. Restructure the extension system as a demand driven system and encourage and provide facilities to the private sector who are engaged in the dairy industry to fill the gap of extension services.

viii. Encourage farmers to produce value added products as well as selling raw milk.

ix. Facilitate evening milking by providing evening milk collection facilities or establishment of chilling centers at village level.

x. Introduction of an annual market price fixation programme with the COP.

2. An Assessment of the Performance of Dedicated Economic Centres (DECs) in Sri Lanka

Coordinator: Mr. W.H. Duminda Priyadarshana
Researcher : Mrs. Roshini Rambukwella

This study was initiated with CARP funding and within the concerned period, the preparation of the study report was completed and sent for the comments of the CARP. The overall objective of the study was assessing the performance of DECs, identification of the problems encountered and making recommendations as solutions for those identified problems. The specific objectives of the exercise included investigations of appropriateness of the location as well as the suitability of market design of those centers, in addition to ascertaining their impact on production and marketing systems of surrounding areas. Dambulla, Keppetipola and Meegoda DECs are the three DECs selected for the study. Five separate surveys were conducted covering the traders, suppliers, buyers, farmers and prices to gather information required for this study. The collection of data required for the study was undertaken from May 2004 to August 2004.

Findings of the Study

i. Out of the three DECs concerned under this study, only one ie. Dambulla DEC has been in existence and naturally developed, while other two, Keppetipola and Meegoda DECs are newly developed ones. As a naturally developed marketing centre, the Dambulla DEC proves better operating systems compared to Keppetipola and Meegoda DECs.

ii. In respect of the market participants in each of the DEC in terms of demand and supply sides as well as other aspects such as loading and unloading more or less similar types of participants are involved in each of the DEC, but the role played by each type of participants differ from centre to centre. For example, the supply side participants in all economic centres are traders, farmers and collectors. But, in Dambulla and Keppetipola DECs, the farmers play major roles in supplying of produces as these centres are established in producing areas. In Meegoda DEC, the farmers' contribution as the suppliers is limited because this centre is located in a non-producing area. There, the collectors play the major role in supplying the produce.

iii. Regarding the demand side, similar types of participants such as fair *(pola)* traders, wholesale traders and retailers are involved in all the DECs at different levels of contributions, while the consumers are involved only in Keppetipola and Meegoda in that function (purchasing). The reasons for the involvement of consumers both in Keppetipola and Meegoda for purchasing is the opportunity provided for that from the operating system. In a market like Dambulla where commission system is operating, the consumers are not allowed to purchase. In terms of demand function in Dambulla and Keppetipola, the contribution of fair *(pola),* the number of traders are high. Especially in Dambulla, they play a greater role because of the opportunity they get to bargain the price by meeting the farmers.

iv. The other market participants who are involved in functions such as loading and unloading of commodities in all the markets are similar. Looking at many of the marketing activities such as grading, packing, transport, storage, pricing and market management, the situation changes from market to market. With regard to grading no market is involved in anything. As the produces brought to these centres are in type of quick perishable; there is no need of keeping for long and grading. In terms of packing except for a commodity like tomatoes, which are packed in specially designed plastic boxes, other commodities are packed in gunny bags in all the DECs'. This unsuitable and unsafe packing system has caused for high post harvest losses.

v. The means of transport of the produce to each economic centre is almost same at Dambulla and Keppetipola DECs'. Those are hired lorries as well as tractors by groups of farmers, using their own lorries and tractors, motorbikes as well as pushbikes, three wheelers and public and private bus services. But in Meegoda DEC,the major mode of produce transport is the lorry.

vi. Local vegetables and fruits are not stored, as they have to be quickly transported because there is no facility in keeping them under any storage systems. But, some food items like potatoes, onions, chillies and dried fish are stored and there are facilities in the shelves of stalls.

vii. Considering the pricing of the produce at each market, there are two separate systems prevailing in Dambulla, Keppetipola and Meegoda DEC. At Dambulla, the commission system is operating so that the producer or collector who bring produce can bargain and the price is determined within this context. Therefore, the farmers or collectors are in a position to obtain comparatively higher price than other centres. At Keppetipola and Meegoda DECs', a commission system does not operate and the price is decided by the stall owner traders who purchase the produce. So the farmers and collectors get a low price at those centres compared to Dambulla DEC.

viii. All the DECs are managed by a management trust, which consist of traders union representatives and some government officers such as the Chairman of the Pradeshiya Sabha and the Divisional Secretariat in the area and the Secretary of the Ministry of Rural Affairs. The manager appointed takes the decisions regarding the day-to-day activities of them. This management system functions well at Dambulla DEC, compared to others and all the stalls have been handed over to qualified traders going through the tender procedures as envisaged. But, at both Keppetipola and Meegoda DECs' this management system does not function well. The stalls have not been given following the tender procedures. So unqualified people also have been able to obtain stalls. This has reasoned for many issues.

ix. Apparently, Dambulla DEC is located in an ideal place. It is a centre, which connects, roads running to all directions such as Anuradhapura, Trincomalee, Batticaloa, Kandy and Kurunegala. It is situated in a large vegetable producing area. This locational set-up has become a reason for well functioning of this centre. Both Keppetipola and Meegoda DECs' are not located on more suitable locations like Dambulla DEC. When locating those two centres, political factors seem to have influenced more than the social, economic and technical factors. Although Keppetipola DEC is in a production area, Meegoda DEC is not. Those factors have reasoned for less progress of these two centres.

x. The quantity of agricultural produce transacted through the Dambulla DEC in a day is very high (as much as 800,000 kgs on an average). Meanwhile at Keppetipola DEC, this amount is 90,000 kgs. and at Meegoda DEC is less than it. This indicates that Dambulla DEC has been provided some level of satisfactory market for area products. Meanwhile centres like Meegoda DEC has created a demand for produces in other areas.

xi. Considering the price obtained by the farmers for their produce, the producers benefited from Dambulla DEC are having a higher price than the period of establishing the Economic Centre although it is not much attractive. The producers at these have been able to obtain that benefit because of the commission system of marketing, which provides the opportunity for the farmers to bargain. However, the nature of the time period of operating the market, irregular nature of supplying produce and their low quality are the factors that affect for reduction of price.

xii. As commission system of marketing is not operating at both Keppetipola and Meegoda DECs, the competition is also not prevalent at these markets. And stall traders decide the prices so that the farmers are not having the opportunity for bargaining. So especially at Keppetipola DEC, the farmers are faced with an unattractive price for their produce. The Meegoda DEC being located at a consumers' area, the farmers are enjoying somewhat attractive price, but their involvement is very low.

xiii. The successful operation of the Dambulla DEC has impacted for increasing the production, employment as well as income levels of farmers as well as others directly influenced by it in a larger area. Although the effect of Keppetipola DEC is not as same as the effect of Dambulla DEC, it has effected to some extent for the attraction of a large number of traders who purchase a sizable quantity of produce and this has affected for somewhat increase of prices, production, employment and income in the area. The benefit for the producers from Meegoda DEC is not so high.

xiv. The conclusion of the study was that although the DECs establishment programme has been less satisfactory in achievement of its objectives, the programme has high potentials to be achieved if it is implemented on a proper way. The study emphasizes the importance of establishing economic centres by considerating the economic, social, technical and other factors instead of considerating of mere political factors for their sustainability.

xv. Non-availability of proper infrastructure facilities like clean toilets, drinking water and vehicle parking facilities in addition to operational issues such as non-availability of innovative and efficient managment systems are some of the problems of the DECs identified by this study.

xvi. The major policy recommendations of the study include: (a) selection of places for future economic centres after doing a comprehensive feasibility study, (b) allocation of market stalls by following a proper tender procedure and (c) managing the centres with the co-operation of local as well as provincial administrative bodies.

3. Impact of the Cease-fire Agreement on Socio-Economic Development in Villages Adjacent to the Conflict Zone in Sri Lanka: A Case Study of Three Villages in the Anuradhapura District.

Coordinator: Miss. M.K.N. Damayanthi
Researcher : Dr. Dhanawardhana Gamage

This study was initiated at the end of 2004 and completed at the end of 2005. The study report was sent to the funding agency, CARP for its comments. The major objective of the study was to ascertain the extent to which the boundary villages of the war affected districts returning to normalcy in terms of livelihood activities and living conditions as a result of the cessation of violence or on going peace process.

The two adjacent villages selected for the study are Thammannakulama and Mahakoongaskada. They are situated in Medawachchiya Divisional Secretariat Division (MDSD) of Anuradhapura district. To understand the situation without a threat of the war, Pul-Eliya village located closer to Thammannakulama was also selected for study.

The major instrument used for data collection is a questionnaire survey of sample households. It covered over 90% of households in selected villages. The questionnaire survey did not cover the newly established (after 2002) households in selected villages. The survey questionnaire designed to capture changing livelihood practices, livelihood outcomes and living conditions before and after CFA. The data gathered from the questionnaire survey was complemented/triangulated with data collected through observation, interviewing of key informants including village level officers, NGOs active in the locality and community leaders.

Findings of the Study

i. The study found that agriculture, paddy farming on lowlands and cultivation of other food crops on highlands and shifting cultivation has been the major source of livelihood in the villages. Agriculture in Pul Eliya has been expanded, diversified and commercialized in spite of the war, as it was not attacked by the terrorists.

ii. The community in Mahakoongaskada was attacked and 36 persons were killed. The attack caused displacement of the entire community. Mahakoongaskada found a meager subsistence by cultivation of highlands on a shifting basis. One of the most significant economic impacts the war has had on Community Adjacent to the Conflict Zone (CACZ) appears to be the restraint placed on realization of their agricultural production potential. Cease-fire Agreement (CFA) brought normalcy to the area and the Mahakoongaskada families returned to their original settlement and resumed to their traditional form of farming, while some attempted to produce for the market. Indeed, much observable change took place in Thammannakulama. Residents of the latter village started to cultivate an expanded extent and crop diversification. After CFA, abandoned land area decreased to 35.5% in Mahakoongaskada and 80.9% in Thammannakulama. One could expect more positive changes in the study villages if not for the two years of drought that ravaged the area.

iii. On the other hand, as the alternative livelihood or employment opportunities expanded in Thammannakulama and Mahakoongaskada due to the re-emerging peaceful environment which resulted in reduction of importance of agriculture. However, paddy production declined in both Mahakoongaskada and Pul-Eliya villages after CFA and this is mainly attributable to the prolonged drought.

iv. Peaceful environment resulting from CFA has also induced other positive changes in the study villages. A tendency has begun to increase the income levels of the households. Recent changes in income level have had a positive impact on disposable incomes at the household level in Thammannakulama (59 percent) and Mahakoongaskada (31 percent) and in Pul Eliya (21 percent) villages, which largely went into savings or investments.

v. Housing conditions and amenities such as the access to drinking water, electricity and telecommunication have improved after CFA in study villages. For instance, in Mahakoongaskada village, 30 percent of the households shifted from kerosene lamps to a solar power based lighting system. In thammannakulama village, 17.5 percent started using electricity after CFA was signed. In the three study villages, the vehicle ownership has increased after CFA.

vi. The access to public services such as the education, transportation, health care etc. has improved both in Thammaimakulama and Mahakoongaskada after CFA. Educational facilities in Thammannakulama and Mahakoongaskada villages were much appalling than that was available in Pul-Eliya before CFA. However, the peaceful environment that was emerging after CFA meant that the students from the former villages now could attend relatively better schools outside their village. By improving the sense of security, CFA also has paved the way for outside agencies to enter the villages for various business purposes and serve the communities. Vehicle ownership in Pul-Eliya was more than double though the observed trend in increased number of vehicle is more likely to be due to a general trend in the country than to a direct impact of CFA.

NEW STUDIES

1. Evaluation Study on the Early Effects of Land Titling Programme

Research Team:

Dr. W.G. Jayasena	-	Coordinator
Dr. D. Gamage	-	Researcher
Mr. J.K.M.D. Chandrasiri	-	Researcher
Dr. G.M. Henegedara	-	Researcher

Hector Kobbekaduwa Agrarian Research and Training Institute (HARTI) was commissioned by the Land Titling and Related Services Project (LTRSP) to undertake the above evaluation study. The broad objective of this mid-term assessment was to identify the positive effects as well as negative effects if any of the title certificates granted under the LTRSP and to make recommendations for planning, implementation and policy purposes.

Objectives of the Study:

i. To examine the level of acceptance of title certificate by private landowners, their opinion regarding the usefulness of new titles, social acceptance, use of titles for social transactions, events, problems etc. and to identify the constraints faced by land owners due to new title certificates.

ii. To make a qualitative assessment on the use of title certificates in land based transactions such as sales and purchases of land, mortgage, leasing etc.

iii. To examine, the cost of such transactions, formal and informal nature of transactions, nature of the documents used in such transactions.

iv. To examine the level of acceptance of new titles by banks, other financial institutions and informal money lenders and estimate the volume and amount of loans mobilized on new titles.

v. To examine the use of new titles as an item of security in court cases and the effects on reducing land related conflicts.

vi. To examine the effects of title certificates in increasing the investments in land, other productive enterprises and improving the household economy.

vii. Examine the effects of title certificates on marginal and vulnerable group in improving their access to credit and diversifying and improving the household economy.

viii. To identify the specific problems and constrains that affected negatively in achieving the designed benefit by private land owners and other stakeholders, and make recommendations for corrective measures in the on going and log-term LTRSP

The information required for this study was gathered mainly from secondary and primary sources. Accordingly secondary information was gathered from the records available at the LTRSP Colombo office and the field offices located in the three pilot project areas namely Divulapitiya, Udapalatha and Balangoda. In addition relevant informations were collected from the field officers of the Survey Department, Banks, other lending Institutions and other relevant agencies. The primary information used in this study was collected from the landowners who have received title certificates under the LTRSP. A sample survey with application of a questionnaire was conducted to gather such information.

The data collection as well as the analysis of them and the preparation of the first draft report of the study have already been completed and sent to the relevant agency for its comments.

Findings of the Study

i. It was found that nearly 90.0% of the TC holders owned less than an acre of land, while the majority amongst them owned a landholding smaller than 25 acres in extent. A majority of certificate holders interviewed were largely dependent on non-farm employment as a livelihood and only a fraction of the household incomes came from farming, thus showing the insignificant role the agricultural production played in the sample household economies. The households reporting incomes below the poverty line ranged from 21.0% in Udapalatha to 46.0% in Balangoda indicating widespread poverty amongst the TC holders. Though the size of the landholding operated in Udapalatha was large relative to other two study sites; paucity of human, institutional, physical and environmental capital seemed to present an impasse in realizing the agricultural production potential in the area. Of the TC holders that were interviewed, about a three-fourth were over 50 years of age and about a three-fifth were males. In terms of the educational attainment of the TC holders, 89.0% (Divulapitiya) to 52.0% (Balangoda) have had secondary schooling or over.

ii. Examination of recorded information at the Land Registries in Ratnapura, Gampaha and Gampola showed that TCs for nearly 4,000 landholdings in the three pilot project areas of Divulapitiya, Balangoda and Udapalatha have been issued for privately held landholdings as well as for the landholdings that had been granted under various land grant schemes of the Government.

iii. Data from the Land Registries in respective districts also show that the TCs are being used for various transactions like sales (31.0%), mortgages (29.0%), and transfer of landholdings to successors (13.0%). Apart from Balangoda where a considerable proportion of the TCs had been granted to landholdings under the Land Development Ordinance of 1935 with restrictions imposed on succession and mortgaging, an increasing trend towards use of TCs for transactions was observed in other locations.

iv. The present study did not find any significant increase in the investment on land or investment on other activities with the capital raised through sale or mortgage of land on account of having TCs. A multitude of factors appear to contribute to this situation while major factors seem to be the prevailing land tenure conditions and the personal and socio-economic characteristics of the landholders described above. Existing landholdings were too small or fragmented limiting the use of those for profitable agricultural production.

v. The use of the TCs in transactions has reduced the time taken for sales, transactions, mortgaging and transferring the land as gifts. It was also found that in sub dividing a landholding within a TC, the costs of surveying were relatively higher than that of a landholding having a deed.

vi. A majority of the TCs have been issued under the project for landholdings that already have had clear survey plans and deeds. Therefore, a rapid increase could not be expected in the use of TCs, as the project has left almost untouched the landholdings having tenure problems. Existing highland holdings are increasingly used as homesteads, leaving fewer and micro landholdings for production or other economic purposes.

vii. TCs are being used, perhaps to the same extent the old deeds were used in the past as collaterals for obtaining credit from both institutional and non-institutional sources. However, a reduction in time taken for procuring credit was observed when TCs were produced as security. Most of the credit taken by offering TCs as the documents of proof for land ownership have gone into the construction of houses or making improvements to houses whereas while only a small number of TC holders have used the capital raised in this manner on other investment like business ventures.

viii. Title certification does not seem to have contributed significantly to increased adoption of improved land management practices, increased use of land for production or for generation of additional employment. Even before the TCs were issued, the contribution of clear titles in increasing agricultural production, employment and income generation has been inconsequential in all three-study areas.

ix. Little evidence was found in the study as to the availability of a freehold title which by itself is a factor triggering such processes as the dispossession of land through sale or mortgages. No tendency was observed in the present study towards changing hands of lands granted under the LDO of 1935, because of market forces, social processes or poverty. The latter observation is partly explained by the fact that the government continues to maintain the restrictions imposed under the LDO on sale or mortgage of LDO landholdings.

x. So far as the project is concerned, the issue of title certificates has been limited to lands that are free from tenure complications, disagreements or disputes. Yet in a handful of cases, the project has succeeded in providing TCs for landholdings with unclear tenure too. Being aware of the limitations imposed by the above constraint, the project staff have expressed the need to provide titles to landholdings with unclear tenure or disputes. Relatively more investments, either on land itself or on other ventures with the capital raised by proving lands as collateral, could have been expected if the title certificates were provided for those landholdings in question after resolving the issues of unclear titles or disputes. Such a focus as the future direction of the project would be more effective in the achievement of its desired objectives outlined at the beginning. The project should explore the potential for working together with existing Mediation Boards (*Samatha Mandala*) to settle disputes over land tenure.

xi. The project may adopt its own participatory strategies to educate and advocate the targeted beneficiaries to come to consensus on settling disputes and facilitating them to procure government approved TCs. The project may benefit by introducing a participatory monitoring system and a consultative grievance redressing mechanism until the learning process of the project itself is completed. Such a system could keep the project management continuously informed about the impact of the project on beneficiaries and factors, intervening in realizing the project objectives.

xii. There are a few shortcomings involved with project implementation that should be rectified not only to enhance its anticipated benefits, but also to expedite the realization of pre-planned targets in a speedier manner. One major improvement to be made is reducing the time lag between the surveying of the land and the issuance of the TCs.

xiii. Some errors of recording information were found in a few of the TCs issued and the project management should take steps to guarantee that the certificates issued are free of errors.

xiv. A major factor affecting investments based on land or capital raised from providing land as collateral is underprovided investment environment characterized by lack of highly mobile roads, electricity, water and input and output markets in the pilot project areas. Thus, providing of title certificates is deemed to be necessary but not sufficient by itself to realize the positive effects and impacts anticipated by the project. The project can avoid some limitations imposed by the underprovided investment environment by selecting areas that have relatively more potential for land based investments in its initial stage.

xv. The project may also work with other agencies- both government and non-government that are involved in promoting rural investment so that the TC owners have better opportunities for investment. The project also may work in partnership with other projects of regional and agricultural development to achieve its agricultural development objectives. It is also important to coordinate the project activities with other agencies, professionals and others that have a stake in land related matters.

2. Study on Recent Trends in Labour Market in Non-Plantation Agriculture Sector in Sri Lanka: With Special Reference to Labour Productivity and Mobility

Coordinator:	Dr. G.M. Henegedara
Researcher:	Mr. T. Ravichandran

This is a CARP funded study and was initiated in 2005. The overall objective of the study is to investigate the recent trends in the labour market of Sri Lanka, with special reference to changing labour productivity and mobility in the food crop sector and prospective ways of human resource utilization.

Objectives of the Study

i. To assess the labour requirement (demand) and availability (supply) pattern in paddy, OFC and vegetable farming sectors (in terms of key indicators such as age, gender, education, skill, experience, wages etc.).

ii. To investigate trends in labour utilization and labour productivity in terms of technology adoption, mechanization and variation of labour shares in the total cost of production.

iii. To study factors related to labour mobility from agriculture to other sectors and rural to urban and overseas.

iv. To find out new market trends for labour utilization in terms of backward and forward linkages related to the food crop sector.

v. To make policy recommendations to improve labour productivity and to tackle problems arising from labour mobility.

The study will reflect a detailed examination of the recent changes of agricultural labour market in Sri Lanka. However, the main focus of the study is on the food crop sector.

Thus, the analysis will highlight the impact of economic and technological changes on the labour market as a strategic way of changing production, productivity and socio economic factors in the rural agrarian sector.

The study will cover rainfed and irrigated conditions as well as commercial and subsistent farming practices. Accordingly, information are being collected from major growing areas such as Kegalle, Gallenbindunuwewa, Welimada, Ududumbera, Hingurakgoda and Pallepola on paddy, OFC and vegetables.

The study is based on the analysis of primary as well as secondary data related with the topic. The primary data collection methods of the study are questionnaire survey and participatory rural appraisal (PRA). The secondary methods include the use of annual labour reports, academic research and paper articles related to changes in labour market in the past. Data analysis of the study will be based on basic statistical techniques.

The sample survey of the study was completed and data analysis commenced. According to preliminary observations of the survey findings, labour shortage become a crucial problem in major irrigated areas and consequently many farmers used combine harvester machine as a way of reducing labour utilization for harvesting and threshing. The use of new machines considerably caused to reduce labour cost that directly influence for increasing gross and net returns of paddy farming.

OTHER ACTIVITIES

Dr. G. M. Henegedara participated in the Regional Training Program on Geographic Information Systems (GIS) and IT (Information Technology) Applications for Rural Development, which was conducted by the National Institute of Rural Development (NIRD), India in collaboration with CIRDAP, in June 2005. At this programme, he presented a paper on "Rural Development Policies, Programs and Achievements In Sri Lanka With Special Reference to IT and GIS Application for Rural Development".
Mr. R.L.N. Jayatissa presented a paper on "Performance, Conequences and Strategies in Relation to Youth Out-Migration from Agriculture in Sri Lanka: Critical Overview" by participating in COE/ JEPA Joint international Conference during the period of 16th to 18th December 2005 held at Kobe University, Japan.

Study Circle Seminars Organized:

The following study circle seminars were organized by Mr. J.K.M.D. Chandrasiri as the Co-ordinator of the HARTI study Circle Seminar Series:

i. Speaker: Dr. M. Henegedara and Mr. T. Ravichandran, on "Recent Trends in Labour Market in Non-Plantation Agricultural Sector in Sri Lanka," on 16th February 2005.

ii. Speaker: Mr. I.R. Perera on "Farmer Companies in Sri Lanka: An Assessment", on 25th February 2005.

iii. Speaker: Mr. S. Epasinghe on "Problems Faced by Livestock Farmers with the Decision Taken to Remove the Milking Cattle from Udawalawa National Park," on 15th July 2005.

iv. Speaker: Miss. M.K.N. Damayanthi, on "Impacts of the MOU on Social and Economic Development in the Villages Adjacent to the Conflict Zone : Case Study of Three Villages in the Anuradhapura District", on 21st October, 2005.

v. Speaker: Mr. H.M.J.K. Herath, on "Use of Digital Map Data for Research and Development", on 28th October 2005.

AGRICULTURAL AND ENVIRONMENTAL RESOURCE MANAGEMENT DIVISION

Staff:

Dr. M.S. Senanayake	-	Actg. Head of the Division
Mr. R.M.G.K.B. Ratnayake	-	Senior Research Officer
Mr. S.M.A Samarakoon	-	Senior Research Officer
Miss. D.W.S.D.K. Seneviratne	-	Research Officer
Mr. W.H.A. Shantha	-	Research Officer
Mr. S. Epasinghe	-	Research Officer
Mrs. P.R. Weerakkody	-	Senior Research Officer (on study leave)
Dr. W.G. Somaratne	-	Research Fellow (on no-pay leave)
Mrs. Sharmini Kusum Kumara	-	Research Associate (on no-pay leave)

COMPLETED STUDIES

1. Current Status and Future Prospects of Employment Opportunities for 2nd and 3rd Generation in Mahaweli H Area

Research Team :

Miss. D.W.S.D.K. Seneviratne	-	Co-ordinator
Mr. W.H.A. Shantha	-	Co-researcher
Dr. G.M. Henegedara	-	Supervisor

Funding Agency: Council for Agricultural Research Policy (CARP)

Introduction

The study scrutinized the present situation of the employment and income-generating opportunities for second and third generation settlers in Mahaweli H area and to suggest suitable recommendations as policy measures. The main focus of the study was to examine the effect of recently initiated development programs implemented for generating employment and income earning opportunities in Mahaweli H area such as Mahaweli Restructuring and Rehabilitation Project (MRRP) and One-area One-crop Programme. The study was based on both primary and secondary information gathered through literature survey, questionnaire survey, and formal discussions with key officials of MASL and focus group discussions with key informants.

Objectives

The prime objective of the study was to identify the present situation of the employment and income earning opportunities for 2nd/3rd generation settlers and the effect of recently initiated development activities in generation of employment and income earning opportunities in the Mahaweli H area. The specific objectives are:

i. To investigate the availability of labour among second generation families in accordance with education, skills and vocational training and their access to employment in both on-farm and non-farm sectors.

ii. To identify issues and constraints that emerged as an outcome of development initiatives both ongoing and completed in the recent past.

iii. To identify the future prospects and potentials regarding development initiatives for improving living conditions of settler families, mainly focusing on 2nd/3rd generation settlers.

Findings of the Study

The composition of household income can be viewed from three angles as from on-farm activities, off-farm activities and non-farm activities. Although all the farm households depend on the agricultural activities as primary source of income, the contribution from non-farm activities is considerably higher from agriculture. However, the role of self-employment activities as a means of income earning source is insignificant.

Animal husbandry, though one of the most productive and employment generating type of activities, it is not well established in the study area. Introduction of buy-back poultry farming system would be beneficial for poultry farmers to uplift their income and continue in the sector. There is a great potential to expand the dairy farming related activities of the Mahaweli Economic Agency, with the Neeraviya Farm. Provision of extension services and other breeding facilities like artificial insemination, stud bull, and heifers could be initiated with a proper marketing mechanism to procure a reasonable price for the farmers' milk. Introduction of high yielding, drought resistant and nutritious pasture and fodder varieties, is essential for continuous feed supply for animals.

As a consequence of land scarcity and low returns from fragmented small holdings, majority of 2nd/3rd generation people express their interest on non-farm sector employment. However, as a result of absence of non-farm sector employment within the system, there is a tendency to migrate out in search of employment specially in the garment sector, foreign employment and security forces. Out migration of labour emphasizes the need of developing skills of 2nd/3rd generation settlers to meet the challenge from the non-farm sector.

Under the MRRP, a new irrigation management system has been introduced to the system implementing bulk water allocation mechanism while handing over the O&M activities of tertiary irrigation systems to the respective Farmer Organizations (FOs). The rehabilitation of canal systems and related structures and new water management practices have contributed to increase the cropping intensity and water and land productivity, while being subject to the farmers' appreciation. However, MASL has to be involved and play an integral part as a main partner of the participatory irrigation management approach.

It was observed that Thambuttegama Dedicated Economic Centre has been facilitating farmers to sell their produce at a competitive market. It has provided more opportunities for other supportive services to be expanded, while generating income earning activities in the areas of transportation, waste management, loading and unloading.

As recent development initiatives in the area, one-area one-crop, area specialized crop production and marketing programmes had played a vital role in creating and diversifying the income earning sources of settler farmers through forward crop production contracts and marketing systems with private companies and individual entrepreneurs. Even though the one-area one-crop programme has not been able to realize the large scale single profitable crop cultivation system in selected areas and to establish nucleus farms without grower system, it has contributed significantly to enhance the income of the farmers who are involved in the programme. Unawareness about the programme and different soil types and water logging conditions prevailed in the same area (under the same DCFO area) has constrained farmers in getting involved in the programme. MASL has been playing an important role in the programme while the FOs are making a negligible intervention even though they are one of the important contributors of the tripartite forward agreements.

As an alternative for small fragmented land lots, one-area one-crop programme should be developed as a strategy important to gain high returns to the economy. To create employment opportunities in post harvest handling and agro-processing through introducing and motivating private companies to establish agro-processing industries in the area itself. This programme has made room to diversify the crop cultivation enabling farmers to get higher incomes. Vegetable, fruit and other perennial food crop cultivation has a great potential to be developed under micro irrigation systems for a continuous supply.

The continuation of recent development initiatives such as one-area one-crop, area specialized crop production and marketing systems promoting crop diversification, allowing farmers to receive high income levels compared to traditional crop production systems seems to be more productive in generating more income earning avenues. Meanwhile, high value commercial crop production in a demand driven manner and the development of the livestock sector with utilization of existing resources and introducing novel methods specially related to dairy farming are more hopeful avenues that have potential to provide more employment and income generating opportunities.

2. Private Sector Intervention in Livestock Service Delivery System (Dairy Sub-sector): Identification of Potentials and Constraints

Research Team :

Mr. W.H.A. Shantha	-	Co-ordinator
Mrs. Sharmini Kusum Kumara	-	Supervisor
Ms. D.W.S.D.K. Seneviratne	-	Co-researcher
Mr. N.P.G. Samantha	-	Co-researcher

Source of Funding: Council for Agricultural Research Policy (CARP)

Introduction

The smallholder dairy farmer plays the major role in milk production in Sri Lanka. Smallholders keep about 95% of the cattle with a farm which less in land size and landless estate labourers (Shakthivale, 1986). Numerous milk production systems in the smallholder dairy farming sector have involved due to the wide range of agro-ecological and socio-economic conditions prevailing in Sri Lanka.

The inadequate services for livestock production has been highlighted in the government policy framework for dairy development as a major constraint for the upliftment of the dairy sub-sector.

To rectify above constraints the document 'Regaining Sri Lanka' states that; 'Encourage private sector to establish commercially oriented efficient livestock sector services. Government livestock services are not expanding to meet the growing sector demand. Some services like animal health and delivery of vaccination, laboratory services and testing for quality could be initially handed over to the private sector.'

The Department of Animal Production and Health (DAPH) is the sole state sector service delivery arm which bears the whole responsibility in bringing technology and inputs to the dairy farmer. In provision of inputs and other services to the dairy farmer, the experiences can be observed with private sector as well. As there is a considerable encouragement of private sector investment in livestock service delivery system in the government policy framework to uplift the dairy sub-sector, it was important to undertake a study to determine feasibility of private sector intervention in dairy service delivery system.

Objective of the Study

The prime objective of the study was to identify and investigate the constraints and potentials of the private sector intervention in service delivery system in smallholder dairy farming.

Method of the Study

The study was mainly based on primary data collection from both service delivering agents and beneficiaries (small scale dairy farmers). The study was undertaken in Kurunegala, Anuradhapura and Nuwara-Eliya districts representing the Coconut Triangle System, the Dry Zone System and the Estate System respectively.

Two village level milk producing/collecting societies were selected from each district. From each selected society, 40 farmers were randomly selected for the field survey. The field survey was conducted with a pre-tested comprehensive questionnaire. Two focus group discussions were also conducted with selected dairy farmers in each and every society.

Data from existing state sector and non-state sector dairy service delivery systems was also collected by means of unstructured interviews with key informants of those institutes and agencies. Informal discussions with the field level extension workers in both sectors were useful in gathering both quantitative and qualitative data.

Findings of the Study

Difficulties in finding or non-availability of good quality animals are main problems for farmers in having animals with higher genetic potential. Therefore, there should be an efficient mechanism to provide good quality animals to cater to the farmers' demand. Veterinary officers could be involved in the programme in facilitating farmers to have good quality animals in collaboration with government breeding farms and other government farms.

Even though some farmers have genetically upgraded animals, the animals are severely constrained by the inappropriate feeding. Specially scarcity of good quality pasture and fodder, high market price of available concentrate feed and absence of or underutilization of available conventional feed resources are the major reasons for present feeding habit in all study locations. Further, absence or lack of land for pasture and fodder development is a main problem for adequate and continuous forage supply in all study areas. It is necessary to promote the use of locally available non-conventional feed resources like rice straw, maize stover and plant residues from legume crops like green gram, cowpea, ground nut and soya bean.

Artificial Insemination (AI) is the widely spreaded animal breading method used by the farmers. Rearing of bulls to be used to natural service is very rarely practiced. Absence of proper AI service in time and higher service charges are the main problem faced by farmers in most areas, specially in coconut triangle and in the dry zone systems. An efficient follow-up service is not received by the farmers after the AI in most of the areas. Proper and in time AI service and follow-up services are essential to upgrade the animals and use their reproduction capacity at optimum level.

None of non-state sector organization or company were involved in providing acute health care services or a disease surveillance network. Public or government sector involvement in disease curative and preventive services occurred in each and every system. Farmers in most areas are not satisfied by the government health care services through government veterinaries.

Lack of maintaining formal cattle sheds in each location was quite visible. Specially in the dry zone and coconut triangle systems, farmers give less priority to maintaining a formal cattle shed. Dairy farmers in the estate system are very keen on keeping cattle sheds but lack of consideration about the drainage and ventilation systems has been led to the disproper hygiene condition in the cattle shed that directly affects the animal health.

There is a huge competition between milk procurement and processing companies to attract and keep dairy farmers in all the location. Formation of dairy farmers' organizations to collect raw milk and providing services through these organizations is the popular way followed by many of milk collecting agencies and companies. Payments for milk are made according to the price chart formulated by the respective company or agency. It is essential to introduce a common price list for each and every milk collecting companies all over the country to rectify the price variation among the different area in the country.

3. Symposium on Agro-processing Industries in Sri Lanka: Potentials and Constraints (11th October, 2005)

Co-ordinators

Mr. R.M.G.K.B. Ratnayake
Mr. S.M.A. Samarakoon

Source of Funding: Council for Agricultural Research Policy and HARTI

Introduction

As Sri Lanka agricultural economy is moving from subsistent level to commercially based cultivation, it is necessary to transform the traditional production oriented agriculture into modern and semi-modern process oriented agriculture. Promotion of agro-processing industry in the rural area is a part of diversification and commercialization strategy. The agro-processing industrial development concept has been emphasized in all agricultural development policy documents.

Thus locations specific agro-processing industrial development would be a solution in this strategy. Farmers could obtain higher prices in the case of agro-processing industries. Since agricultural ventures in Sri Lanka are of high seasonality and are prone to low productivity, demand for the farm product would increase, not only directly from the agro-processing industries but also indirectly from the consumers as the processed products are basically a different kind of products to the consumer.

Absence of proper agro-processing industries has led to numerous problems and difficulties to the farmers as well as to the country in the recent past. These problems were further exaggerated due to lack of storage and marketing facilities. Under this situation surplus production, is always sold at lower prices since excess production will perish. This situation is acute in the case of fruits, vegetables and dairy products. These affect the farmers' income and their re-investment capacity. This has a direct impact on reduction of the food production and supply and threatens the food security of the country. As agro-processing industries would continuously demand the farm products, the farmers will get better price and thus a better income. This would encourage the farmers and private sector to invest more in agriculture and in turn increase the food production and supply. Also development of agro-processing would reduce the shortage of agro-products during the off seasons. Therefore, it is obvious that development of agro-processing industries would not only increase farmers income and their quality of life, but also create employment opportunities.

As the new agricultural policies and visions would improve the agriculture production, Sri Lanka will receive considerable surplus within next five years (2005-2009). These surplus production need to be directed into the economically viable ventures, such as agro-processing industries. This could help to reduce the wage of surplus production and the import expenses on food items in the shortage periods. Further, as large number of consumers, in Sri Lanka, especially in the urban and industrial areas have supplemented their traditional diet by fast foods and other pre-cooked or semi-cooked instants foods agro-processing products already possess a potential domestic market as well as export market.

Main Objectives of the Symposium

The broad objective of this symposium was expected to review the present situation and prospect of the future development of the agro-processing industries of Sri Lanka.

* To identify the potential and viability of agro-processing industries.

* To ascertain the technical and physical infrastructure available for the development of the agro-processing industries.

* To identify the local and export market potential for the product of agro-processing industries.

* To examine the existing regulatory and institutional environment for the development of agro-processing industries.

* To examine the problem and constraints affecting the development of agro-processing industries in Sri Lanka.

Conclusions

Since Sri Lanka has attained a low-middle income country with over US$850 per capita income in the beginning in this millennium, agro-processed products have a growing market. Demand for agro-processed products increases with increasing incomes, urbanization and increasing number of women in employment. All these are positive side for the agro-processing industry in Sri Lanka. In addition to market potential, it is required to ascertain technical potential in which Sri Lanka has a problem because agro-processing industry is in the hands of small and medium scale manufactures who have limited investment capacity. As a result of low-technology use, many local products are unable to compete with imports in terms of quality.

Constraints that exist are supply, demand and policy. As regards to supply, lack of continuous supply is a major bottleneck along with consistent quality. This is due to a large seasonal cultivation under rain-fed condition. The majority of irrigated lands are under paddy and diversification of paddy lands to high value crops is not a priority, therefore land has become a limiting factor in growing crops that are used in agro-processing industry.

Another major problem is financing for machineries, high cost standard packing materials, and purchasing of raw and other required materials etc. Though short and medium loans are offered by banks, many complained about accessibility and suggested the setting up a separate bank. The major problem here is in the infrastructure facilities such as electricity, roads and transportation, telecommunications and storage facilities which are lacking in rural areas. Another of the bottle necks is lack of knowledge and accessibility to appropriate agro-processing technology.

The resource persons, experts and participants have suggested the following recommendations to overcome the problems and constraints, and future development of agro-processing industry.

Recommendations

* Encourage the formulation of farmer organizations and companies to establish suitable agro-processing industries using new technologies related to their available raw materials.

* Processors should be encouraged and motivated to be involved in handling and transportation in order to minimize post harvest losses and wastage.

* In case of demand, local and international market promotion programmes and consumer research are needed to new product development and marketing.

* Therefore, it is required to establish the national institute to undertake agro-processing technology and development activities.

* Well documented medium and long-term policies are required to reduce business uncertainty to promote this industry. Specially, trade policies are essential due to present global trade policy environment. As many other countries, export subsidies are needed to promote export trade. Government should extend the fullest assistance to processors' efforts in the context for achievement of long-term economic benefits such as creation of employment and earning of foreign exchange.

* Establishment of agro-processing industries should be in areas where raw materials are available.

Hon. Ratnasiri Wickramanayake, Minister of the Agriculture was the Chief Guest of the above symposium. The symposium was well planned and was a timely activity with over 80 concerned participants joining together in the sessions.

4. Symposium on Application of Biotechnology in Agriculture (12th October, 2005)

Co-ordinators
Miss. D.W.S.D.K. Seneviratne
Mr. W.H.A. Shantha

Source of Funding: HARTI

Introduction

Biotechnology is defined as 'Any technique that uses living organisms, or parts of organisms, to make or modify products, to improve plants or animals or to develop micro-organisms for specific uses'. "Biotechnology" includes "conventional/traditional (or old) biotechnology" covering well-established technologies used in commercially useful operations. This includes the technologies used in brewing, rapid plant propagations (tissue culture), biological control of pests, conventional animal vaccine production and many others. "Modern (New) Biotechnology" includes the use of more recently available technologies, particularly those based on the commercial use of recombinant DNA (Genetic Engineering), monoclonal antibodies and novel bio-processing techniques.

Biotechnology is expected to be one of the key technologies in future development avenues in agricultural sector. Biotechnology comprises the techniques of using living organisms to improve plants and animals and produce new products for specific uses. Already this technology is being widely applied in tissue culture, hydroponics, plant culture, and embryo transfer of livestock as well as in food industries, such as fermentation and manufacturing of food. It has been reported that the production process of foods, insecticides and fertilizers in biotechnology would require low capital investments compared with other modes of technological development. The application of biotechnology in agriculture, therefore, provides existing prospects for the future agricultural development. It may hold the key to unveil a new era in technological innovation, specially for a sustainable agricultural development.

Many developing countries are assessing new biotechnology and how they may be applied to increase the agricultural productivity. Parallel to those countries, in recent past, agricultural biotechnology activities have entered into national level in Sri Lanka. A number of government, semi-government, private sector institutions and universities are now involved in agriculture related biotechnology research and development activities. It is essential to share and disseminate the experience and results gained through those activities among various institutes which are related to agriculture. As a developing country, it is necessary to recognize the future potentials and prospects of agricultural biotechnology for the sustainability of the agricultural sector.

This symposium was to cover the scope of biotechnology and describe the work being done in Sri Lanka specially in the agricultural sector. Finally, this symposium was helpful to researchers and the policy makers for future policy directions and to formulate researches relating to the development of agriculture.

Main objectives of the symposium

i. to review the application of biotechnology in the agricultural sector and its future prospects and potential in the sustainability of agriculture in Sri Lanka.

ii. to identify and review constraints and limitations in agricultural biotechnology in the sense of research and development.

iii. legal and policy issues in the field of agricultural biotechnology will be reviewed in this symposium while identifying the contribution and the involvement of the private sector in the application of agricultural biotechnology.

Conclusions and Recommendations

Agriculture presently has become uneconomical to the rural farmer due to many reasons, foremost among them being the lack of novel technology. As a consequence there is a tendency among younger generation for moving out of agriculture. Therefore, the country needs to give high priority for commercial level agriculture and agro-industry especially in the rural sector. Science and technology need to be transferred to make agriculture a commercial venture and the role of scientist in these aspects indispensable. A very pertinent issue in science and technology transfer in rural sector for development of SME is lack of a service centers to contact when entrepreneurs are faced with a technical problem. This is a major task where the government should intervene. Biotechnology is expected to be one of the key technologies in future development avenues in agricultural sector. As a developing country, it is necessary to recognize the future potentials and prospects of agricultural biotechnology for the sustainability of agricultural sector in Sri Lanka.

In countries similar to Sri Lanka, new scientific tools like biotechnology moves very slowly due to various reasons such as lack of funds for the research and development activities and poor knowledge dissemination through existing inadequate extension service. As a result of this situation, practice/application of biotechnology in Sri Lanka specially in the agricultural sector is at a minimum level and the biotechnological tools which have reached to farmers are limited to the tissue culture and its derivatives. However, the applications of tissue culture must be extended towards other export oriented crops rather than limiting food crop production targeting the local market as there is a huge demand for tissue cultured potato (as food crop) and much of cut-flower and foliage varieties (in booming floriculture industry). In such events, government has to play an important role in providing funds for identified labotories to fulfill the demand.

A consistent government policy directions towards the upliftment of the field of biotechnology as a paramount component of the country's agricultural sector is a must to private sector involvement is to take place to the expected standard. Therefore, it is essential for the government to have a proper coordination with private sector entrepreneurs and other stakeholders in producing highly demanded planting materials for the benefit of the agrarian community and other interest groups in Sri Lanka. In the presence of such coordination/agreement, continuous planting material production that could meet the demand from local as well as foreign markets can be expected through strong collaboration between profit oriented private sector and service oriented public sector.

Absence of a stable agricultural policy framework is a great hindrance for the development of the agricultural sector in Sri Lanka particularly the innovative and novel sub sectors like agricultural biotechnology. It is essential to formulate relevant regulations and policies to reap the benefit of the biotechnology and avoid the negative side of it. Further it is necessary to have biotechnology regulations formulated concerning the country's own interests along with the global trend in the use biotechnological tools, marker technology and molecular technology which are considered as not harmful for the human being as well as for the environment.

It is a key area in the process of upgrading the agricultural biotechnology in Sri Lanka to avoid compartmentalization and necessary to disseminate the experiences and results gained by various institutions specially government institutions, universities and other private sector organization.

Promoting molecular breeding research in order to extract and upgrade the genetic potential of local crop varieties is of a high priority. Lack of funding, expertise, equipments and chemicals, and suppliers of equipment with technical personnel for after sales services are areas needed to be addressed to promote molecular biological applications in local laboratories. Commitment of research managers and policy makers is imperative for enactment of regulations and necessary guidelines for promotion of biotechnology research and applications in Sri Lanka.

Output of the Symposium

The final output of the symposium would be a publication of the proceedings. It would include presentations made by experts in different fields related to agricultural biotechnology. Suggestions and comments raised during the sessions will also be incorporated in the publication.

Mr. Tissa Warnasuriya, Secretary, Ministry of Agriculture was the chief guest of the above symposium. The symposium was well planned and was a timely activity with over 65 concerned participants joining together in the sessions.

ONGOING STUDIES

1. Demonstrational Organic Home Gardening Project at HARTI

Research Team

Mr. R.M.G.K.B. Ratnayake	-	Co-ordinator
Miss. D.W.S.D.K. Seneviratne	-	Co-researcher
Mr. W.H.A. Shantha	-	Co-researcher

Funding Agency : HARTI

Introduction and Significance of the Problems

Organic farming is becoming popular world over. Lumpkini, 1994 attributes this to the potential benefits these systems are pursued to provide in terms of environment protection, conservation of renewable resources and improved food quality. In Sri Lanka too interest in organic agricultural has gained importance in recent times, and many government and non-government organizations are trying to promote this type of environmental friendly and sustainable farming systems.

The Ministry of Agriculture, Livestock, Lands and Irrigation recently started promotional activities for the organic fertilizer for the benefit of the farming community. The Ministry has taken very effective decision in this regard and the Colombo Commercial Company (CCC), one of the leading companies marketing fertilizer and other agricultural inputs has been assigned to market organic fertilizer only. This decision has been taken to reduce fertilizer cost by promoting the use of organic fertilizer. Also, the Ministry has planned to increase the organic fertilizer production at domestic level by providing the technology and incentives.

Modern agricultural practices involve use of higher inputs of synthetic and inorganic fertilizer and pesticides to support high yielding hybrid varieties of crops that have contributed to soil erosion, environmental pollution, and loss of indigenous crop diversity (Richard Thormon Smith - 2000). The land is eroded by extensive cultivation and use of machinery, and water is polluted with the ever increasing use of poisonous chemicals to control/eradicate weeds, pests and diseases. In other words, modern agriculture is killing our precious earth (Abey Ekenayake - 2001). In addition, these methods have become too costly to operate especially for our subsistence-farming sector.

Organic methods are appropriate and adaptable to any kind of land. They can therefore support and produce healthy plants and animals that are more resistant to pest and diseases. They in turn produce healthy food for humans.

The organic approach is similar to that of an integrated living system, which aims to develop and enhance the biological order of the systems (micro organisms, soil life, plants and animals). The main principle of the organic producers can be summarized as produce food at optimum quality and quantity, work with rather than dominate natural systems, sustain and build soil fertility, minimize damage to the environment and minimize the use of non reachable resources.

Objective of the Demonstration Project

The main objective is to establish the demonstrational organic home garden at HARTI, and incorporating fruit trees and vegetables suitable for the prevailing climatic conditions.

Other Objectives

* To measure the productivity of and compare the organic and inorganic farming systems

* To demonstrate that available bare lands in cities and urban areas can be productively utilized.

* To inculcate interest and knowledge on the use of vermiculture in organic farming system.

Organic home garden is expected to demonstrate and disseminate knowledge and experiences for extension workers, trainers, school children and others.

Methods/Activities Used in the Demonstration Project

This demonstration commenced with the beginning of the South-West monsoon in year 2005. The focus is mainly on the performances, differences and relative advantages of organic and inorganic farming systems. Two separate land areas were selected to practice the organic and inorganic farming systems in the institute premises. In order to compare the relative advantages and performances of the organic and inorganic farming systems, okra and brinjal were selected to be cultivated under both farming systems.

Soil samples were collected from each plot prior to the commencement of the crop establishment. Land preparation was done in same manner in two separate land lots for organic and inorganic farming systems. Activities related to crop establishment (spacing, plants per hill etc.) were same for the two farming systems except the type of fertilizer used for the basal dressings and top dressings. Cattle manure and compost were used as nutrient supplies in the organic plots, while inorganic fertilizers used for the other plots, where urea, TSP and MOP fertilizers were applied according to the rates recommended for the crops grown. After the establishment of crops same agronomic practices and cultural measures (watering, weeding, mulching, activities related to crop/farm sanitation etc.) were applied for the two farming systems.

Following measurements were taken to compare the performances of these two farming systems.

i. Plant height during the vegetative growth stage
ii. The stage/time of flower initiation
iii. Number of pods per plant
iv. Average weight (pod)
v. Duration of the crop with a considerable yield

Apart from these two crops (okra and brinjal) spinach, snake gourd and bitter gourd were also cultivated under the organic farming system. Sesbania plants (*Kathurumurunga)* were also established surrounding the organic farm site. *Dahas Pethiya* (Daisy) plants were grown near by areas of the organic farm site to attract natural enemies and predators of pests of crops providing host plants for these farmer friendly insects.

The crop products were harvested regularly and sold to the office staff of the institute giving high price for the organic products.

Observations and Experiences

According to the plant heights during the vegetative growth stage of the crop/s the growth rate of the plants under the inorganic farming system was relatively higher than that under the organic farming system. However, plants under the organic farming system reached the reproductive stage earlier than the plants under the inorganic system.

The prevalence and activities of soil organisms (specially earth worms) were on much higher level in the site with organic fertilizers, while worm-cast was hardly seen in the plots under the inorganic farming system.

Thrips and leaf miners are the main pests found in the initial stage of vegetative stage of the crops in both organic and inorganic sites. It was clear that the pest attack was at higher level on the plants under the inorganic system. The fleshiness of the plants grown with inorganic fertilizers may be the major reason for the severe pest attack on those plants than on plants grown with organic fertilizers.

In the matured stage of the crops, mealy bug attack occurred in both organic and inorganic farming systems. The resistance of the crop plants to the mealy bug was very poor in both farm sites. Though an organic pesticide (*Paribadhra*) an extraction from neem seeds was applied to the infected plants in the organic site, the result was negligible.

Average production per plant (Number of pods per plant Average pod weight) was also higher in the organic plot compared to that of inorganic site.

The duration of the crop with considerable yield under the inorganic farming system was less than the crop duration in the organic site.

Conclusion and Recommendations

Using compost and other organic fertilizers which can easily be prepared by using organic waste materials from households, organic crop cultivation could be practiced in urban areas as well. There should be a strong awareness creation program to promote the urban organic home gardening motivating people to make use of available limited land lots to produce chemical free vegetables and fruits using organic fertilizers without bearing high cost for the inorganic fertilizers and chemicals.

Though the vegetative growth rate of the crop plants under the inorganic farming system was higher than that of organic system, higher crop production (average production per plant) was obtained from the organic system.

Use of organic fertilizers and organic manuring induces the activities of soil organisms leading to an optimum soil environment that facilitates for the maximum plant root growth. Farmers should be motivated to use crop residue and other farm waste materials as organic manures. Those organic manures should be applied as a mulch increasing the retention of soil moisture and regulating soil temperature accelerating the activities of soil organisms.

Simple (easy to handle and manage), effective and low cost methods should be introduced top prepare organic fertilizers such as compost, wormi-compost, EM solution etc.

Soil organisms specially earth worms should be introduced to the infertile land plots to convert them into fertile lands which are more suitable to crop cultivation. Farmers and other interested groups should be made aware about the importance of soil organisms in fertilizing the soil.

2. Study of the Milk Cattle Problem in Udawalawa National Park

Research Team

Dr. M.S. Senanayake	-	Co-ordinator
Mr. S.Epasinghe	-	Co-researcher
Miss. D.W.S.D.K. Seneviratne	-	Co-researcher

Funding Agency: Uva and Sabaragamuwa Provincial Councils

Introduction

The Udawalawe wildlife reserve comprising 30,821 ha, is surrounded by 106 villages with a total number of 11,850 families from 23 G.N divisions. Situated amidst this large human population, there has been an ever-increasing problem of encroachment of cattle (estimated at 20,000) owned by farmers in the adjacent villages into the reserve. This has led to destruction and disturbance of the wildlife, fauna and flora, which is of great value to the country.

Farmers use the wildlife reserve both as a grazing and feeding land for their cattle. The main objective of the establishment of the Udawalawe reserve was to give shelter to wild animals whose habitats have been brought under cultivation with the increase of population. According to the Fauna and Flora Protection Ordinance, domestic animals are not permitted to enter a wild life reserve.

In the recent past, the media has highlighted the serious problems both to man and the environment that have sprung from the cattle using the reserve land. Due to a large number of cattle entering the reserve, a number of problems was created, such as the scarcity of grass for wildlife, logging of trees, growing of illegal ganja plants by people, pollution of water bodies by large number of cattle, and shooting of deer and other animals. There is a call now by the authorities to stop farmers from sending their cattle into the reserve. Cattle owners state that if cattle are evicted from the reserve, they would see a large drop in their incomes, as most of these animals are milk producing animals. The Udawalawe Milk Producers' Society which compromises members from this farming community also state that there has been a constant request for separate grasslands to various governmental authorities but none of the requests have been granted. They also state that with the eviction of animals, employment opportunities in the chain of milk collection will also be affected.

This study is carried out in order to find alternative solutions for the existing problems.

Rationale of the Study

The problem created by cattle encroachment to wildlife reserve is affecting both the environment and action needs to be taken to resolve the situation. Destruction to the natural environment, and loss of employment to the villagers who are involved in milk production to selling of produce plus a drop in income to farmers will have adverse effect on the rural economy. A solution such as grazing lands for cattle within close proximity to the village is feasible alternative, which can be provided by the necessary government intervention for which suitable land needs to be identified.

Objectives of the Study

i. Evaluate the present situation with regard to the problem of dairy cattle in the wildlife reserve.

ii. To take necessary actions and measures to protect the wildlife reserve and the flora and fauna.

iii. Implement remedial measures to circumvent the above problem.

Four major stages of proposed action research.

Stage 1

Identification of grass lands with the help of officials
Discussions with relevant Ministers, Secretaries of the Ministries and relevant officers of the area
Discussion on the prevailing problem and identify alternative grasslands and get government sanction for the use of the lands.

Stage 2

Identification of a number of animals that should be provided with grasslands, study the problems of farmers and maintenance of grasslands.
An evaluation is required of the present situation
Establishment of farmer committees for the development of grasslands.

Initially contacts with farmer committee and veterinary officers and AI within the study area (who are responsible for providing services to surrounding villages of Udawalawe reserve).
Extension services to be strengthened.

Stage 3

Identification of necessary infrastructure for released grasslands and establish milk farmers' societies to establish and maintain grasslands.

Eg. Irrigation facilities
Necessity of grass varieties
Control and eradication of weeds
Identify boundaries of grasslands
Establishment of grasslands

Stage 4

Allocation of grassland in a systematic manner.
Maintenance activities to be established on farmer committees.
Make all the government institutions aware of this project on a district level.
Make necessary arrangements with leading milk purchasing institutions such as MILCO.
Provide necessary facilities for milk producing village project.

After successful completion of this action research, it is planned to hold a conference for relevant Ministries, Secretaries of Ministries and all relevant district officers. Finally, all the responsibilities will be handed over to the relevant institutions.

This project will be carried out by the institute with funds to be received from the Uva and Sabaragamuwa Provincial Councils.

OTHER ACTIVITIES

i. Dr. M.S. Senanayake participated in the First International Conference on Business, Economics and Management, Yasar University, Izmir, Turkey in June 2005 and present a paper on 'Do

Farmer Companies of Sri Lanka Successful in their Transformation into Economic Contributors? Discussion on Relevant Policy Issues and Constraints'.

ii. Mr. R.M.G.K.B. Ratnayake prepared a situation report for 'Required Sanitary Facilities for Tsunami Affected People in Batticaloa and Ampara Districts', January 2005.

iii. Mr. R.M.G.K.B. Ratnayake prepared a special situation report for 'Affected Agriculture Lands by Tsunami in Hambantota District', February 2005.

iv. Mr. S.M.A. Samarakoon presented a paper on 'People's Participation in Agricultural Resource Management', Department of Agricultural and Rural Studies, University of Philippines, Los Banos, 2005.

IRRIGATION WATER MANAGEMENT AND AGRARIAN RELATIONS DIVISION

Staff:

Dr. W.M.G.B.Giragama	-	Head of the Division
Mr. M.M.M.Aheeyar	-	Research Associate
Mr.H.M.J.K.Herath	-	Research Officer
Mr. P.C.C.Jayampathy de Silva	-	Research Officer
Mr. M.A.C. Sidath Bamdara	-	Research Officer (on study leave)
Ms. G.G.de.L.W.Samarasinghe	-	Research Officer (on study leave)
Mr. D.G.Karunaratne	-	Research Officer (on study leave from August)

ON-GOING STUDIES

1. Assessment of Bulk Water Allocation System in the Mahaweli H area

Research Team:
Mr. M.M.M. Aheeyar
Mr. P.C.C.J. De Silva
Mr. W.H.A. Shantha

Objectives of the Study

The major objective of this study is to find out the relevance, effectiveness and efficiency of BWA concept in Sri Lanka. The specific objectives are;

i. To study the institutional set up established for the implementation of the BWA concept.

ii. To assess the impact of BWA concept on water productivity, farmer income, equality of water distribution and cropping intensity.

iii. To examine the level of resources mobilization for system O&M under BWA programme and its implications on sustainability of infrastructure.

iv. To find out whether there is water saving by adapting BWA and whether it is an adequate incentive for farmers to continue the practice.

vi. To find out the benefits/constraints in adoption of BWA concept in Sri Lanka.

vi. To propose recommendation for policy formulation from the experience.

Preliminary findings of the study show that BWA has improved the land and water productivities and the cropping intensity. Assurance of water supply at the pre-determined quota has provided the reliability and greater assurance of water supply, which motivated farmers to invest money on other field crops. Farmers have mobilized necessary resources (cash and kind) for the necessary O&M of the infrastructure, but the adequacy of the resources for the long term sustainable maintenance of the system is to be assessed in the study.

Data analysis is in progress and the draft report of the study will be ready by end of April 2006.

PUBLICATION OF REPORTS

Following reports completed by Division Researchers have been published in year 2005:

Application of Micro Irrigation Technologies in Small Farming Sector in Sri Lanka: Potentials and Constraints, Research Study No: 113
Cost of Production of Rice in Kegalle and Kurunegla Districts of Sri Lanka, Reseach Study No: 115

OTHER ACTIVITIES

i. Dr. Giragama chaired the COE/JEPA Joint International Conference technical session at Awaji Island, Kobe, Japan on 17th December 2005. Also he presented a paper on "Changes of Land Use and Energy Production Policies in Sri Lanka: A case study of the Upper Mahaweli Catchment" at same conference.

ii. Dr. Giragama presented a paper on "Performance and Development of NGOs in Sri Lanka through Socio Environmental Perspective" at Special Workshop with the selected presenters of COE/JEPA Joint International Conference, University of Kobe, Japan, on 16th December 2005

iii. Mr. Aheeyar presented a paper on "Demand Responsive Approach for Rural Water Supply Project: A Case Study Experiences" at the World Water Week and 15th Stockholm Water Symposium, 22-27 August 2005, Stockholm, Sweden.

MARKETING, FOOD POLICY AND AGRI-BUSINESS DIVISION

Staff :

Mrs. C.P.Hathurusinghe	-	Head of the Division
Mr. T.Ravichandran	-	Research Associate
Mrs. Roshini Rambukwella	-	Research Officer
Mrs. Ruwini Widanapathirana	-	Research Officer
Mr. T.G.Somaratne	-	Research Officer
Mr. L.P. Rupasena	-	Marketing Economist (On Study Leave)
Mr. T. A. Dharmaratne	-	Research Associate (On No-pay Leave)

The Marketing, Food Policy and Agri-business Division - MFPAD (earlier Marketing and Food Policy Division) was established in the Agrarian Research and Training Institute (ARTI) in 1979 to provide market information to the Cost of Living Review Committee, which was conducted by the Ministry of Trade and Commerce and Food. Later on the committee looked into broader aspects of the food sector and it was called National Food Security Committee. In 2005, the Ministry of Trade, Commerce and Consumer Affairs formed a Committee on Food Security and Cost of Living Review and this Division provided price and other relevant data to this Committee.

In addition to the above, this Division provides data to the Food Procurement and Monitoring Unit that was under the Presidential Secretariat.

1. Regular Work Programme

Food Information and Market Intelligence Project

Research Team

Mrs. C.P.Hathurusinghe	Coordinator
Mr. T.Ravichandran	Co-researcher
Ms. Roshini Rambukwella	Co-researcher
Ms. Ruwini Widanapathirana	Co-researcher
Mr. T.G.Somaratne	Co-researcher

Assisted by:

Statistical Assistants	-	14
Casual Investigators	-	22

Estimated Budget: Rs.3, 549,857.00
Funded by Treasury
Total Expenditure: Rs.4, 399,883.79

The MFPAD's main role is to provide accurate data and information relating to food commodities in time to the National Food Security Committee and to the Cabinet Appointed Tender Board for Food Procurement. For the collection of market information and data relevant to food commodities, 9 retail markets in Colombo and suburbs (Pettah, Thotalanga, Dematagoda, Borella, Wellwatte, Kirulapone, Nugegoda, Kadawatha and Kiribathgoda) and Pettah wholesale market (Colombo) were selected. In addition, data and information were collected from 23 markets in major food producing districts and food consuming districts.

To collect the above mentioned data and information from Colombo markets, 06 Statistical Assistants and 08 Casual Investigators were used. For the data collection in outstations, 07 Statistical Assistants and 15 Casual Investigators were used.

The market places covered in year 2005 were Kurunegala, Nikawereatiya, Dambulla, Matale, Anuradhapura, Thambuttegama, Polonnaruwa, Nuwara Eliya, Kandy, Hanguranketha, Badulla, Kappetipola, Ratnapura, Embilipitiya, Hambantota, Tissamaharamaya, Matara, Galle, Kalutara, Moneragala, Dehiattakandiya, Ampara, Trincomalee, Puttalam and Marandagahamula.

In addition, wholesale prices of food commodities were collected daily from Pettah, Kandy, Dambulla, Noroichcholai and Marandagahamula markets. These data were disseminated daily through electronic media, to enable producers and traders to be aware of commodity prices in main wholesale markets in time. By analyzing both wholesale and retail prices in Colombo and outstations and also producer prices in major producing areas, the Weekly Food Commodities Bulletin was issued on every Friday. 52 Weekly Food Commodities Bulletins were issued in time during the concerned year.

Progress for the Year 2005

Weekly Food Commodities Bulletin - 52 Bulletins were issued.

Daily Food Prices provided to the relevant authorities - for the whole year.

Provided daily and weekly information to the media in time.

Provided price data and other market information to the requested government and private sector agencies throughout the year.

Monthly Food Information Bulletin - 04 Bulletins were issued. Jan-March, April-May, June-July, August-September. Dr. Mrs. W.D.Wickramasinghe took the responsibility to issue 12 monthly bulletins.

ON-GOING STUDIES

1. Evaluation of Agricultural Insurance Scheme in Sri Lanka

Research Team:

Ms. Roshini Rambukwella	Coordinator
Mr. T.G.Somaratne	Co-researcher
Ms Ruwini Widanapathirana	Co-researcher

Estimated Budget Rs.481, 240.00
Funded by CARP

In 1974, the Agricultural Insurance Scheme was implemented under the consolidated fund of the government and later on under self-finance schemes. The main objectives of the Agricultural Insurance Board are launching of insurance schemes covering the fields of agriculture and fisheries and providing services through principal activities such as the provision of pension and social security benefit schemes for farmers and fishermen.

Farmer participation in the Agricultural Insurance Scheme is very poor although it has been in operation for over four decades. It is clearly visible that the area under crop insurance was only 2.8 percent of the total cultivated paddy lands, in 2002. Further, there is a huge gap between the annual target and the achievement of the Agricultural Insurance Board. And also, there is a declining trend in the insured extent of paddy over time (Annual Report of Central Bank of Sri Lanka 2002)

Though farmer participation has been poor, the government has developed an institutional mechanism and the private sector was also asked to invest in this sector. Therefore, it is essential to study the reasons for poor farmer participation and the need of a effective crop insurance scheme.

Objectives

Main objective of the research is to study the present performance, problems and future prospects of the Crop Insurance Scheme. Other objectives are as follows;

i. To study problems and limitations of the present crop insurance schemes implemented by the Agricultural Insurance Board (AIB).
ii. To study the organizational structure and the present performance of the AIB.
iii. To study farmers' awareness and interest about the Crop Insurance Scheme.
iv. To identify types of farmers who are insured under the crop insurance scheme and reasons for it.
v. To describe the differences and similarities of the public and private sector agricultural insurance schemes and
vi. To suggest measures to improve the existing crop insurance scheme for paddy.

This study mainly focuses on the Paddy Insurance Scheme implemented in Sri Lanka. Therefore, major paddy producing districts of Ampara, Anuradhapura, Polonnaruwa, Kurunegala and Hambantota are selected for this study.

Methodology for this study include a rapid appraisal and a questionnaire survey. Under the rapid appraisal, a focus group and individual interviews and informal interviews with key informants will be held.

The questionnaire survey will be carried out to collect data and information from both insurance holders and non-insurance holders. The sample of farmers who insured their lands in major paddy producing districts will be selected from the list of farmers insured under AIB Insurance Scheme of 2005/2006 *maha* season.

OTHER ACTIVITIES

i. Mrs. C.P. Hathurusinghe prepared and analyzed almost all required data to the Buffer Stock Program of Paddy/Rice for 2004/2005 *maha* and actively participated at the meetings conducted by the Ministry of Agriculture, Livestock, Lands and Irrigation.
ii. Mrs. C.P. Hathurusinghe participated in the Food Security Committee Meetings conducted by the Ministry of Trade, Commerce and Consumer Affairs.
iii. Mrs. C.P. Hathurusinghe provided Data and Information to the National Food Security Committee regarding food crops.
iv. Mrs. C.P. Hathurusinghe participated as a member of the Technical Evaluation Committee on Food Procurement for government.
v. Mr. T. Ravichandran participated in the APO Seminar on Improvement of Agricultural Marketing System for Enhancing International Competitiveness and prepared and presented the country paper, during 7th - 12th February 2005, Islamabad, Pakistan.

STATISTICS AND DATA PROCESSING DIVISION

Staff:

Dr. D. Tennakoon	-	Head of the Division
Mr. K.D.S. Ariyasinghe	-	Data Analyst
Mr. E.N.R. Fernando	-	Data Analyst
Mr. M.D.L. Senarath	-	Senior Analyst Programmer
Miss. C.N. Premawardana	-	Analyst Programmer
Mr. N.S.W. Nawaratne	-	Statistical Officer
Miss. Srima Katugampola	-	Actg. Librarian
Mrs. K.Y.P. Weeraratne	-	Asst. Librarian

The Statistics and Data Processing Division (S.D.P) functions as a National Centre for Information on Agricultural Development (NACIAD) in Sri Lanka. The Centre was established in 1979 with support from USAID. The division (Centre) was planned with a broader objective of collecting and disseminating agricultural and agrarian information for the benefit of national agricultural development researchers, planners, policy makers, undergraduates, farmers and other interested individuals were considered as the main users of information. The Division comprises of three units namely Data Development Unit, Computer Unit and Library. The Data Development Unit and the Computer Unit function jointly to collect and process numerical information, while the library serves as the center for bibliographical information.

1. Data Development Unit

Staff	Data Analysts	2
	Statistical Officer	1
	Data Assistants	3
	Secretary/Steno-Typist	1
	Office Attendant	1

Maintaining the Data Bank at the Information Centre is the main task of the Data Development Unit. The Unit had its full cadre of 2 Data Analysts and 3 Data Assistants throughout the year 2005.

Data Bank

The Data Bank collects data from primary and secondary sources and maintains a data base on Agricultural Crops, livestock demography and vital statistics. The following data series relating to agricultural crops were updated during the year 2005.

i. Paddy Statistics (Land use, Production, Avg. yield) data relating to cultural practices of Paddy - upto 2004/05 *maha.*

ii. Land Use and Production data of Crops other than Paddy - 2004

iii. Cost of Cultivation of Paddy, Other Agricultural Crops and related information such as Net return/Ac, Return per man day, Return per unit of Capital etc - 2004 *yala*.

iv. Monthly Average wholesale prices of Agricultural Commodities - 2004

v. Monthly Average producer prices of Paddy and Other Agricultural Crops - 2004

vi. Imports (Quantity and Value) of Agricultural Commodities and livestock products - 2004

vii. Imports of fertilizer, use of fertilizer in various crop sectors and prices of fertilizer - 2002

Requests for Data

Total number of requests met by the Data Bank during the year 2005 were 126. Number of requests from users within the Institute and outside the institute were 24 and 102 respectively. Distribution of internal requests by Divisions is given below.

Division	No:	%
Marketing Food Policy - Agribusiness	11	45.8
Agriculture Policy and Project Evaluation	06	25.0
Agricultural and Environmental Resources Management	04	16.7
Other	03	12.5
Total	**24**	**100.0**

External requests belong to following categories.

	No:	%
Ministries/Govt. Departments/Semi Govt. Organizations	20	19.6
Private Companies	26	5.5
University Staff/Post Graduate Students/Undergraduates	39	38.2
International Organisations	01	1.0
Banks	01	1.0
Journalists	01	1.0
Private Individuals	14	13.7
Total	**102**	**100.0**

Revenue from Supplying Data

The total revenue generated by providing data to external users in 2005 was Rs. 29,262.15. Estimated cost of providing data free of charge to external users were Rs. 2574.00. The users 'of various divisions within the institute were provided information at an estimated cost of Rs. 7,249.60.

2. Computer Unit

Staff:

Senior Analyst Programmer	1
Analyst/Programmer	1
Data Entry Operators	2
Casual Data Entry Operator	1

The Computer Unit (CU) of the SDP Division provides the facilities for data processing and analysis. In addition, this unit takes joint responsibility of the data development for the Data Bank. This unit undertakes three main activities:

i. Data processing and analysis for the Data Bank,
ii. Data analysis of studies undertaken by HARTI,
iii. System development.

Data Analysis

i. A study to Determine the Early effects of the Title Certificate Upon Land Based Transactions.

ii. The Bulk Water System of Irrigation

In addition to the above two studies, Database of Data Bank appended 79,227 records during the year.

Training Programmes

Two computer based training programmes were conducted by Mr. M.D.L. Senarath, Senior Analyst Programmer during the year.

i. Database Management System and Data Analysis in MS Access and SPSS.

   All SOs, SAs, Data Assistants and Data Entry Operators participated in the programme.

ii. Certificate Course in MS Excel and PageMaker

   All Stenographers and Typists were nominated as participants.

3. Research Unit

On Going Projects 2005-2006

Second Round Implementation of the Agro-Delivery Entrepreneurship Development Assistance Project (AEDAP) in Matale District - Rural Agricultural Business Dealers and Agents Promotion Programme (RABDA Programme) Matale District: 2005 - 2006

Research Team:

Dr. D. Tennakoon - Coordinator
Mr. R.L.N. Jayathissa
Mr. N.S.W. Nawaratne

The Regional Economic Advancement Project (REAP) Matale granted approval to continue implementation of the RABDA Programme in Matale District, which was implemented during 2002 -2004, as first round implementation on experimental basis.

The project has centered its focus on strengthening agricultural input delivery system and agricultural produce marketing through building of entrepreneurship skills of prospective and potential procurators in the rural areas to be local agro-business dealers and agents. The proposed system is being implemented as a pilot project, which would be applied to other parts of the district depending on the progress achieved by the pilot project.

Objectives of the Project

The project was based on following objectives:

i. Improve the access of small farmers to reliable and assured agricultural services and input supplies;

ii. Building of local agro - delivery entrepreneurship, and through this new mechanism to support the decentralization of services and institutions for a closer linkage to farm level;

iii. Enable the inherent potential skill of small farmers in farm decision making so that the need of small farmers are met by the newly established private dealers and to eliminate existing systems of exploitation: that these dealers will be linked with line agencies to control their operations to ensure that they will not exploit the farmers and the rural economy;

iv. Improve the training and working conditions of farmers through the newly established rural dealers;

v. Increase farm adoption rate by using improved inputs, new technology, and result in increased agricultural productivity and the farmer incomes in the project area.

The second round implementation of the RABDA Programme is initiated in view to undertake following more important areas to be covered: i. strengthening of the business capacities of the established 20 business entrepreneurs in Matale District, and ii. training of new 20 business entrepreneurs those who have engaged in agriculture input supply and service delivery without proper training in the business entrepreneurship for agriculture input delivery.

In selection of new DS Divisions and GN ranges in Matale District, priority was given to select RABDA Trainees in far remote areas in the District. For the second round implementation, 30 trainees were selected for training from far remote areas of the following DS Divisions:

i. Naula DS Division,
ii. Yatawatta DS Division,
iii. Hettipola DS Division,
iv. Ukuwela DS Division,
v. Laggala Pallegama DS Division,
vi. Pllepola DS Division.

The second round implementation was initiated in June 2005, and 20 business entrepreneurs successfully completed following training programmes during June - December, 2005:

Training Programme on " Use and Sale of Pesticides"
Basic Agriculture Training

Scheduled training programmes of the project will be continued in 2006. It is envisaged to establish at least 20 successful business entrepreneurs at the end of implementation in December 2006.

3. Library

Staff:	Librarian	1
	Assistant Librarian	1
	Library Assistant -Grade I	1

The main objectives of the library is to collect, compile, retrieve and disseminate information related to the agrarian sector for the benefit of HARTI Research Staff and also to other interested persons and agencies. During the year, the staff borrowed 1,151 books and 298 issues of journals. The number of visitors to the library during the year was 373 and most of them were university students.

Acquisition of Books, Journals and Reports, Maps

The library acquired 606 books and reports during the year, out of which 437 were direct purchases and the rest 169 items were received either on exchange or on a complimentary basis. A large number of periodicals, newsletters, annual reports from foreign and local institutions were also received on a complimentary or on an exchange basis. The library also subscribed to 38 foreign journals and 15 local journals during the year. The total number of library holdings (books and bound volumes) upto the end of 2005 were 20,357.

Inter Library Cooperation

The library continued to participate in the AGRINET SDCP scheme. During the year the library has sent 231 content pages of 14 journals to other member libraries and received 74 content pages of 8 journals. There were 14 inter-library loan requests for journal articles. During the year lending facilities were also extended to the officials of CARP on inter-library loan basis. During the year lending facilities were also extended to the officials of the Ministry of Agriculture and Lands on inter- library loan basis.

The library continued to provide cataloging information on new acquisitions to the national agricultural bibliography database maintained at CARP Library. Copies of the printed and electronic versions of this database are now available in the library. During the year the library continued to provide cataloguing information of 230 records of books and journal articles to CARP. Facilities have also been continued for research staff to access TEEAL electronic library, which is maintained by CARP Library. During the year, computer facilities have been further extended for the readers.

The electronic records of the library bibliographical database have been increased by 150 records of books and journal articles. Apart from the normal lending, reference and photocopy facilities, the library continued to provide current awareness services to the Research Staff as well as to the clients outside the institute.

The library has sent the information on computerized journal articles to the Sri Lanka Science and Technical Libraries Information Network (SLSTIC) data-base maintained at National Science Foundation Library.

PUBLICATION UNIT

Staff :

Mr.S. Rameswaran	-	Acting Head of the Unit
Mrs. S. Rajapaksha	-	Information and Publication Officer
Mrs M.D. Susila Lurdu	-	Research Officer
Mrs. Shashika Ariyapperuma	-	Editor

After serving the institute for about 4 months, Mrs. Ariyapperuma (Editor) left the services of the institute.

The Publication Unit is engaged in editing and publishing of Research Reports, Occasional Papers, Journals, News Letters, Bulletins, Manuals, Brochures and other information materials in all three languages. It also liaison with print and electronic media and carried out public relation programmes.

In addition, the unit performed translation tasks assigned by the Ministry of Agriculture. Further, the unit participated in an exhibition to boost the sales of the publications. Also the members of the unit took active part in organizing local and international seminars/workshops/symposiums and publicity activities.

The following publications were released by the unit during the concerned period.

i. The Application of Micro Irrigation Technologies in Small Farming Sector in Sri Lanka: Potential and constrains

ii. Rural Credit for Small Farming Sector: Achievements, Failures and Future Prospects

iii. ග්‍රාමීය ප්‍රජා සංවර්ධන සැලසුම් හා කලමනාකරණය සඳහා වූ සහභාගිත්වය ක්‍රමෝපාය පිළිබඳ පුහුණු 2005 මාර්තු 14-17

iv. ග්‍රාමීය ප්‍රජා සංවර්ධන සැලසුම් දෙසැම්බර් 28-31

Journals, periodicals and other reports, published during the year 2005.

1. Kamanalam
2. Annual Report (English)
3. Annual Report (Sinhala)
4. Annual Report (Tamil)
5. Govijanatha
6. Newsletter
7. Weekly Food Commodities Bulletin (Sinhala and English)

HUMAN RESOURCE DEVELOPMENT AND INSTITUTIONAL DEVELOPMENT DIVISION

Staff :

Mr. R.M.R. Bandara	-	Actg. Head of the Division
Mr. P. Piyaratne	-	Senior Research Officer (Released to Ministry from January to September and came back to office from October 2005
Mr. N.S.B. Epakanda	-	Research Officer (From May 2005)

As the national training institute of the country in the agrarian sector, the HRD & ID division functions in three different settings. Firstly, it functions in organizing and coordinating its own regular training programs and activities arranged on the national priorities of the country. Secondly, it caters to the emerging demands of training emanating from contemporary problems and issues. Thirdly, it provides services of training experts of the division to other governmental organizations in planning, conducting and evaluating of their training programs. In addition, the officers of HRD &ID division are involved in research programs of the agrarian sector where training activities are integrai parts in them.

The training programs of the HARTI take the form of short courses, diploma courses, workshops and seminars. Resource persons of these programs are mainly drawn from the institute. In addition, resource persons are drawn from universities, other governmental institutions/agencies and NGOs based on the specific requirements.

Completed Training Programmes

1. Training Programme on Participatory Techniques for Planning and Management of Rural/Community Development Projects

Co-ordinator: Mr. J.K.M.D. Chandrasiri

This is an annual training programme jointly organized by HARTI and CIRDAP. As in last occasions the CIRDAP provided financial as well as technical support for this year's programme. Accordingly an amount of US$ 1500 was provided by the CIRDAP. Further it provided a Resource Person attached to its staff. The HARTI had the full responsibility for conducting the programme, providing resource persons, accommodation and other facilities.

It was designed for the middle level officers and conducted between 14th March 2005 and 17th March 2005. The general objectives were to enhance participants knowledge on the concepts and methods used in participatory planning and management of rural/community development projects and programmes in addition to development of their skills in using participatory techniques such as RRA/PRA and PCM in rural/community development planning and management.

24 officers who represented various government departments and institutions participated in this programme as trainees. The field exercise of this programme was conducted in two villages, Indunugala and Gatadivula selected from the Ipalogama Divisional Secretarial area.

The output of this programme was the 24 trained middle level officers and two village development plans prepared for the villages selected for field exercises. The institute also published a report based on these village development plans and other information about the training programme.

2. Training Programme on Database Management System in MS Access and SPSS

Co-ordinators : Mr. R.M.R. Bandara
Mr. M.D.L. Senerath - Senior Analyst Programmer

The training programme was designed for the HARTI Statistical Officers and Statistical Assistants. The programme was started in March 2005 and completed in October 2005. The general objectives were to enhance the working knowledge of SOs and SAs in designing, creating and organizing structured databases and preparing data tables from databases for the use by researchers. The course covered most of the common statistical operation in numerical data handling, especially on the data collected from sample surveys conducted by the HARTI.

Twenty-two (22) Statistical Officers and Statistical Assistants participated as trainees of the programme. The course consists of three modules such as 1) Introduction to Data, Database and Database Management System, 2) MS Access as a Database Management System and 3) Data Analysis using SPSS.

The output of this course was the 22 officers who are capable of preparing and handling Database Management Systems using MS Access and SPSS computer software.

3. Training Workshop on Project Monitoring and Evaluation

Co-ordinators: Dr. D. Gamage
Mr. R.M.R. Bandara

Monitoring and Evaluation (M&E) involves tracking the performance of a programme, a project, or a policy in terms of its objectives or mandate and gauging its outcome in terms of its effects and impacts on the targeted population.

This two-day workshop was designed for the young researchers, who were newly appointed to the HARTI as Research Officers. Sixteen (16) HARTI Researchers joined the workshop and it was conducted from 29th June 2005 to 30th June 2005.

The general objective of the workshop was to create awareness amongst the participants of the concept, methods and steps involved in designing and undertaking Monitoring and Evaluation Programmes.

The output of the workshop was the sixteen (16) HARTI Researchers who are knowledgeable in comprehend the concepts, logic, procedural steps and methods involved in M&E and who are capable of managing projects for achieving their desired results.

4. Training Programme on Promotion of awareness on appropriate technology for Sustainable Development in Rural Areas for Community Leaders (*Gamata Thakshanaya.)*
(1st October 2005 - 31st December 2005)

Co-ordinator: R.M.R. Bandara

The HARTI agreed to organize and conduct the above training programme on the request made by the Intermediate Technology Development Group (ITDG) in October 2005. The ITDG proposed this training programme to advocate and make community leaders aware of the appropriate technology for sustainable development in rural areas. The basic themes of the programme were appropriate technology for rural road construction, cost effective housing construction and decentralized disaster preparedness and mitigation.

Fifty one (51) one day training programmes were conducted in the districts of Ampara, Puttalam, Hambantota, Matara, Galle, Kalutara and Trincomalee for both Sinhalese and Tamil speaking community leaders during the three months period from November 2005 to January 2006.

The total training budget of Rs.3,896,200.00 was provided by ITDG. As planned by the ITDG, the training programmes were organized in collaboration with the Divisional Secretaries of the concerned areas.

The output of the training programmes was the trained 2,550 community leaders in the relevant districts.

HECTOR KOBBEKADUWA AGRARIAN RESEARCH & TRAINING INSTITUTE
BALANCE SHEET as at 31st December 2005

ASSETS	Notes	2005 Rs.	Rs.	2004 Rs.	Rs.
Non Current Assets					
Property Plant & Equipments	2	24,033,876.62		23,060,389.58	
Investments - Fixed Deposits	3	5,311,134.13		4,902,706.28	
Treasury Bills		4,372,095.10		4,372,095.10	
Staff Development	4	17,553,195.07		17,804,452.33	
			51,270,300.92		**50,139,643.29**
Current Assets					
Stocks	5	2,769,595.64		3,040,695.05	
Loan fund		2,152,342.93		734,387.30	
Debtors	6	31,583,190.750		31,060,052.26	
Deposits	7	662,070.00		614,570.00	
Prepayments & Accounts Receivable	8	251,965.16		1,090,829.99	
Advance	9	1,900,507.39		3,216,190.03	
Cash at Bank	10	4,042,459.56		4,584,007.96	
Cash in Hand		10,000.00		10,000.00	
			43,372,131.43		**44,350,732.59**
Total Assets			**94,642,432.35**		**94,490,375.88**
EQUITY & LIABILITIES					
Capital & Reserve					
Government Grant-Capital	11	90,855,900.00		85,795,900.00	
Contribution from savings		1,102,372.79		1,102,372.79	
Capital Contribution from Ministry		2,342,835.00		2,342,835.00	
Project Capital Fund	12	14,757,706.09		14,757,706.09	
Capital Reserve		3,242,284.40		3,242,284.40	
Project General Reserve	13	16,524,437.47		16,524,437.47	
Incentive Fund		137,061.91		137,061.91	
Incentive Fund - Projects		138,210.72		97,410.25	
Training Fund - Projects		396,261.91		396,261.91	
Incentive Fund - Institute share		501,835.86		338,633.99	
Net Deficit Carried Forward	14	(66,004,808.88)		(54,597,029.70)	
			63,994,097.27		**70,137,874.11**
LIABILITIES					
Non - Current Liabilities					
Gratuity Provision		20,322,465.00		16,089,040.90	
			20,322,465.00		**16,089,040.90**
Current Liabilities					
Creditors	15	4,637,084.77		4,950,989.54	
Loan Payable		2,155,082.38		734,387.30	
Accrued Expenses		3,533,702.93		2,578,084.03	
			10,325,870.08		**8,263,460.87**
Total Equity & Liabilities			**94,642,432.35**		**94,490,375.88**

.... **CHAIRMAN**

.... **DIRECTOR**

.... **ACCOUNTANT**

INCOME STATEMENT FOR THE YEAR ENDED 31st December. 2005

	Notes	2005 Rs.	2004 Rs.
INCOME			
Funds from General Treasury		52,000,000.00	42,936,000.00
Hostel & conference hall charges	**16**	4,142,995.80	3,494,227.25
Sales of publications		150,824.05	129,807.20
Interest on investments		437,682.44	1,044,124.23
Interest on staff loan		879,524.89	568,055.98
Recurrent contribution from projects	**17**	906,830.19	1,004,471.75
Miscellaneous income	**18**	690,576.00	394,911.91
		59,208,433.37	**49,571,598.32**
			-
EXPENDITURE			
Administration & Establishment expenditure	**19**	(70,595,985.72)	(53,380,427.36)
Net income from operations before financing cost		**(11,387,552.35)**	**(3,808,829.04)**
Financing cost		(20,226.83)	(21,316.50)
Net deficit before taxation		**(11,407,779.18)**	**(3,830,145.54)**
Taxation			-
Net Income after taxation & before extraordinary items		**(11,407,779.18)**	**(3,830,145.54)**
Extraordinary items		-	-
Expenditure over income		**(11,407,779.18)**	**(3,830,145.54)**

.... **CHAIRMAN**

.... **DIRECTOR**

.... **ACCOUNTANT**

CASH FLOW STATEMENT FOR THE YEAR ENDED 31st December 2005

	Notes	2005 Rs.	
Cash flow from operating activities			
Net deficit for the year			(11,396,005.57)
Adjustment for:			
Depreciation		3,187,749.11	
Investment income		(437,682.44)	
Provision for gratuity		5,997,721.60	
Payment of gratuity		(1,764,297.50)	6,983,490.77
Operating loss before working capital changes			**(4,412,514.80)**
Working Capital Changes			
Stocks		271,099.41	
Debtors		950,867.31	
Deposits		(47,500.00)	
Prepayment & Account receivable		838,864.83	
Advances		1,315,682.64	
Creditors		(1,796,944.73)	
Accrued expenses		955,618.90	2,487,688.36
Net cash from operating activities			**(1,924,826.44)**
Cash Flow from Investing Activities			
Purchase of property, plant & equipment		(4,161,236.15)	
Investment income		437,682.44	
Staff Development cost		251,257.26	
Net cash used in investing activities			**(3,472,296.45)**
Cash Flow from Financing Activities			
Government grant capital		5,060,000.00	
Incentive fund		40,800.47	
Incentive Fund - Institute share		163,201.87	
Net cash from financing activities			**5,264,002.34**
Net Increase in Cash & Cash equivalents			**(133,120.55)**
Cash & Cash Equivalent at the Beginning of Period	I		**13,868,809.34**
Cash & Cash Equivalent at the End of Period	II		**13,735,688.79**

Notes:

Cash & Cash Equivalent	**I 01.01.2005**	**II 31.12.2005**
Investment - Fixed deposits	4,902,706.28	5,311,134.13
Treasury bills	4,372,095.10	4,372,095.10
Cash at bank	4,584,007.96	4,042,459.56
Cash in hand	10,000.00	10,000.00
Total	**13,868,809.34**	**13,735,688.79**

STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED 31st DECEMBER 2005

	Government Grant Capital Rs.	Contribution from Savings Rs.	Capital Contribution from Ministry Rs.	Project Capital Fund Rs.	Capital Reserve Rs.	Project General Reserve Rs.	Incentive Fund Rs.	Incentive Fund - Projects Rs.	Training Fund Projects Rs.	Incentive Fund - Institute Share Rs.	Accumulated Revenue Rs.	Total Rs.
Balance as at 01/01/2005	85,795,900.00	1,102,372.79	2,342,835.00	14,757,706.09	3,242,284.40	16,524,437.47	137,061.91	97,410.25	396,261.91	338,633.99	(54,597,029.70)	70,137,874.11
Funds received from Treasury	5,060,000.00	-	-	-	-	-	-	-	-	-	-	5,060,000.00
Project Contributions	-	-	-	-	-	40,800.47	-	-	-	163,201.87	-	204,002.34
Income & Expenditure	-	-	-	-	-	-	-	-	-	-	(11,407,779.18)	(11,407,779.18)
Total	**90,855,900.00**	**1,102,372.79**	**2,342,835.00**	**14,757,706.09**	**3,242,284.40**	**16,524,437.47**	**137,061.91**	**138,210.72**	**396,261.91**	**501,835.86**	**(66,004,808.88)**	**63,994,097.27**

Schedule of Depreciation of Assets - 2005

Particulars	Cost as at 01.01.2005	Additions/ (Disposals) during the Rs.	Total Cost as at 31.12.2005 year 2005 Rs.	Acc./Dep as at 01.01.2005 Rs.	Dep.for the year 2005 Rs.	Accu/Dep. ended 31.12.2005 Rs.	Net Value 31.12.2005 Rs.
Land	1,716,667.00	-	1,716,667.00		-	-	1,716,667.00
Buildings	16,256,470.95	225,418.57	16,481,889.52	6,998,044.66	565,613.92	7,563,658.58	8,918,230.94
Equipment/Furniture	25,615,536.95	2,654,768.20	28,270,305.15	19,603,847.09	1,531,806.71	21,135,653.80	7,134,651.35
Computer Installation	14,007,432.97	564,076.50	14,571,509.47	2,257,511.01	728,150.54	12,985,661.55	1,585,847.92
Motor Vehicles	8,293,855.88	-	8,293,855.88	8,293,806.88	-	8,293,806.88	49.00
Books	7,040,919.26	716,972.88	7,757,892.14	2,717,284.79	362,177.94	3,079,462.73	4,678,429.41
Welfare Equipment	3,734.55	-	3,734.55	3,733.55	-	3,733.55	1.00
Total	**72,934,617.56**	**4,161,236.15**	**77,095,853.71**	**49,874,227.98**	**3,187,749.11**	**53,061,977.09**	**24,033,876.62**

Notes

3. HARTI Investments - Fixed Deposits

Fixed Deposits at State Mortgage & Investment Bank	3,500,000.00
Fixed Deposits at SMIB (Housing Loan Scheme)	1,811,134.13
	5,311,134.13

4. Staff Development

Balance as at 01/01/05	17,928,801.69
Adjustment during the year	(375,606.62)
	17,553,195.07

5. Stocks

Stationery and other Consumables	624,945.24
Publication and Journals	1,710,486.40
Sales Center	434,164.00
	2,769,595.64

6. Debtors

Staff Debtors	
Housing Loan	2,148,014.74
Consolidated Loan	15,365,595.91
Festival Advance	144,990.02
Special Advance (Books)	6,500.00
Due from Displaced Persons	6,723.32
Special Advance (Salary)	1,700.00
Suwa Sampatha	89,162.82
Salary Advance	1,889,368.68
Scholarship Debtors	16,928,982.74
	36,581,038.23
Other Debtors	
Receivable from Ministry	352,330.16
ReceivCenter	58,595.25
Hostel, Auditorium & Conference Hall	229,835.00
Welfare Society	37,797.31
Suspense A/C	4,446.20
Miscellaneous Debtors	256,811.24
Receivable from in-services Training Institute	6,806.38
Receivable from Asian Productivity Organization	62,330.00
Receivable from K N U Gunasekara	12,100.00
Receivable from Appuhamy	3,989.89
Medical Facilities Receivable	4,697.91
Investment income Receivable	880,265.55
Interest Receivable from Treasury Bills	161,886.95
Receivable from Resigned employees	86,884.35
Janashakthi Insurance	4,837.68
External Resources Department	25,520.00
Election Department	33,525.29
	2,250,590.13
Advance Against Project	
Action Research Project for Developing Vegetables	3,737.00
Analyses of Marketing Vegetables in Sri Lanka	159,975.15
Assessment of Turn over Programme in NIRP Schemes (R-199)	179,229.29
Agriculture Museum (R - 237)	323,580.78
An Action Research Program on Poverty Alleviation In Sri Lanka (R 239)	51,016.47
An Action Research on Agricultural Produce Marketing through Farmer Organization in Monaragala and 'Public Awareness Compaign on Proposed Water Resources Policy (R-308)	1,510.50
An Assessment of the Performance of Dedicated Economic Centers in Sri Lanka(R 304)	86,372.75
Buffalo Information and Documentation Project (R-194)	8,444.79
Current Practices of Labour Admin in Agriculture (R A 9)	709.38
Community Livestock Care and Production Programe (R-154)	316,594.90
Consultancy on the Establishment of Cold Storage Unit Complex in Sri Lanka (R 183)	24,328.81
Commercialization of Agricultural Extension Identification Potentials and constraints (R-164)	12,600.00
Computerized Data Base System (R-307)	1,394.25

Developing M & E in Mechanism for Agrarian Reform & Rural Development (R 146)	41,947.56
Farm Size and Efficiency under Mahaveli System (R-118)	66,268.32
Fellow up Action on Livestock as a Component Rural Development (R-175)	10,062.64
Formulation of an Integrated Programe to Strengthen the Agriculture Delivery System (R-186)	427,276.42
Factors Effecting Soil Erosion in N'Eliya District (R-188)	1,104.63
Factors Effecting Cost of Production of Milk in Sri Lanka (R-309)	13,756.00
REAP/HARTI Survey on Promotion of Agriculture Produce Marketing through Establishment of Agricultural Produce Colleting Centre at Illukkumbura in the Division of Divisional Secretariat - Laggala (R 310)	5,533.10
FIVIMS Food Security and Vulnerability Information Mapping Systems	-
Agri Delivery Entrepreneurship Development Assistance Project R- 288/1	4,071.15
Inland Fisheries (R - 97)	116,910.99
Informal Land Transaction in Irrigated Settlements (R 126)	4,114.12
Impact of the Peace Process in Recovering Agricultural Development in Boundary Village (R 311)	16,114.15
Jack Fruit Tree Plantation Crop Productivity and Utilization Survey in Gampaha District (R 270)	64,985.10
Kelegama Small Tank Irrigation Project (R-158)	453,890.08
Kitul Study	1,187.50
Marketing of Eggs and Poultry Meat (R-256)	32,575.34
Marketing of Paddy in Polonnaruwa District (R-302)	123,301.11
N.W.P Water Resources Development Project (R-171)	48,872.32
Palvehera	111,519.93
Private sector Intervention in Livestock Services Delivery System (R-303)	30,521.19
Public Awareness Compare on the Propose Water Resource Policy (R-308)	112,258.27
Peace Project (G-07)	1,756.00
Promoting Household Food Security to Development of Sustainable Agriculture Practice (R-266)	87,352.00
P G 01	165,111.28
R 112 Research Involvement in Lower Uwa Project	61,779.85
Rural Industries Employment and Income Enhancement for the Working poor (R-129)	27,089.34
Regional Economic Advancement Project (R-288)	124,843.55
Socio Economic Study on the Sources and Communities in Puttalam Lagoon (R-157)	1,406.25
Study of Cost of Production of Green Tea Leaves and Process Tea (G-2)	9,261.37
Survey of Agrarian Service Center (G-3)	120,904.44
Study on Current Status and Future Prospects of Employment Opportunities for 2nd and 3 rd Generation in Mahaweli 'H' Area (R-306)	97,866.25
Study of Farmer Companies (R-312)	71,421.81
Training Programme (T-109)	1,409.39
Training Programme (T-111	50,153.68
Training Programme (T-112	95,816.87
Training Programme (T-115	57,665.84
Training Programme (T-127	9,699.56
Training Programme (T-135	25,699.61
Training Programme (T-143	12,744.15
Training Programme (T-146	15,071.12
Training Programme (T-147	19,336.40
Training Programme (T-148	151,318.39
Training Programme (T-151	56,771.14
Training Programme (T-162	4,419.53
Training Programme (T-171	2,571.88
Training Programme (T-175	23,258.63
Training Programme (T-180	7,560.59
Training Programme (T-185	41,003.11
Training Programme (T-186	5,454.60
Training Programme (T-172	33.06
Training Programme (T-194	104,461.90
Training Manual on Farmers Organization Building for Integrated Watershed Management (R-232)	26,801.54
Training Programme (R-210)	6.00
Training Programme (R-212)	74,030.31
CIRDAP Workshop (T-215)	35,050.83
Training Programme (T-222)	36,604.50
Training Programme (T-221)	50,018.43

(G-12)	69,172.75
(T-216)	26,444.97
Need Assessment Survey - Water and Sanitation Tsunami Affected Areas (Jaffna/Killinochchi/Ampara/Batticalo/Trinco/Colombo/Gampaha/Kalutara (R-314)	-
(T-217)	68,885.00
(T-219)	6,563.50
(T-220)	6,848.50
Problems in Adoption of Improved Farming Practices in Rain Fed Upland Farming in Drought in Stricken Dry Zone Areas - SL (R-317)	48,556.90
Assessment of Bulk Water Allocation System in Mahaweli- H Area-(R-315)	42,140.00
A Study to Determine the Early Effects of the Possession of the Title Certificate Upon Land Based Transaction. (R-316)	443,990.74
Agri Delivery Entrepreneurship Development Assistance Project R-288/1	74,571.62
Study on Recent Trends in Labour Market in Non Plantation Agriculture Sector in Sri Lanka : with Special Reference to Labour Productivity and Mobility (R-319)	75,432.36
Study on Milk Cattle Problem in Udawalawe National Park (R-321)	56,929.50
	5,451,053.03
Total Debtors-Gross	**44,282,681.39**
Less:	
Provision for Bad & Doubtful Debtors	(1,771,307.26)
Provision for Debtors (Bond)	(110,373.69)
Provision for Scholarship	(10,817,809.69)
	(12,699,490.64)
	31,583,190.75

7. Deposits

Fixed - Caterer	70,000.00
Fixed - Cashier	1,500.00
Sundry - Filix Perera and Sons	147,500.00
Sundry - Sri Lanka Telecom (Internet facility)	3,125.00
Sundry - Post Master General	24,945.00
Sundry - Colombo Gas and Water Co.	4,750.00
Sundry - Water Supply and Drainage Board	500.00
Sundry - Celltel Lanka Ltd.	3,500.00
Sundry - Ceylon Electricity Board	406,250.00
	662,070.00

8. Pre Payments and Accounts Receivable

Pre Payments	251,965.16
	251,965.16

9. Advances

Advance for Purchases	1,158,370.67
Advance for others	742,136.72
	1,900,507.39

10. Cash at Bank

Bank of Ceylon - A/C No - 4530801034	(222,020.47)
Bank of Ceylon - A/C No - 4530801026	688,945.20
Bank of Ceylon - A/C No - 4530801883	2,289,085.74
Bank of Ceylon - A/C No - 4530801808	1,286,449.09
	4,042,459.56

11. Government Grant - Capital

Balance as at 01/01/2005	85,795,900.00
Capital Contribution During the Year	5,060,000.00
	90,855,900.00

12. Project Capital Fund

Balance as at 01/01/2005	14,757,706.09
Additions During the Year	-
	14,757,706.09

13. Project General Reserve

Balance as at 01/01/2005	16,524,437.47
Additions During the Year	-
	16,524,437.47

14. Net Deficit

Balance as at 01/01/2005	(54,597,029.70)
Expenditure over Income for the Year 2005	(11,407,779.18)
	(66,004,808.88)

15. Creditors

Stamp Fees Payable	6,150.00
Tender Deposit Refundable	99,067.20
Unpaid Expenditure	20,223.28
Employees and Restaurant Deposit	13,084.50
Retention	7,756.50
National Defense Fund	2,717.00
Other Creditors	707,929.50
Creditors Against Projects	
Analysis of Production and Marketing of Selected Popular Fruits (R-299)	97,922.15
A comparative Analysis of Samurdhi & non Samurdhi R 300	239,518.00
Book on Rice Production	1,786,642.22
Contract farm in Sri Lanka potential and problems market in intervation (R-269)	43,464.00
FIVIMS R-294	217,946.87
Food Price Structure in Selected Countries in South Asia (R-297)	16,235.82
Process Documentation Research Study for the SCOR Project (R-187)	50,006.71
Public & Private Sector Interface in Agricultural Development Strategy (R-298)	23,050.10
Production & Marketing of Big-Onion in Matale & A'pura District (R-301)	29,756.20
Present Trends and Future Prospects (R-305)	30,591.21
(T-209)	1,948.90
(T-213)	2,554.45
(T-214)	6,720.90
Training on Samurdhi Managers (R-291)	107,222.69
Survey to Assess the Impact of Tsunami titdal Waves on Costal Agriculture Sector in Sri Lanka (R-313)	100,000.00
Receivable from R&TO association	1,192.32
Institute Caterer	4,646.00
Agricultural Information Center (R-292)	138,929.42
Sustainable Development Villages (R-290)	191,666.12
Training Programme (T-223)	118,820.78
FIVIMS (T-318)	410,777.12
(R-295)	160,544.81
	4,637,084.77

16. Auditorium, Conference Hall & Hostel Charges

Auditorium and Conference Hall Charges	2,272,715.00
Hostel Charges	1,870,280.80
	4,142,995.80

17. Project Income

Administrative Cost	
Contribution from Projects	906,830.19
	906,830.19

18. Miscellaneous Income

Bungalow Fees and Room Rent	43,674.00
Palwehera Room Rent	5,300.00
Computer Income	28,901.60
Tender Fees	11,014.00
Other Income	601,686.40
	690,576.00

19. Administration & Establishment Expenditure

Permanent Staff	30,885,053.49
casual Staff	2,763,229.54
EPF	4,409,864.54
ETF	866,301.35
Overtime	1,324,100.95
Holiday Pay	4,516.04
Tea Allowance	336,560.00
Other Allowance	7,506,805.58
Gratuity	5,997,721.60
Local Subsistence	424,250.50
Local Transport	209,247.20
Bad Debt under Proviision	11,773.55
Foreign Traveling	-
stationery and office requisites	860,444.53
Fuel and Lubricants	843,249.21
Uniforms	99,670.00
Vehicle Repairs	949,176.75
Plant Machinery and Equipment Repairs	814,066.70
Depriciation	3,187,749.11
Building Repairs	107,756.73
Telephone Charges	1,676,129.53
Electricity and Water Bills	3,029,541.28
Taxes to Local Authorities	211,172.50
Postal Charges	153,884.50
Transport	155,307.10
Legal Consultant	140,400.00
Computer Consultant	66,000.00
Vehicle Adviser	26,000.00
Newspapers	212,621.40
License and Insurance	259,628.30
Security Charges	740,150.15
Cleaning Services	258,824.18
Laundry Services	95,585.00
Audit Fees	171,324.00
Medical Insurance	196,686.43
Canteen Charges	81,935.00
Miscellaneous Expenses - Research	156,655.78
Miscellaneous Expenses - Others	830,143.45
Legal Charges	43,455.50
Welfare	176,600.00
Advertisement	100,062.25
Interview Charges	5,200.00
Board of Governors	151,000.00
Entertainment	2,079.50
With Holding Tax	54,062.50
	70,595,985.72

20. Cash and Cash Equivalents at the Beginning of the Period

Investment - Fixed Deposits
Treasury Bills
Cash at Bank
Cash in Hand

21. Cash and cash equivalents at the end of the period

Investment - Fixed Deposits
Treasury Bills
Cash at Bank
Cash in Hand

AUDIT OPINION

Audit of the accounts of the Hector Kobbekaduwa Agrarian Research and Training Institute for the year ended 31 December 2005 was carried out under my direction in pursuance of provisions in article 154 (1) of the Constitution of the Democratic Socialist Republic of Sri Lanka read in conjunction with Section 13 (1) of the Finance Act No.38 of 1971.

Except for the effects on the financial statements of the matters referred to in paragraph 2.2 of my report. I am of opinion so far as appears from my examination and to the best of my information and according to the explanations given to me, the financial statement have been prepared and presented in accordance with Sri Lanka Accounting Standards and the stated accounting policies as set out in notes (Note 1.1 to 1.4) to the financial statements and give a true and fair view of the financial position of the Board as at 31st December 2005 and the financial results and cash flow for the year then ended.

Comments and observations arising out of the audit are contained in many report of even date addressed to he Chairman of the Hector Kobbekaduwa Agrarian Research and Training Institute.

(S.C. Mayadunne)
Auditor General
20 April 2006,
Auditor General's Department,
Colombo 07.

AUDITOR-GENERAL'S DEPARTMENT

AF/D/HARTI/2004 20 May 2005.

The Chairman
Hector Kobbekaduwa Agrarian Research and Training Institute.

Report of the Auditor General on the Accounts of the Hector Kobbekaduwa Agrarian Research and Training Institute for the year ended 31 December 2005 in terms of Section 14(2)(c) of the Finance Act, No.38 of 1971

The audit of accounts of the Hector Kobbekaduwa Agrarian Research and Training Institute for the year ended 31 December 2005 was carried out under my direction in pursuance of provisions in Article 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka read in conjunction with Section 13(1) of the Finance Act, No.38 of 1971. My observations which I consider should be published with the annual report of the Institute in terms of Section 14(2)(c) of the Finance Act appear in this report. A detailed report in terms of Section 13(7)(a) of the Finance Act will be sent in due course.

1:2 Scope of Audit

Audit opinion, comments and findings in this report are based on a review of the financial statements presented to audit and substantive tests of samples of transactions. The scope and the extent of such review and tests were such as to enable as wide an audit coverage as possible within the limitations of staff, other resources and time available to me. The audit was carried out in accordance with Sri Lanka Auditing Standards, methods and practices to obtain a reasonable assurance as to whether the financial statements are free of material misstatements. The audit included the examination of evidence supporting the amounts and disclosures in financial statements and assessment of accounting principles and significant estimates and judgements made in the preparation of financial statements, evaluation of their overall presentation and determining whether accounting policies adopted were appropriate, consistently applied and adequately disclosed. Sub-sections (3) and (4) of Section 13 of the Finance Act, No.38 of 1971 gives discretionary powers to the Auditor General to determine the scope and extent of the audit.

2 Accounts

2.1 Audit Opinion

Except for the effects on the financial statements of the matters referred to in paragraph 2.2 of my report, I am of opinion so far as appears from my examination and to the best of my information and according to the explanation given to me, the financial statements have been prepared and presented in accordance with Sri Lanka Accounting Standards and the stated accounting policies as set out in notes (from Note No.1.1 to 1.4) to the financial statements and give a true and fair view of the financial position of the Institute as at 31 December 2005 and the financial results and cash flow for the year then ended.

2:2 Comments on Accounts

2:2:1 Accounting Policies

Although the fixed assets should be separately identified and depreciated, all the assets excluding vehicles had been depreciated as a single unit.

2:2:2 Accounting Deficiencies

Accounting Deficiencies observed in audit are given below.

(a) Closing stocks representing statonery, periodicals, Sales centre stocks, etc. had been understated by Rs.527,485 due to the inclusive of book balances without making necessary adjustments against the physical balances thus resultng in an overstatement of the accumulated deficit by Rs.527,485.

(b) Balances in 03 control accounts as at the end of the year under review aggregated to Rs.5,960,572 whilst the balances in the corresponding subsidiary records aggregated to Rs.6,493,330, thus showng an unreconciled difference of Rs.532,758.

2:2:3 Omissions in the Accounts

Sscholarshp debtors amounting to Rs.15,997,793 had not been brought to accounts.

2:2:4 Suspense Accounts

No acton had been taken to clear the suspense accounts balance amountng to Rs.4,446 remaining since the year 2001.

2:2:5 Lack of Evidence for Audit

The following items in the accounts could not be satisfactorily vouched or accepted in audit due to the absence of evidence indicated against each item.

	Item	Value (Rs)	Evidence no made available
(a)	Fixed Assets	67,052,191	Detailed Schedules and Age Analysis
(b)	Sundry Debtors	17,512,587	Age Analysis and confirmation of balances
	Sundry Creditors	735,909	

2:2:6 Non-compliance with Laws, Rules, Regulations and Management Decisions

Following instances of non-compliance were observed.

	Reference to Laws, Rules, Regulation etc.	*Particulars*
(a)	Finance Act No.38 of 1971 Sections 8(2), 11 and 13(8)	The steps taken or proposed to be taken with regard to the matters pointed out in the report n terms of section 13(7) (a) of the Finance Act in respect of years 2003 and 2004 had not been furnished to Auditor General.
(b)	Public Enterprise Circular No.380 of 19 January 2000	Incentive scheme had been implemented without requisite approval.
(c)	Public Administration Circular No.22/99 of 08 October 1999	An Officer who used vehicle facilities at present had not obtained necessary approval as per the circular instructions.
(d)	Office Order	
	i. 102	Research and Training Committee meeting had not been held since the year 2001.
	ii. 1545	Institute had granted study leave with pay to 6 officers on probation period for postgraduate studies.

2:2:7 Accounts Receivable and payable

Following observations are made.

(a) Receivables

(i) Balances in the Advances and Debtors (without Scholarship Debtors) as at end of the year under revew aggregated Rs.16,025,376. Out of which a sum of Rs.3,611,489 had remained outstanding over 04 years.

(ii) Scholarship Debtors amountng to Rs.7,250,540 had not been recovered due to delay in handing over the summons, for a period ranging from 5 years to 21 years.

(iii) Scholarship Debtors amounting to Rs.19,219,680 could not be recovered due to delays in taking legal action for a period ranging from 2 years to 18 years.

(iv) Legal actions had not been taken to recover the bond value of the scholarship amounting to Rs.4,884,110 for a period of 2 years.

(v) Staff loans amounting to Rs.569.930 had not been recovered from the officers who left the service.

(vi) Instalments had not been recovered during the year under review in connection with the staff loan balances amounting to Rs.907,448.

(b) Payables

Liabilities amounting to Rs.3,533,703 relating to external parties and institutions had not been settled up to the end of the year under review.

3. Financial and Operating Review

3:1 Financial Results

According to the accounts presented, the financial result for the year under review had resulted in a deficit of Rs. 63,407,779 before taking into account the Government contribution for recurrent expenditure as compared with the corresponding deficit of Rs.46,766,146 for the preceding year. After taking into account the Government contribution of Rs.52,000,000 for the year under review the deficit was reduced to Rs.11,407,779. After taking into account the Government contribution of Rs.42,936,000 for the preceding year, the deficit for that year was reduced to Rs.3,380,146 thus showing a deterioration of Rs.7,577,633 in the financial results.

3:2 Performance

Data relating to the progress on the contract researches are given in the following table. .

	2005	2004
Number at the beginning of the year	7	13
Add		
Number awarded during the year	15	04
	22	17
Less		
Number completed during the year	17	07
Number permanently suspended during the year	-	03
Work in progress as at end of the year	05	07

In this connection following observations are made.

(a) Only 3 new research projects had been commenced during the year 2005, incurring a sum of Rs.153,920 by using consolidatd fund.

(b) A sum of US $ 65,000 had been received n 1992 from Swedish Agency for Research and Economic Co-operaton for the project on "Rice producton in Sri Lanka". This project had not been commenced even up to 31 December 2005. However, a sum of Rs.823,334 had been spent from this project fund to a postgraduate programme without informing to the "SAREC".

(c) Out of 15 planned project proposals, 12 research project proposals had been rejected by donor agencies, as at 31st December 2005.

3:3 Utilizations of Assets

No action had been taken to obtain the ownership of Palwehera circuit bungalow and 05 motor vehicles, which had been transferred by the Land Ministry to the use of the Institute.

3:4 Idle and Underutilized Assets

Followng observation are made.

(a) Considerable amount of Annual Reports, Books and Periodicals were not moving for more than three years.

(b) 04 Motor vehicles valued at Rs.730,068 had not been utilized during the year under review due to heavy repairs.

3:5 Transactions not supported by adequate authority

A sum of Rs.949,780 had been paid to a Medical Insurance Scheme for employees by the Institute since 2002 without adequate authority.

4. Systems and Controls

Deficiencis observed in systems and controls were brought to the notice of the institute from time to time. Special attenton is needed in respect of following areas of control.

(a) Payment and Settlement of Advances
(b) Personnel Administration
(c) Budget
(d) Attendance and Leave

(Signed)
(S.C. MAYADUNNE)
AUDITOR GENERAL.