

# **INSTITUTE OF POST HARVEST TECHNOLOGY**

## **ANNUAL REPORT 2002**

**Head office:**

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Colombo 7,  
Sri Lanka.

**Research and Development Centre :**

Jayanthi Mawatha.  
Anuradhapura,  
Sri Lanka.

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## **OUR VISION**

To be the centre of excellence in Post Harvest  
Technology for South Asia.

## **OUR MISSION**

To enhance productivity and facilitate competitiveness  
of the agribusiness sector through Post Harvest research  
and development.

Institute of Post Harvest Technology  
114, Wijerama Mawatha,  
Colombo 7.  
14- 03 –2002

Hon. Minister of Agriculture and Livestock  
Ministry of Agriculture and Livestock.  
Govjanamandiraya,  
Battaramulla.

Hon. Minister,

**ANNUAL REPORT – 2002**

In terms of section 14(2) of the Finance Act No. 38 of 1971, I have the honour to submit to you the Annual Report and the Statement of Accounts of the Institute of Post Harvest Technology, for the year 2002.

Yours faithfully,

Dr. Shanthi Wilson  
Chairman

## INSTITUTE OF POST HARVEST TECHNOLOGY

### **Annual Report – 2002 – Chairman’s Review**

The Institute of Post Harvest Technology (IPHT) has a major role to play in minimizing the loss of durable and perishable produce and in maintaining the quality and nutritional components of these agricultural commodities. The institute is working towards reducing the current high loss amounting on occasion to between 40-60 percent in the case of perishable commodities, to more acceptable levels of 10-15 percent. The advantages of using proper packaging for transportation is actively advocated in training programmes conducted by the officers of the IPHT. The need for organized production and collective farming systems is also introduced in order to demonstrate the advantages of such systems with regard to the economics of scale which make the adoption of good post harvest practices and new technology affordable.

The research activities under taken by the institute are geared towards solving problems of direct application to industry. Our officers have worked hard towards controlling insect infestation of grains during storage, improving and updating technology used by rice millers. Other R & D programmes include the developing maturity indices so that vegetables may be harvested at the correct stage of physiological development to prevent loss and extend storage life during distribution and marketing etc.

The IPHT needs to invest in human resource development and carry the critical mass of scientists and support staff required of an Institute of this nature, if it is to contribute effectively in the nations current and future development programmes. The IPHT has suffered as a consequence of the absence of adequate human resources and the financial constraints it has been subjected to. Given the necessary resources the IPHT will fulfill its role as a Centre for Development adaptation and dissemination of post harvest technology for this country.

**Dr. Shanthi Wilson,**  
Chairman,  
Institute of Post Harvest Technology.

# **INSTITUTE OF POST HARVEST TECHNOLOGY**

## **ANNUAL REPORT - 2002**

### **1. OVERVIEW**

The Institute of Post Harvest Technology (IPHT), operating under the Ministry of Agriculture, functions as the main institution in Sri Lanka engaged in improving the post harvest technology of cereals, pulses, oil seeds, other field crops, fruits, vegetables and ornamental plants through research, training, extension and other development activities. The Institute was established on 19<sup>th</sup> June 2000 by the Extraordinary Gazette of the Democratic Socialist Republic of Sri Lanka No. 1137/10 under the provisions of the State Agricultural Corporations Act. No. 11 of 1972, for the purpose of carrying out post harvest research and development works in the aforesaid crops. The Institute has taken over the functions of the Rice Processing Research & Development Center (RPRDC) of the Paddy Marketing Board, which was set up with FAO/UNDP assistance in 1976.

Broadly the aims and objectives of the Institute are as follows:

- a) Prevention of post harvest losses occurring in grains, field crops, fruits, vegetables and spice crops by introducing improved, cost effective technologies so that the incomes of the rural farming sector will be increased as a result of the increase in their marketable surplus. At national level, such measures would increase the quantity of essential food items available for consumption.
- b) Prevent the deterioration in quality occurring in grains, other field crops, fruits, vegetables, and spice crops due to adoption of improper post harvest handling, storage and processing techniques so that the quality of these essential food commodities reaching the market is significantly improved. Improvement of product quality will enable the farmers to sell their 'value added' produce at an attractive price in the competitive market and thereby increase their income from agriculture.
- c) Prevent the nutritional losses occurring in cereals, pulses and other food crops, fruits, vegetables, and spice crops due to use of improper post harvest techniques and thereby increase the nutritional status of the country.
- d) Improve farm level storage and preservation facilities to enable the farmers to sell their commodities during off seasons at attractive prices and thereby increase their incomes.
- e) Introduce improved post harvest techniques that utilize minimum labour in order to reduce production costs of agricultural commodities.

- f) Develop and transfer viable agro-based industries at rural level in order to increase income and employment opportunities of the rural farming sector and thereby improve their standard of living.
- g) Popularize the use of foods prepared from grains, pulses, fruits, vegetables, and spice crops among consumers in order to create a higher market demand for the local grain production. Increased consumption of these foods of high nutritional value will also lead to an improvement in the nutritional status of the country.

Whilst continuing the primary activities of the institute, namely, research, training, extension, consultancy/advisory and other development activities in Post Harvest Technology to achieve its goals and objectives, the infrastructure facilities for research and development were improved by upgrading the research laboratories and engineering workshop and also, by establishing a field center at Bogahakumbura, in Badulla district, for effective technology transfer to the large number of farmers engaged in production of horticultural crops. The required manpower for R & D work was also strengthened to enhance efficiency of the institute's operations.

The research activities of the Institute, directed towards solving technological problems confronting the post harvest industry, include both fundamental and applied research, although the latter predominates in the research efforts. During the Year 2002, twenty-seven research projects were initiated of which eleven were completed.

The training activities of the IPHT are production/ extension oriented, aimed towards updating the knowledge of producers, processors, traders and extension workers, from both public and private sector agencies, in the field of Post Harvest Technology of grains, fruits and vegetables. However, to a limited extent, research oriented courses were also conducted providing experience in the research methodology for students of universities and other academic institutions. During the year under report fifty-eight training courses were conducted and 1700 individuals were trained.

Farmer extension work, which is one of the major activities of the institute, was expanded, by recruiting extension officers and initiating field level extension activities to reach farmers even in far away districts like Ampara, Monaragala, Hambantota, Badulla, Mahaweli System C and Nuwaraeliya. During the year under review, 2000 farmers, processors, traders and extension workers, both from public and private sector organizations, were trained by the IPHT.

The IPHT has progressively been sought after for consultancy and advisory services by both public and private sector organizations, as well as the Cooperative sector, which are either directly or indirectly involved in post harvest operations. Continuous advice was given to processors to establish new processing plants, to modernize existing plants and to solve technological problems encountered in their day-to-day operations.

The Institute played an important role in exercising quality control of agro/food products in the country by analyzing samples received from both private and public sector organizations for physical and chemical quality.

During the year 2002, the institute initiated publishing a quarterly newsletter titled "Pasu Aswanu Puwath", in Sinhala and English medium, to publicize the activities and new technologies of the IPHT.

This report is a summary of the activities of the IPHT during the year 2002 and is bound to generate interest in the people who are concerned with the subject of Crop Post Harvest Technology.

## **2. HIGHLIGHTS OF RESEARCH AND DEVELOPMENT ACTIVITIES**

Some important achievements of the IPHT during the year 2002 are given below:

### **2.1. Identification and selection of suitable packaging for different agricultural/ food products.**

Fresh fruits and vegetables are termed perishable commodities because they have an inherent tendency for spoilage due to physiological reasons. Post harvest losses of these crops may occur at any point between harvest and consumption in the marketing process. In developing countries, where there is a profound lack of infra structural and marketing facilities, post harvest losses of fresh produce vary between 25-50% of the total production, depending on the commodity. In Sri Lanka, it has been estimated that the Colombo Municipal Council discards 11 MT of fruits and vegetables as garbage from the Mannin market per day. More over, approximately 270000 MT of fruits and vegetables are lost during the post harvest operations and the value of this loss is approximately Rs. 9000 million. Improper post harvest handling, improper packaging and transportation, diseases and inadequate storage facilities are some of the major reasons for such high post harvest losses. Losses of this magnitude represent a significant food loss and a considerable economic loss to the country. Furthermore, farmer gets low price for his commodities and consumer gets low quality products.

In Sri Lanka fresh fruits and vegetables are packed mainly in Poly-sacks for transportation and this practice leads to serious losses. Of the total post harvest loss occurring in fresh produce, the loss during handling and transportation alone amounts to approximately 20%. The use of rigid containers such as plastic crates, wooden boxes and fiberboard boxes will minimize the serious damage occurring in fruits and vegetables during handling and transportation.

Hence, a study was undertaken to identify suitable packages, both from a economical and technical point of view, for handling and transportation of fresh commodities in Sri Lanka.



Ten types of packages, selected from those available in the market and also, from those developed by various institutions were used for evaluation. The types of packages selected were: nestable plastic crate (large and small size), collapsible plastic crate (large and small size), steel collapsible crate, wooden box designed by ITI, Wooden boxes designed by IPHT, fiberboard box and wax coated fiberboard box. The evaluation study was conducted by transporting the fresh produce from farmer's field to Keppetipola Economic Centre and then to Manning Market, Colombo. The nestable plastic crate of dimensions 52.5x 35.0x 30.0 cm was identified as the most suitable package for handling and transportation of tomatoes and the nestable plastic crate of dimensions 60.0x 42.5x 30.0 cm was identified as the most suitable package for other vegetables such as beans, cabbage, brinjals and curry chillies.

## **2.2 Modernization of rice mills to increase rice output and improve rice quality to international standards.**

Taking in to consideration the importance of improving rice quality in local rice mills and increasing rice recovery levels under the prevailing free trade policies, the Institute of Post Harvest Technology continued the project that was initiated in the year 2001 to improve the processing techniques of existing rice mills in the country through following activities:

- Selection of rice mills, covering the entire island, for improvement.
- Identification of deficiencies of the techniques presently adopted in the process line of the mills and submission of reports for each rice mill recommending modifications that are required to improve rice quality and increase rice out put.
- Conducting a series of training programmes for selected millers.
- Assisting the rice millers in the preparation of feasibility reports.
- Provision of process lay out plans.
- Development of effective marketing channels for export quality rice.
- Continuous monitoring of rice mill modernized under this project.

Also, on the recommendation of the IPHT, the Treasury introduced a loan scheme with concessionary interest rates through the Bank of Ceylon to rice processors for modernization of their rice mills.

In this regard a notable achievement during the period under review was that 45 rice millers in major producing areas of Anuradhapura, Polonnaruwa, Hambantota, Ampara and Mahaweli system C undertook modernization their rice mills under the direction and guidance of the IPHT. As a result of this exercise, a significant improvement in the quality of locally produced rice was achieved.

### **2.3. Design and development of a small scale noodles production line for rice flour noodles.**

The IPHT was able to overcome the constraint faced by the small/medium scale noodles manufacturers to produce noodles purely from rice, by designing and developing a low cost method to produce pure rice noodles, without the addition of wheat flour, using the small scale noodle cutting machine currently available in the local market for production of wheat noodles. The other components of the process line, namely, steamers and the dryer were designed and fabricated by the IPHT. The total cost of machinery for the process line, having a capacity of 100 kg of noodles per day, is Rs. 300,000 and the cost of production is Rs. 66 per kg of red rice noodles.

The technology was transferred to the food industry by holding a one day workshop at Anuradhapura by inviting interested personnel through news paper advertisement. Representation by 25 food manufactures from the private sector in the workshop and their willingness to adopt the technology was a remarkable achievement.

### **2.4. "Fresh Chain" concept to minimize post harvest losses of fruits and vegetables.**

This project was initiated in August 2001 to introduce the 'Fresh Produce Chain' concept from farmer to consumer, where improved post harvest techniques are adopted to eliminate waste and minimize losses occurring at different stages in the post harvest system amounting to 30–40%. The improved post harvest techniques adopted in this exercise were: harvesting at correct stage of maturity; grading and sorting; use of proper packages such as plastic crates; and proper handling and transportation. Under this project the IPHT was able to bring together the personnel involved in the entire chain, namely, farmers, collectors, wholesale and retail traders, and also public and private organizations engaged in post harvest activities for a collective effort directed towards minimizing such post harvest losses.

The project activities were continued in the year 2002, by conducting twenty five workshops and training programmes for growers, collectors, transporters, wholesale and retail traders of fruits and vegetables in Keppetipola, Bogahakumbura, Thambutthegama, and Bakamoona, to create awareness among them on the magnitude of post harvest losses in fruits and vegetables and to suggest and support corrective measures to eliminate waste.

During the period under review six 'fresh produce chains' were initiated from Keppetipola to Manning market, Bakammona to Colombo and Tambuttegama to Colombo. As a result of this exercise, the losses occurring in these market chains were reduced from 30% to 6 % and the quality of vegetables reaching the consumer was appreciably improved. It is assumed that these chains will demonstrate to others the advantages of using plastic crates and other improved techniques so that they too would take them up to improve their operations.

## 2.5 Development of rural level agro-processing enterprises

Processing of agricultural produce is carried out mainly in urban areas and the farmers market their produce in the unprocessed form. If processing could be done by farmers themselves at farm level, they could increase the market value of their produce and there by significantly increase their incomes. Under the direction and guidance of the institute, several agro- processing enterprises were initiated in the rural sector.

### *a) Production of nutritionally superior biscuits and weaning food*

Based on research carried out by the Institute, methods to produce nutritionally superior biscuits and weaning foods was developed using sprouted mung bean. Fourteen private sector enterprises and individuals are now producing nutritionally superior biscuits as a cottage industry.

### *b) Rice parboiling and processing at rural level*

During the period under review, twenty one rice parboiling and processing units were initiated at rural level as self employment agro-industrial ventures at Rajanganaya, Eppawala, Madatugama, Saliyapura and Tambuttegama in Anuradhapura district; in Polonnaruwa district; and in Mahaweli systems B and C.

### *c) Rice / grain flour processing Units*

Medium scale five rice flour units were established in Polonnaruwa, Anuradhapura and Hambantota districts during the year 2002.

### *d) Manufacture of tamarind paste*

Tamarind fruits are nutritious and during the season they get wasted under the trees without any proper utilization. Based on research conducted by the IPHT a method to produce tamarind paste and drink from tamarind fruits, was developed. During the period under review, two individuals in Madatugama, Mahaweli system H, initiated manufacturing tamarind paste as a commercial venture, under the guidance of IPHT.

*e) Low cost cooling device for preservation of fresh fruits and vegetables.*

The low cost wet cooling device developed by the IPHT using the evaporative cooling technique was introduced to the vegetable retail outlet of the "Govi Sammelanaya", Galenewa, Mahaweli system H during the year 2002. It is now being successfully used for preservation of fresh vegetables.

**2.6 Introduction of axial flow type mechanical thresher**

Mechanical threshing has several advantages over the conventional threshing methods. It is an important component in improving the postproduction system. More than one hundred and fifty such units were introduced to major paddy producing areas through IPHT'S training and extension activities during the year 2002

**2.7 Adoption of the IPHT Hand Operated Maize Thresher**

One hundred and five units of the “ Hand operated maize sheller” developed and fabricated by the IPHT were introduced to small-scale maize growers in the districts of Badulla, Anuradhapura and Batticaloa during the year 2002.

**2.8 Post harvest handling of fruits and vegetables**

With the aim of preventing quantitative and qualitative losses occurring at different stages in the post harvest system of fruits and vegetables, the Institute launched a programme of educating farmers, collectors, and wholesale/ retail traders through training and field demonstrations during the year 2002. Ten such training workshops were conducted for farmers and collectors in Keppetipola, Anuradhapura, Bakamoona and Mahaweli System H, and 306 individuals were trained on post harvest handling, sorting, packaging, transportation, storage and processing of fruits and vegetables.

**2.9 Provision of electronic colour sorting facilities for the rice processing industry**

The IPHT initiated a programme to provide the electronic colour sorting facility available at the institute for rice millers in the country to remove discoloured and black grains from their rice, at a nominal rate. During the year 2002, ten rice millers utilized this facility and 208,000 kg of high quality samba and red rice were processed.

### 3. PROGRESS IN RESEARCH

Research, being the main activity of the IPHT, was directed towards solving technological problems confronting the post harvest industry.

#### 3.1 Research projects completed

***a) Development of a method for production of osmotically dehydrated mango using under-utilized varieties***

Many local mango varieties available in large quantities, namely, Rata-amba, Kohu-amba and Betti-amba, are not very popular among the consumers due to their undesirable sensory qualities. Hence, the market potential of these varieties is very low. During the harvesting season approximately 40-60% of post harvest losses occur in these varieties. The institute was able to successfully produce osmotically dehydrated products from one of these varieties 'Betti-amba'.

The conditions to achieve desirable sensory properties of the dehydrated fruits are dipping 'Betti-amba', with 50% ripening, in a series of sugar concentrations of 40, 50 and 60 % Brix followed by drying at 60<sup>o</sup> C for 18 hr in the 'Multi-crop dryer' designed by the IPHT.

This value added product has a high consumer demand and can be preserved for a long period of time, thus enabling to overcome the problem of wastage of these fruits during peak harvesting periods.

***b) Extending the shelf life of Anthurium (Anthurium andreanum) using low cost preservatives***

Production of Anthurium flowers has become a profitable venture to a large number of small-scale flower growers in Sri Lanka. However, the high perishability of flowers renders them vulnerable to a high degree of post harvest losses. Therefore, it is essential to protect the flowers from deterioration after harvest in order to extend their shelf life. This study was undertaken to introduce low cost preservation techniques using freely available and harmless preservatives to extend the shelf life of Anthurium.

The results of the study showed that the dipping stalks of flowers in 3 ppm  $\text{KmnO}_4$  solution was the best chemical solution to extend the shelf life of Anthurium. This method of preservation is suitable for small-scale growers and retailers because  $\text{KmnO}_4$  is cheap, freely available and has no harmful effects.

This research paper was presented at the 58<sup>th</sup> Annual Session of the SLAAS.

***c) Manufacture of white ash from paddy husk***

Rice husk is a by-product of the rice milling industry and, in Sri Lanka it is disposed as a waste material and causes environmental pollution. Only a small fraction is used in rice mills to generate heat for the parboiling operation. This study was carried out to develop a prototype of incinerator to produce good quality rice husk ash, which has a high market demand, as a raw material for several industries. The results reveal that the prototype incinerator, which was designed, could produce rice husk ash with less than 6% of residual carbon without any secondary processing. It burns rice husk with a carbon conversion efficiency of more than 95%. The findings of this research will contribute to further development of efficient commercial scale rice husk incinerators.

***d) Determination of maturity indices of bitter gourd (*Mormordica charantia*) Variety, MC 43***

Harvesting of crops at incorrect stage of maturity leads to serious quantitative and qualitative losses. Harvesting too early results in incomplete use of the yield potential. Delaying in harvesting results in losses due to abscission and softening and also, shortening of shelf life, reduced storage and increased internal disorders. However, the maturity indices of most local vegetable varieties have not been identified yet for practical use.

During the year 2002, The IPHT initiated a project to determine the maturity indices of selected economically important crops, in which the indices have not been previously determined.

Under this project, a study to determine the subjective and objective indices to identify the correct stage of maturity for harvesting of Bitter gourd variety MC 43 and their effect on quantity and quality of yield and shelf life was successfully completed. The results reveal that the Bitter gourd variety MC 43 harvested at 14 days after full bloom had a significant influence on the yield and the keeping quality of pods.

***e) Comparative studies on existing and improved post harvest practices to ascertain the present status of the post harvest industry and to identify the areas for post harvest technology improvement.***

Assessment of technical and economic feasibilities of adopting improved technologies in the post harvest system is important to improve the present post harvest practices in both perishables and non perishables. On the basis of data and information collected from an island-wide questionnaire survey carried out in 2001 to assess post harvest losses, studies were conducted by comparing the existing and improved methods to ascertain the technical and economic feasibilities of adopting improved post harvest technologies in the post harvest system of maize, brinjal, cabbage, tomato and capsicum. The

advantages of adopting improved technologies over the traditional practices, as revealed by the study, are summarized below:

<b>Crop</b>	<b>Post Harvest Practice</b>	<b>Reduction in post harvest losses by adopting improved techniques %</b>	<b>Increase in income by adopting improved post harvest techniques (Rs. per Ha)</b>
Maize	Harvesting	3.5	1375.00
	Drying	4.0	5000.00
	Threshing	5.3	4000.00
Brinjal	Harvesting	4.2	13700.00
	Transportation	10.1	9500.00
Cabbage	Harvesting	4.6	11300.00
	Transportation	15.0	8300.00
Bean	Harvesting	2.8	3300.00
	Transportation	11.0	1000.00
Tomato	Harvesting	3.5	9900.00
	Transportation	4.4	10000.00
Capsicum	Harvesting	7.6	12300.00
	Transportation	15.0	10000.00

***f) A study of stem-end rot in Mango caused by Botriodiplodia theobromae***

Mango is a major crop among the fruit crops grown in the tropics. However, as in other perishables, post harvest diseases represent one of the major sources of post harvest losses. Among these the 'stem end rot' is the most common.

Until recently, immersion of mangoes in hot water, mixed with Benomyl for 5 minutes at 52<sup>0</sup> C controlled the 'stem end rod' effectively. However, the water dipping method is not effective and hence the appearance of the disease has

increased rapidly. In order to overcome this problem a study was initiated to examine the possible approaches to control the diseases using eco-friendly cost effective treatment through identification of mode of infection of the pathogen.

Based on the results, following conclusions were made:

- Disease severity and host resistance to the disease vary with the cultivars of mango. eg. Frequency of the occurrence of the disease in Karuthakolomban is greater than Villard and other wild types.
- Pathogen penetrates into the tissue through cut stem-end or through wounds. Hence, minimization of mechanical damages and leave about 1cm of the stalk with the fruit at harvesting are two possible methods to control the disease.
- Post harvest immersion of mangoes for 5 and 10 minutes in 5% NaHCO<sub>3</sub> and 5% CaCl<sub>2</sub>, respectively controlled the disease in similar manner.

***g) Extension of post harvest life of fresh fruits by modified atmosphere packaging under ambient condition.***

Papaya is one of the economically important fruit crops grown in Sri Lanka. However, its shelf life is short due to its perishability and metabolic activities occurring in the fruits during ripening. Even though the CA storage and cold storage are successful in extending the post harvest life, both methods less popular among the fruit producers due to their high capital and operational costs. Hence, a study was conducted to identify a cost effective method of prolonging the shelf life using modified atmosphere packaging (MAP). The results of the study conducted with individual papayas showed that papaya washed with 200 ppm chlorine followed by packaging them in 0.075 mm LDPE with 5 gm of MgO & 5 gm of KmnO<sub>4</sub> per kg of fruit in sachets, as carbon dioxide and ethylene scavengers respectively, was found to be the best treatment in extending the post harvest life up to 14 days, as compared to 3 days in the control.

***h) Development of low sugar bael jam with pectin and gelatin.***

Bael (Aegle marmelos) is considered as a nutritive fruit and it contains high amount of dietary fiber. It also used in controlling diarrhea and dysentery. The market demand for low sugar products is increasing among the health conscious population of the country. In this context, low sugar Bael jam not only provides low calorie but also high nutrients. This study was conducted to develop low sugar bael jam using pectin and gelatin. Six treatments with two different sugar contents (10% & 20%) and three pectin and gelatin combinations (0.75:0.25, 0.5:0.5, and 0.25:0.75) were used in this study.



Results of the sensory evaluation reveal that the product containing 20% sugar and pectin and gelatin combination of 0.75:0.25% was found to be the best treatment in terms of texture and overall acceptability. Plate count studies conducted at 1 & 6 weeks after packing reveal that the product was free from microbiological spoilage.

***i) Production of different preserved mushroom based foods.***

This study was conducted in collaboration with the Wayamba University of Sri Lanka to develop new processing and preservation techniques of mushroom pickle and paste and to investigate the product acceptability and its shelf life. Results showed that mushroom pickle has higher consumer acceptability and also the characteristics of mushroom pickles did not change during 4 months of storage. Mushroom paste was failed due to poor keeping qualities and storage condition. Fermentation studies carried out using five concentrations of salt reveal that the fermentation techniques can not be applied for mushroom preservation due to microbiological spoilage.

### **3.2. Research and Development projects in progress**

The following research projects were in progress during the year under review:

- a) Determination of maturity indices of economically important crops.***
- b) Improved curing and storage methods and practices for onions.***
- c) Semi hermetic storage of seed paddy to preserve germination capacity and seed viability***
- d) Formulation of Animal feed from Rice Bran***
- e) Testing and modification of the solar dryer of the ITI, for drying of fresh produce to increase capacity and efficiency.***
- f) Testing and modification of the low cost cooling chamber developed by the ITI, for preservation of fresh produce to increase capacity and efficiency.***
- g) Control of stored product insect pests by using smoke generated from paddy husk combustion***
- h) Field study to ascertain the present status of the post harvest industry and to identify priority areas for post harvest technology improvement.***
- i) Design and development of an electronic colour sorting machine for grains.***

- j) Design and development of a drum dryer.*
- k) Small/ medium scale extraction and modification of tapioca starch for industrial purposes*
- l) Design and fabrication of post harvest /food processing machinery moving to stainless material usage*
- m) Evaluation of polishing machines for performance with raw and parboiled rice belonging to different grain types*
- n)Development of resistance of stored product insects against phosphine fumigant*
- o) Extraction of oleoresins from chilli, ginger and other spices*
- p) Development of a low cost technique to extend the shelf life of Lotus (Nelumbium)*
- q) Identification and evaluation of available appropriate technologies that would significantly improve post harvest operations of cereals, legumes, other grains, fruits and vegetables.*
- r) Improvement of the quality of locally produced rice to international standards.*
- s) Development of rural level Agro/ Food processing enterprises*
- t) Techno-economic evaluation of the use of rice husk fired electric power generation units in rice mills ( Phase II)*

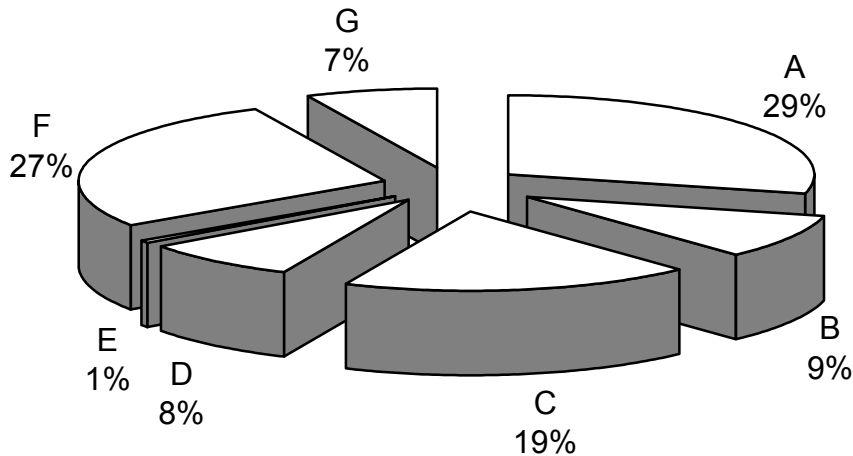
#### **4. TRAINING AND EXTENSION**

The demand for training, especially from private and cooperative sector organizations, was continuously increasing during the period under review. The training courses conducted by the Institute were production/extension oriented, aimed towards technology transfer to personnel engaged in post harvest operations.

A large number of farmers and farmwomen were also trained in collaboration with the Department of Agriculture, Provincial Councils, NGOO and Mahaweli Economic Agency.

**4.1 Total number of individuals trained : 3695**

**TRAINEE CATEGORIES - Year 2002**  
**Total number trained - 3695**



***Trainee categories:***

- A. Farmers, farmwomen and members of farmer organizations / farmer companies.
- B. Fruits and vegetable cultivators and collectors
- C. Rural level rice and other grain processors/ self-employment beneficiaries.
- D. Small/ medium scale rice/ grain processors.
- E. Large scale rice/ grain processors
- F. Students from Secondary schools, Universities, Schools of Agriculture and Technical Colleges.
- G. Extension Officers from Co-operative/public sectors and NGOO.

**4.2 Details of the training programmes conducted:**

***a) Residential training:***

During the year 2002, the following short term residential training courses, of duration 1 to 6 days, were conducted and 916 persons belonging to the following categories were trained :

<b>Trainee category</b>	<b>Subject area</b>	<b>No. of participants</b>
i. Farmers, Farm women and members of farmer Orgernizations/ Farmer companies.	Rural level rice parboiling Storage and processing	182
ii. Project beneficiaries and small scale entrepreneurs	Rural level rice parboiling and processing. Storage and quality control of agric. produce.	136
iii. Fruits and vegetable cultivators and collectors	Post Harvest Technology of Fruits & vegetables	142
iv. Large scale rice millers	Large scale rice and other grain processing	22
v. Small/medium grain processors	Small and medium scale rice and other grain processing	148
vi. Officers from Co-operative societies, NGOO and other Institutions.	Grain post harvest technology, Quality control and grain storage Dehydration of fruits and vegetables. Rice and other grain processing	53
vii. B.Sc. Agric students from Universities, students from Agric. schools and Technical Colleges	Grain post harvest technology	233
	<b>Total</b>	<b>916</b>

***b) Non-residential training programmes:***

Non-residential training courses were held island-wide, in collaboration with Industrial Development Board, Mahaweli Authority of Sri Lanka, Department of Agriculture, Central Bank of Sri Lanka, Department of Co-operative Development and NGOO, and 2000 individuals were trained during the year 2002.

<b>Trainee Category</b>	<b>Subject area</b>	<b>No.of Participants</b>
i Farmers, farm women	Rural level rice parboiling and processing	890
ii Project beneficiaries and small scale entrepreneurs	Rural level rice parboiling and processing, grain flour processing.	551
iii Fruits and vegetable growers and collectors	Handling of fruits and vegetables Preservation and processing techniques.	133
iv Fruits and vegetable wholesalers and retailers	Handling and transportation of fruits and vegetables.	56
v. Small/ medium scale rice/ grain processors	Rice and grain processors	162
vi Officers from Co-operative societies, NGOO and other Institutions.	Grain post harvest technology, Quality control and grain storage Dehydration of fruits and vegetables. Rice and other grain processing	208
	<b>Total</b>	<b>2000</b>

### **c) Extension services of the IPHT**

During the period under review the institute was able to expand its technology transfer activities effectively especially in major crop producing areas such as Ampara, Nuwara Eliya, Badulla, Hambantota, Anuradhapura and Pollonnaruwa. Following are the details of extension activities carried out island wide during the year 2002:

<b>District</b>	<b>No of programmes Conducted</b>	<b>No. of participants</b>
Badulla & Nuwara-Eliya	16	282
Monaragala	05	59
Ampara	14	286
Pollonnaruwa	03	67
Anuradhapura	12	194
Hambantota	09	394
<b>Total</b>		<b>1282</b>

**d) Study visits**

Category	No.of participants
i Students from Education Dept, farmers, Agric. Instructors and others	779

**e) Popularization of value added rice based products**

In order to popularize value added rice based products in the local market, rice noodles prepared from 100% red rice flour, were produced and marketed utilizing the facilities of the Rice-based Product Development and Demonstration Plant of the IPHT, established under the Chinese Government Grant Aid Programme during the year 2002, thirty two thousand nine hundred 200g packets of the noodles were sold through CWE retail outlets island-wide. Market studies showed that the product has a high consumer demand.

**4.3 Participation in Exhibitions**

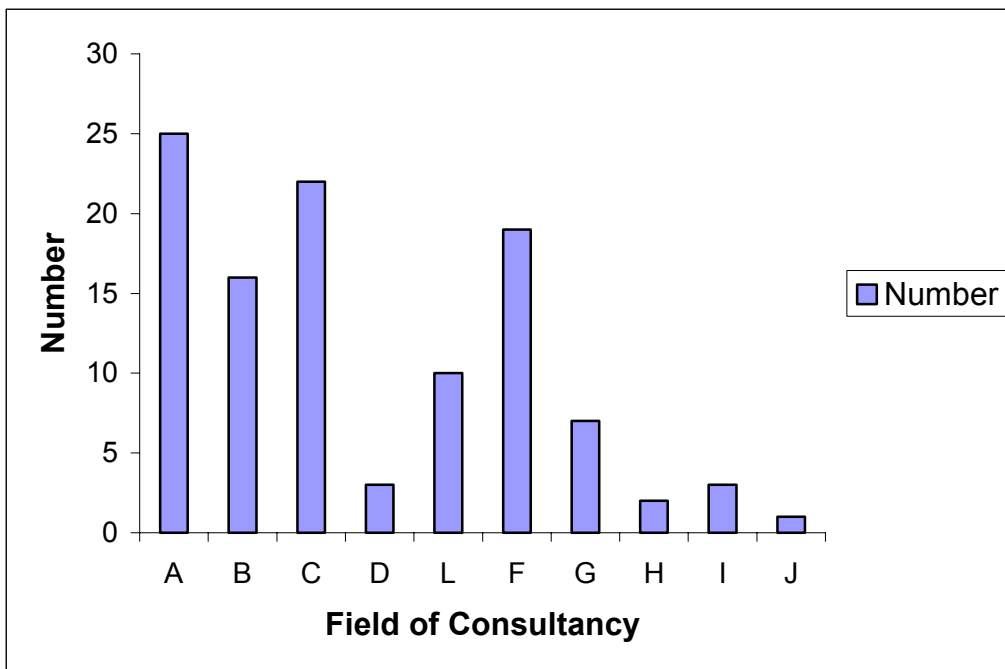
- i. Participated in Exhibition organized by the Faculty of Science, University of Colombo held From 20<sup>th</sup> to 23<sup>rd</sup> June 2002.
- ii. Participated in Exhibition organized by the District Chamber of Commerce, Hambantota held From 22<sup>nd</sup> to 24<sup>th</sup> August 2002.
- iii. Participated in Exhibition organized by the Rajarata University of Sri Lanka, Anuradapura held From 30<sup>th</sup> to 31<sup>st</sup> August 2002.

**5. CONSULTANCY AND ADVISORY SERVICES**

During the year 2002, one hundred and eight new investors, private rice millers, mill owners, co-op societies, private traders, NGOO and individuals engaged in different post harvest activities in the country have sought the assistance of the IPHT to establish new mills, to modernize already existing mills, to establish food processing plants, to establish drying units, to construct new storage structures and to solve technological problems pertaining to other post harvest activities.

Under this category of activity of the IPHT, special attention was made to the involvement of the Institute in improving and modernization of medium and large scale rice mills in Ampara, Hambantota, Anuradhapura and Polonnaruwa districts and Mahaweli system C to produce high quality rice and establishment of small and medium scale rice processing plants, flour processing units and food processing units in Mahaweli system G under the guidance of project management and co-ordination unit of Mahaweli consolidation project.

The details of consultancies completed by the IPHT during the year 2002 are shown in Fig.1



**Fig. 1. Consultancy and advisory services of the IPHT during the year 2002**

***Fields of consultancy / advisory services:***

- A. Production of high quality rice
- B. Establishment of new rice mills
- C. Rehabilitation / modernization of existing rice mills
- D. Production of rice and other grain flour
- E. Drying of chillie, fruits and vegetable, spices, grains
- F. RPRDC/ IPHT post harvest machinery and equipment
- G. By – products utilization and energy conservation
- H. Production of weaning / infant foods
- I. Production of rice based products
- J. Process development for other grains, oil seeds

## 6. AFFILIATION WITH UNIVERSITIES AND OTHER ACEDEMIC INSTITUTIONS

The IPHT worked closely with Universities and other academic institutions in executing collaborative research, training and other development projects pertaining to Post Harvest Technology.

### 6.1 Research projects conducted at the IPHT by students of Universities as partial fulfillment of Bachelor's degree

Name of University	No. of students
<i>a) Faculty of Agriculture, University of Peradeniya</i>	<i>03</i>
<i>b) Faculty of Agriculture, University of Ruhuna</i>	<i>01</i>
<i>c) Faculty of Agriculture and Plantation Management, Wayamba University of Sri Lanka</i>	<i>01</i>
<i>Total:</i>	<i>05</i>

### 6.2 In-plant Training

Name of Institution	No. of trainees
<i>a) Faculty of Engineering, University of Ruhuna</i>	<i>03</i>
<i>b) Hardy Advance Technical Institute, Ampara</i>	<i>01</i>
<i>c) School of Agriculture, Kuliyaipitiya</i>	<i>01</i>
<i>d) School of Agriculture, Wariyapola</i>	<i>01</i>
<i>e) School of Agriculture, Puliyankulama</i>	<i>01</i>
<i>f) School of Agriculture, Kundasale</i>	<i>01</i>
<i>g) National Apprentice board</i>	<i>05</i>
<i>Total:</i>	<i>13</i>



## 7. GRAIN QUALITY ASSURANCE

The IPHT has extended its services to the public, co-operative and private sector organizations for analyzing grain samples for physical and chemical qualities. During the period under review, the IPHT laboratory analyzed 46 samples of Paddy and Rice (Table 1).

Table 1. Grain samples analysed by the IPHT for quality

Source	Commodity	No.of Samples	Nature of analysis
Tharaka Rice Mill Polonnaruwa	Rice	02	SLSI Quality Specifications & Chemical Analysis of Protein, Starch, Ash, Fat & Fibre
Industrial Technology Institute	Paddy	24	Rice samples preparation at different bran removal

## 8. PUBLICITY/ PUBLICATIONS

During the period under review, publicity to IPHT activities were given through mass media and also several technical publications were released as follows:

### 8.1. TV programs

Date	TV channel	Programme	Activity
06 <sup>th</sup> & 08 <sup>th</sup> April	Rupavahini	Govi Bimata Arunalu	Improved farm level storage structure 'Gunny Bissa'
20 <sup>th</sup> & 22 <sup>nd</sup> April	Rupavahini	Govi Bimata Arunalu	Rice parboiling
25 <sup>th</sup> April	Sirasa	Live at 55	Fresh produce chain

27 <sup>th</sup> & 29 <sup>th</sup> April	Rupavahini	Govi Bimata Arunalu	RPRDC Multi-crop dryer
04 <sup>th</sup> & 06 <sup>th</sup> May	Rupavahini	Govi Bimata Arunalu	RPRDC Pulse Grain dehuller
11 <sup>th</sup> & 13 <sup>th</sup> May	Rupavahini	Govi Bimata Arunalu	Rice bran fortified bread
11 <sup>th</sup> & 13 <sup>th</sup> May	Rupavahini	Govi Bimata Arunalu	Rice bran fortified bread
18 <sup>th</sup> & 20 <sup>th</sup> May	Rupavahini	Govi Bimata Arunalu	Maize sheller
25 <sup>th</sup> & 27 <sup>th</sup> May	Rupavahini	Govi Bimata Arunalu	Preparation of nutritionally superior biscuits
27 <sup>th</sup> June	Rupavahini	Nuga Sevena	Rice quality
16 <sup>th</sup> Sept.	Rupavahini		Green gram & green gram products
30 <sup>th</sup> June	Rupavahini		Rice based products

## 8.2. Radio programmes

27 <sup>th</sup> April	SLBC	Vandora	IPHT activities
30 <sup>th</sup> May	Rajrata	Live programme	Post harvest Technology
1 <sup>st</sup> November	Rajarata Sevaya	Ranliya Asapuwa	National qualities of cereals.
08 <sup>th</sup> November	Rajarata Sevaya	Ranliya Asapuwa	Nutritionally superior biscuits.
15 <sup>th</sup> November	Rajarata Sevaya	Ranliya Asapuwa	Nutritionally quality tamarined.
22 <sup>th</sup> November	Rajarata	Ranliya Asapuwa	Tamarined based

	Sevaya		products.
13 <sup>th</sup> December	Rajarata Sevaya	Ranliya Asapuwa	Nutritionally quality of raw and parboiled Rice.
20 <sup>th</sup> December	Rajarata Sevaya	Ranliya Asapuwa	Nutritionally quality tamarined.
20 <sup>th</sup> December	Rajarata Sevaya	Ranliya Asapuwa	Domestic level rice parboiling.

## 8.2 Paper articles

- i. A newspaper article on Modern technology to minimize post harvest losses was published in "Dinamina" 31<sup>st</sup> January 2002.
- ii. A news paper article on "100 rice mill improvement programme " was published in "Dinamina" 02<sup>nd</sup> February 2002.
- iii. A paper article on "Paddy quality" was published in "Aruna" publication of the Ministry of Agriculture and Livestock in September 2002.
- iv. A paper article on "Effective method for extending post harvest life for papaw fruit" was published in "Aruna" publication of the Ministry of Agriculture and Livestock in October 2002.

## 8.3 Pasu Aswanu Puwath

- i. The News letter of the IPHT "Pasu Aswanu Puwath" volume .01 , No 01 was published.

## 8.4 Publications issued

- i. A total number of 7345 copies of publications of the IPHT pertaining to Post Harvest Technology improvement were issued and the details are given below:

Publication	No. issued
Commercial level rice processing	233
Grain storage	117
Rodent control	102
Grain quality control	157
Journal of Tropical Post Harvest Technology	21
Danya Sekasum Puwath	69
Lime storage	128
Multi crop dryer	237
Post harvest technology hand book	465
Onion storage	22

Harvesting of fruits	19
Osmotic dehydration of mango	77
Rural level rice processing	773
Storage insect control	94
Preservation of Vegetables	78
Pulse grain processing	162
Rice flour production	103
Fresh produce chain ( IDIs <sup>uh</sup> )	195
Gunny bissa	453
Production of weaning food	318
Post Harvest technology of Fruits	51
Chillies & Multicrop Dryer	141
Production of local Dahl	155
Maize shelling easy	174
Production of high quality Bread with wheat flour & } red rice bran	23
Paddy storage in Gunny Bissa	1095
Paddy storage in Poly sack Bags	1001
Fruits based products	15
Lime based products	65
Packaging	07
Production of weaning foods (New hand outs)	01
Post Harvest Technology (Training programmes)	40
Parboiling & drying of paddy	29
Paddy husk availability & consumption pattern in Sri Lanka	05
Annual Reports – 2000	26
High remarkable benefit from mango yield	114
High remarkable benefit from orange yield	220
Remarkable benefit from tomatoes yield	117
Let's minimize vegetable loss	121
Let's minimize Fruit loss	116
Small scale chillie & Multicrop Dryer Developed By IPHT	01
Tamarind based products	05
Total	7345

## 9. REPRESENTATION IN PROFESSIONAL COMMITTEES/ SEMINARS/ WORKSHOPS

- i. The Director served as a member of the sub committee on Food Science and Technology of Ministry of Science and Technology.
- ii. The Director served as a Board Member of the Faculty of Agriculture, Rajarata University.

- iii. The Director served as a member of the Sectoral Committee on Agriculture and Food Products of the SLSI.
- iv. The Director served as a member of the National Farm Mechanization Committee of the Ministry of Agriculture and Livestock.
- v. Three staff members of IPHT attended a work shop held with the officers of Cooperative Development on 4<sup>th</sup> January 2002 to introduce the “Fresh Chain” concept” to Cooperatives handling fruits and vegetables.
- vi. A staff member of the IPHT attended a meeting on 100 days programme held at Ministry of Agriculture on 17<sup>th</sup> January 2002.
- vii. A staff member attended a meeting held on “Development of Rice Milling and Marketing of Mahaweli System B and C” at Ministry of Irrigation and Water Management.
- viii. A staff member of the IPHT attended a workshop held on “Preparation of an Agricultural Development Strategic Plan for Agricultural Intensification in Mahaweli System H at Mahaweli Centre on 08<sup>th</sup> February 2002.
- ix. Two staff members of the IPHT are members of the Technical Sub Committee on Agriculture of the President’s Fund For Inventors and Innovators.
- x. Two staff members of the IPHT participated in the Workshop on “ Packhouse Facilities for Perishable Horticultural Produce” held at EDB, Colombo on 22<sup>nd</sup> March 2002.
- xi. A staff member of the IPHT participated in the seminar on “ Safety in Microbiological Laboratories” conducted by the Institute of Chemistry on 22<sup>nd</sup> February 2002.
- xii. A staff member of the IPHT participated in the Workshop on “ Sri Lankan Agriculture for the Next Decade: Challenges and Opportunities” held at HARTI on 4<sup>th</sup> April 2002.
- xiii. A staff member of the IPHT attended meeting on “Strategic Planning” of the Ministry of Agriculture held at the In-service Training Institute of DOA, Gannoruwa on 01<sup>st</sup> and 02<sup>nd</sup> June 2002.
- xiv. A staff member of the IPHT attended a workshop on Supply and Demand of Technologies in Sri Lanka held at the National Science and Technology Commission on 02<sup>nd</sup> July 2002.
- xv. A staff member of the IPHT attended a conference on Potential of Agricultural Enterprises held at Kandurata Development Bank on 17<sup>th</sup> July 2002.

- xvi A staff member of the IPHT attended to conduct examination of M.Sc and Ph.D students of the Post Graduate Institute of Agriculture on 01<sup>st</sup> August 2002.
- xvii A staff member of the IPHT attended a seminar on Progress Review Seminar for Grantees of the NSF Research Committee on Agriculture held at National Science Foundation on 02<sup>nd</sup> August 2002.
- xviii Four staff members of the IPHT attended a discussion with World Bank mission on expansion of Dedicated Economic Centre at Dambulla held at DEC, Dambulla on 05<sup>th</sup> August 2002.
- xix A staff member of the IPHT attended a seminar on Developing Research Programme for year 2003 held at Gannoruwa on 21<sup>st</sup> August 2002.
- xx A staff member of the IPHT attended a discussion with Honourable Minister of Agriculture on Research and Development programme of the institute held at the Ministry of Agriculture and Livestock on 27<sup>th</sup> August 2002.
- xxi A staff member of the IPHT attended Second Biennial Conference on Science and Technology organized by the National Science and Technology Commission from 05<sup>th</sup> Sep.to 08<sup>th</sup> Sep 2002.
- xxii A staff member of the IPHT attended a discussion with small & medium scale rice mill owners held at Ministry of Industries on 10<sup>th</sup> Sep 2002.
- xxiii A staff member of the IPHT attended Thesis Defending Examination of the Post Graduate Institute of Agriculture on 12<sup>th</sup> Sep 2002.
- xxiv A staff member of the IPHT attended performance appraisal workshop at the Ministry of Agriculture and Livestock on 18<sup>th</sup> Sep 2002.
- xxv The Director attended Annual Symposium of the Department of Agriculture-2002 held at Gannoruwa on 26<sup>th</sup> Sep 2002.
- xxvi A staff member of the IPHT attended the Parliamentary consultative committee meeting of the Ministry of Agriculture and Livestock on 27<sup>th</sup> Sep 2002.
- xxvii A staff member of the IPHT attended BIMST-Ec Expert Group Meeting on Technology Co – operation, organized by the National Science and Technology Commission, held in Colombo on 7<sup>th</sup> -8<sup>th</sup> October 2002.
- xxviii A staff member of the IPHT attended the Seminar on forward Sales Agreement organized by the Sri Lanka Central Bank, on 16<sup>th</sup> of October 2002.

- xxix Four officers of IPHT attended a seminar on “Useful Post Harvest Treatments for Fruits and Vegetables Industry” organized by the ITI at Trans Asia hotel on 27<sup>th</sup> Nov 2002.
- xxx A staff member of the IPHT attended a working group meeting of the Standard Institution of Formulation of Standard for white bread and wheat flour on 29<sup>th</sup> Nov 2002.
- xxxi A staff member of the IPHT executed an assignment on Post Harvest Loss Reduction and Food Processing in Ethiopia for United Nations Industrial Development Organization.

## **10. MANUFACTURE OF POST HARVEST MACHINERY & EQUIPMENT**

On the request of clients from the Agro/Food Industry, the IPHT fabricated and sold the following machinery/equipment during the Year 2002:

Item	No.
a) Paddy husk stove	02
b) Maize shellers	103
c) Pedal operated husk blower	02
d) Small scale grain dryer	01

## **11. IMPROVEMENT OF FACILITIES FOR RESEARCH AND TRAINING/EXTENSION**

- i. Water proofing of elevator pits of the demonstration rice processing plant.
- ii. Renovation of the grain receiving and storage complex, by the State Engineering Corporation.
- iii. Fencing the premises of the Research and Development Centre; 200 linear ft
- iv. Construction of 04 Nos. staff quarters.
- v. Construction of a room for a colour sorter.
- vi. Colour washing of the weigh bridge and the hostel.
- vii. Installation and commissioning of the rice polishing machines and the screens for paddy separator.

- viii. Purchase of following laboratory equipment for Quality control, Biochemistry and Microbiology laboratories:

Oven  
 Moisture meter  
 Ph Meter – Bench top  
 Ph meter – Hand held  
 Rotary Evaporator  
 Heating mantels  
 Analytical balance  
 Top loading balance  
 Soxlet extraction set  
 Spectrophotometer  
 Water bath  
 Ebiliometer  
 Microscopes  
 Digital thermometer  
 Water distillation plant  
 Refractometers  
 Bunsen burners  
 Electric Bunsen burners  
 Viscometer  
 Overhead stirrers  
 Colony counter  
 Micro pipette  
 Food dehydrator  
 Cooled Incubator  
 Shaker  
 Moisture balances  
 Kjedhal apparatus  
 Magnetic stirrers  
 Turbidity meter

## 12. STAFF DEVELOPMENT

The following Research and Training staff of the IPHT underwent training in various fields pertaining to Post Harvest Technology during the year 2002:

### *a) Post-graduate Degree Programmes*

Mr D. P. C. Swarnasiri Senior Research Officer	- Completed Master of Science in Agricultural Extension at the Post Graduate Institute of Agriculture, Peradeniya.
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- |  |  |
|--|--|
| Mrs. B. M. K.S. Thilakartne<br>Senior Research Officer | - Master of Science in Food Science and Technology , Sri Jayawardanapura University, Nugegoda. |
| Mrs. D. P. Senanayake<br>Senior Mechanical Engineer    | - Completed M. Phil. in Chemical Engineering at the Faculty of Engineering, Peradeniya.        |
| Mr. Rohitha prasantha<br>Research Officer              | - Ph.D. in Post Harvest Entomology at the Federal Biological Research Centre, Germany,         |

***b) Seminars, Workshops and Training Programmes***

- |   |   |
|---|---|
| Mr. M. D. Fernando<br>Deputy Director               | - Certificate course in Public Management , Sri Lanka Institute of Development Administrations, Colombo ( 4 weeks). |
| Mr. P.B.Abeykoon<br>Manager/ Administration         | - Study tour on Quality Enhancement in small and meadium Food Processing Enterprises through HACCP, India ( 1 week) |
| Mr. D.P.C.Swarnasiri<br>Senior Research Officer     | - Short term training course on Stored Grain Protection, China (6 weeks)  |
| Mrs. D. P. Senanayake<br>Senior Mechanical Engineer | - Short term training on Basic, metal and advance welding Technology (TIG/MIG)                                      |
| Mr. H.A.M.P Ratnayake<br>Mechanical Engineer        | - Short term training on Basic, metal and advance welding Technology (TIG/MIG)                                      |
| Mr.D.M.C.C.Gunathilake<br>Research Officer          | - Short term training course on Edible Mushroom Production (4 weeks)  |
| Mr. W.M.C.B. Wasala<br>Research Officer             | - Short term training course on Edible Mushroom Production (4 weeks)  |
| Mr. J.K.Paranavithana<br>Technical Officer          | - Short term training on Basic, metal and advance welding Technology (TIG/MIG)                                      |
| Mr. Asoka Ranaweerae<br>Welder                      | - Short term training on Basic, metal and advance welding Technology (TIG/MIG)                                      |
| Mr. W.M. Nimal Ranasingha<br>Maintenance Assistant  | - Short term training on Basic, metal and advance welding Technology (TIG/MIG)                                      |

Mr. R.M. C. Pushpakumara  
Maintenance Assistant

- Short term training on Basic, metal and  
advance welding Technology (TIG/MIG)

### 13. STAFF POSITION AS AT 31<sup>st</sup> DECEMBER 2002

Post	Name	Position as at 31/12/ 2002
.Director	Dr. K.B. Palipane <i>B.Sc. Agric. ( Sri Lanka), M.App.Sc. Food Tech. (Australia), Ph.D. (NSW), MAIFST (Aus.)</i>	01
Deputy Director	Mr. M. D. Fernando <i>M. Sc. Agric. (Moscow)</i>	01
Manager /Administration	Mr. P.B. Abeykoon <i>B. Sc. Agric. ( Sri Lanka)</i>	01
Senior Research Officer	Mr. D. P. C. Swarnasiri <i>B. Sc. Agric. ( Sri Lanka) M.Sc. Agric. (Sri Lanka)</i>	01
Senior Research Officer	Mrs. B.M.K.S. Thilakaratne <i>B. Sc. Agric. ( Sri Lanka) M.Sc. Food Tech. ( Sri Lanka)</i>	01
Senior Mechanical Engineer	Mrs. D. P. Senanayake <i>B.Sc. Mech. Eng. (Sri Lanka) M. Phil.Chem. Eng (Sri Lanka)</i>	01
Senior Mechanical Engineer		Vacant
Asst. Manager (Finance)	Mr. R.K.A.P. Ramanayake <i>B.Sc. Management (Sri Lanka), Licentiate Certificate ICA, MIPFDA</i>	01
Publication Officer	Mr. S. Wijayathilake	01
Research Officer	Mr. B.D. Rohitha Prasantha <i>B.Sc. Agric. ( Sri Lanka)</i>	01
Research Officer	Mrs. W.A H. Champa <i>B.Sc. Agric. ( Sri Lanka)</i>	01
Research Officer	Mr. D.M.C.C.Gunathilake <i>B.Sc. Agric. ( Sri Lanka)</i>	01
Research Officer	Mr. W.M.C.B. Wasala <i>B.Sc. Agric. ( Sri Lanka)</i>	01
Research Officer	Mr. T.V. Lasantha Kumara <i>B.Sc. Sp.Chem. (Sri Lanka)</i>	01
Research Officer	Mrs. H.C. Samarakoon <i>B.Sc. Agric. ( Sri Lanka)</i>	

Research Officer	Miss. K.G.L.R. Jayathunge <i>B.Sc. Agric. ( Sri Lanka)</i> <i>M.Phill. Food Sci.&amp; Tech. ( Sri Lanka)</i>	01
Research Officer	Mrs. R.M.R.N.K. Rathnayake <i>B.Sc. (Sri Lanka)</i> <i>M.Sc. PHT (Sri Lanka)</i>	01
Research Officer	Mr. L.K.W. Wijayarathne <i>B.Sc. Agric. (Sri Lanka)</i> <i>M.Sc. Agric. (Sri Lanka)</i>	01
Research Officer	Mr. C.R. Gunawardane <i>B.Sc. Special Chemistry (Sri Lanka)</i>	01
Research Officer	Mr. K.V.T. Gunawardane <i>B.Sc. Agric. ( Sri Lanka)</i>	01
Research Officer	Mr. T.M. Kannangara <i>B.Sc. Bio-Science (Sri Lanka)</i> <i>M.Sc. Food Tech. ( Sri Lanka)</i> P.G.D.,	01
Research Officer	Mrs. R.M.N.A. Wijewardane <i>B.Sc. Agric. (Sri Lanka)</i> <i>M.Sc. Agric. (Sri Lanka)</i>	01
Research Officer	Mrs. H.S. Jayawardane <i>B.Sc. Applied Science (Sri Lanka)</i> <i>M.Sc Food Tech. (Sri Lanka)</i>	01
Mechanical Engineer	Mr. H.M.A.P. Ratnayake <i>B.Sc. Mec. Eng. (Sri Lanka)</i>	01
Mechanical Engineer	Mr. W. N. D. Perera <i>B.Sc. Mec. Eng. (Sri Lanka)</i>	01
Mechanical Engineer	Mr. B.D.M.P. Bandara Dissanayake <i>B.Sc. Mec. Eng. (Sri Lanka)</i>	01
Mechanical Engineer	Mr. T.M.R. Dissanayake <i>B.Sc. Product. Eng. (Sri Lanka)</i>	01
Mechanical Engineer	Mr. M.S.M. Roomi <i>B.Sc. Chem. Eng.(Sri Lanka)</i>	01
Mechanical Engineer	Mr. M.A.S. Upul Kumara <i>B.Sc. Chem. Eng. (Sri Lanka)</i>	01
Accountant		Vacant
Extension Officer	Mr. P.G. Lalith Wasantha <i>B.Sc. Agric. ( Sri Lanka)</i>	01*
Extension Officer	Miss. C.A.K. Dissanayake <i>B.Sc. Agric. ( Sri Lanka)</i>	01 *
Extension Officer		Vacant
Extension Officer		Vacant
Extension Officer		Vacant
Administrative Officer	Mr. J. P. Crooz	01
Administrative Officer	Mr D. Ilangaratne	01
Administrative Officer	Mr. U.B. Rajakaruna	01

Administrative Officer	Mr. G.N. Senarathne	01
Personal Assistant		Vacant
Laboratory Technician Gr V	Mr. P.E.M.R. Palipane	01
Cashier		Vacant
Internal Audit Assistant	Mr. P.Sugathadasa	01 *
Technical Officer	Mr. J. K. Paranawithane	01
Technical Officer	Mr. W.D. Senarathne	01
Technical Officer		Vacant
Draughtsman/ Mechanical	Miss. Tharindi Anuradha Kothalawala	01*
Building Inspector Gr vi		Vacant
Store officer Gr. vi	Mr. S.P. Prematilake	01
Store Officer Gr. vi		Vacant
Hostel keeper		Vacant
Steno/Typist (English)	Miss. A.M.P.K. Atapattu	01
Typist (Sinhala)	Mrs. M.D.L. Edirisinghe	01
Steno/Typist (Sinhala)	Miss. E.A. T. E. Edirisinghe	01 *
Steno/Typist (English)	Mrs.S.P.Priyanka.Malkanthi	01*
Computer Operator		Vacant
Field Officer	Mr. A.D.J.P. Athukorala	01*
Field Officer	Mr. K.M.G. Saman Kumara	01*
Field Officer	Mr. D.M. Athula kumara Dasanayake	01*
Field Officer	Mrs. N.H.M.Sumithra	01*
Field Officer		Vacant
Field Officer		Vacant
Field Officer		Vacant
Field Officer		Vacant
Field Officer		Vacant
Field Officer		Vacant
Field Officer		Vacant
Library Assistant		Vacant
Laboratory Assistant Gr vii	Mr. A.M.G.C.P. Kumara	01
Laboratory Assistant Gr vii	Miss. R.M. Kumari Rathnayake	01
Laboratory Assistant Gr vii		Vacant
Laboratory Assistant Gr vii		Vacant
Receptionist /clerk		Vacant
Clerk	Mr. D.M. Jayasiri	01
Clerk	Mrs. M.A.D.N. Munasinghe	01
Clerk	Mr. C.I.K. Sooriyakula	01
Clerk	Mr. U.P. Nishan Rangana	01
Clerk	Mr.K.P.P.D.Karunanayake	01
Clerk	Miss. S.A. Anusha Namalee	01*
Clerk		Vacant
Clerk		Vacant
Clerk		Vacant
Audit Clerk		Vacant
Clerk/Typist		Vacant

Clerk/Typist		Vacant
Clerk/Typist		Vacant
Clerk/Typist		Vacant
Clerk/Typist		Vacant
Forman		Vacant
Driver Gr.viii	Mr. M. Thungasiri	01
Driver Gr. viii	Mr. N. Ganasinghe	01
Mill Operator	Mr. D.T. Thilakaratne	01
Mill Operator	Mr. R.T. De Leema	01
Mill Operator		Vacant
Technician	Mr. W.H. Jayasena	01
Boiler Operator	Mr. D.M. Somapala	01
Boiler Operator	Mr. K. Salaris	01
Electrician	Mr. L.R.S. Ekanayake	01
Welder	Mr. R.A. Asoka Ranaweera	01
Driver	Mr. W.P. Jayarathne	01
Driver	Mr. Sarath Munasinghe	01
Driver	Mr. H.M. Mike Triluxie	01
Driver	Mr. E.M.N. Ekanayake	01
Driver	Mr. R.A. Janith Kumara	01
Driver	Mr. B.D. Chandrasekara	01
Driver		Vacant
Driver		Vacant
Driver		Vacant
Driver		Vacant
Driver		Vacant
Workshop Operator	Mr. W.P. Keerthirathna	01
Workshop Operator		Vacant
Maintenance Assistant		Vacant
Maintenance Assistant		Vacant
Maintenance Assistant	Miss P.E.M.L. Padmini Herath	01
Maintenance Assistant	Mr. W.M. Nimal Ranasinghe	01
Maintenance Assistant	Mr. L.T.H. Piyasiri	01
Maintenance Assistant	Mr. R.M. Chaminda Pushpa Kumara	01
Maintenance Assistant	Mr. I. Saman Priyankara	01
Technician Gr, ix	Mr. H.R. Jayantha Bandara	01
Cook	Mr. G.G.W. Jayalath Guruge	01
Security Guard	Mr.J. Jayawardana	01
Security Guard	Mr. L.G. Nihal	01
Security Guard	Mr. M.T. Jayaweera	01
Security Guard	Mr. K.A. Justin Chandra	01
Security Guard	Mr. H.G. Sunil	01
Security Guard	Mr. M.S. Sunil Jayasinghe	01
Duplicate Machine Operator		Vacant
Assistant Boiler Operator		Vacant
Canteen Labourer	Mr. W.A.Anura Senevirathna	01

Canteen Labourer	Mr. J.P. Jayasiri	01
Seva Sahayaka	Mr. M.M.B.K. Senevirathna	01
Seva Sahayaka	Mr. J.S. Weerasuriya	01
Seva Sahayaka	Mr. H.B. Wijesiri	01
Seva Sahayaka	Mrs. R.D.K. Ariyawathie	01
Seva Sahayaka	Mr. S. Ramesh Moorthie	01
Seva Sahayaka	Mr. M. Gunadasa Pieris	01
Seva Sahayaka	Mr. R.M. Nishantha Bandara	01
Seva Sahayaka	Mrs. R.M.P. Dayani Kumari	01
Seva Sahayaka		Vacant
Seva Sahayaka		Vacant
Seva Sahayaka		Vacant
Seva Sahayaka		Vacant
Seva Sahayaka		Vacant
Seva Sahayaka		Vacant
Office Peon		Vacant
Office Peon		Vacant
Office Peon		Vacant
Sanitary Labourer	Mr. A. Alagan	01
Sanitary Labourer	Mr. Ranjith Kumara	01*

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\* Recruited on contract basis

## **Report of the Audit Committee of the IPHT on activities of the year 2002**

The first task of the Audit Committee of the IPHT, appointed on 02.12.2002, was to examine the Auditor General's Report, in terms of section 13(7) (a) of the Finance Act No.38 of 1971, on the accounts of the IPHT for the year 2001. Accordingly, the Audit Committee had meetings on 27.12.2002 and 03.01.2003, and examined the observations made by the Auditor General regarding the IPHT. Accounts for the year 2001, and made the following recommendations to the Board of Directors, for the rectification of the short comings pointed out by the Auditor General.

1. Action to be taken to confirm the balances which can be identified from the amounts to be collected and to be paid, which have continued from the time of the PMB.
2. As the basis for depreciating the Noodles manufacturing machine is incorrect, its depreciation should be done on an annual basis and rectify the depreciated figures for the year 2001 by reconciliation.
3. Obtain Treasury approval for the Fixed Deposits.
4. Obtain covering approval for the additional payments made for the ceiling and partitioning work done.
5. Obtain reports regarding the payments made to outside parties for field inspections and work done by them.
6. Take appropriate action, as suggested by the Auditor General, relating to the debtors and creditors.
7. Adjust the income figures by the addition of GST, which has been recorded inadvertently.
8. Take action to rectify and settle the advances for overseas travel by the submission of traveling claims.

K.P. Indran – Chairman

- Audit Committee

Dr. N.C. Kumarasinghe

- Member of Audit Committee

Lal Bogoda

- Member of Audit Committee

Report of the Auditor General on the accounts of the Institute of Post Harvest Technology for the year ended 31 December 2002 in terms of Section 14(2)(c) of the Finance Act, No.38 of 1971.

The audit of accounts of the Institute of Post Harvest Technology for the year ended 31 December 2002 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 furnished 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 limitation of staff, other resources and time available to me. The audit was carried out in accordance with the Sri Lanka Auditing Standards, methods and practices to obtain reasonable assurance as to whether the financial statements are free of material misstatements. The audit included 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 give discretionary powers to the Auditor General to determine the scope and extent of the audit.

## 2 Accounts

### 2.1 Audit Opinion

In view of my observations appearing in this report, I am unable to express an opinion on the accounts presented. Major deficiencies observations appearing in this report, I am unable to express an opinion on the accounts presented. Major deficiencies observed are indicated in the paragraph referred to below.



Deficiency -----	Reference to Relevant Paragraph in this report -----
(a) Accounting Deficiencies	2:2:1
(b) Accounts Receivable and Payable	2:2:2
(c) Lack of Evidence for Audit	2:2:3
(d) Non-compliance with Laws, Rules, Regulations and Management Decisions	2:2:4
(e) Systems and Controls	4

## 2.2 Comments on accounts.

### 2:2:1 Accounting Deficiencies.

The Following accounting deficiencies were observed.

- (a) Fixed assets valued at Rs .93,834,757, of which the utilization right had been obtained from the paddy Marketing Board form 01 July 2000 in accordance with notification published in gazette No .1137/10 dated 19 June 2000 of the Democratic Republic for Sri Lanka Had been shown in the book of that Board without a physical verification or valuation and the assets had not been legally vested.
- (b) The income of Rs.29,384 adjusted to the accrued income of the preceding year had been credited to the hostel income of the year under review thus overstating the income for the year under review by Rs.29,384.
- (c) Deposits and revenue expenditure amounting to Rs.8,696 had been accounted for as capital expenditure whilst capital expenditure amounting to Rs.46,890 had been accounted for as revenue expenditure.

### 2.2.2 Accounts Receivable and Payable

- (a) Accrued income of Rs.1,485,455 over 06 years old inclusive of accrued income amounting to Rs.1,117,180 for which individual balances brought forward from books of the Paddy Marketing Board or confirmations were not furnished and trading and other debtor balances amounting to Rs.313,377 of which the individual balances could not be ascertained had been shown in the accounts. As these values were being brought forward over a number of years, their realization in the same manner cannot be determined.
- (b) Accrued expenses amounting to Rs.625,825 in respect of which schedules of individual balances or confirmation of balances were not furnished and sundry creditors aggregating Rs.74,143 had also been shown in the accounts and action had not been taken for their settlement.

### 2.2.3 Lack of Evidence for Audit

14 items of assets and liabilities aggregating Rs. 63,188,340 could not be satisfactorily vouched or accepted in audit in the absence of the related schedules, confirmations of balances and Board of Survey reports.

### 2.2.4 Non-compliance with Laws, Rules, Regulations and Management Decisions

Deficiencies observed during the course of audit in respect of the following laws, rules, regulations and management decisions were brought to the notice of the Chairman of the Institute from time to time.

- (a) Sections 7(1),8(3), 11(b), 12(b), 13(5)(b) and 13(6) of the Finance Act No.38 of 1971.
- (b) Financial Regulations 685,799 and 702(3) and Sections 1, 145, 146 and 62(4) (ii) of Guidelines on Government Trader Procedure.

### 2.2.5 Transactions not supported by Adequate Authority

Salary scales payable to the staff of the Institute had been approved by letter No.BD/PE/1/349/3/2000 dated 31 January 2001 of the Director General of Budget of the General Treasury. Contrary to this approval, the Board of Directors had revised the salary scales on 30 January 2002 and paid a sum of Rs.766,560 to the employees from January to December 2002. Treasury approval had not been obtained for this revision.

## 3. Financial and Operating Review

### 3.1 Financial Results

The financial result of the year under review amounted to a deficit of Rs.618,553 as against the surplus of Rs.22,857,335 of the preceding year. Rs.200.0 million of the investments had been released to the General Treasury during the year under review and the decrease thereby of interest income on investments had mainly affected the deficit.

### 3.2 Payment of Incidental Allowances for Foreign Travel

Whenever the country sponsoring the foreign tours pays a portion of the incidental/pocket expenses, incidental allowances should be paid after deducting the portion of allowance paid by the sponsoring country. However, contrary to this, the full amount had been paid to 03 officers without deducting the portion of incidental expenses paid by the country concerned, thus resulting in an overpayment of Rs.31,665. In addition, although payments cannot be made in respect of air time, such payments amounting to Rs.2,361 had also been made.

### 3.3 Productions

It was observed that the following production units of the ?institute either remained idle or under-utilized during the year under review

Production Unit/Plant time	Annual	Actual	Time	Idle
	Plant Capacity	annual Production	Utilized	
	k.g.	k.g.	days	days
Noodles Production Project	181,500	6,130	08	234
Paddy Milling Complex	1,936,000	17,140	2 ½	239
02 Flour Production Plants	774,400	344	1 hour	242
Colour sorter machine	1,936,000	213,539	27	215
Paddy boiling, drying and Sorting unit	Not reported	Not utilized	--	242
Bread manufacturing Plant	50 (at a time)	Not reported	--	--

- Paddy thrashing, machines valued at Rs.661,576 had been newly installed for the paddy milling complex during the year under review and the paddy boiling, drying and storing unit had been repaired at a cost of Rs.1,878,436.

### 3.4 Establishment of Extension Centres

With a view to extending the post harvest technology, the Cabinet had decided on 14 March 2001 to open 05 centres at Ampara, Hambanthota, Moneragala, Kandy and Hasalaka. Treasury approval had also been received on 13 July 2001 for the recruitment of 25 persons for 5 posts in the cadre for this purpose. But, only one centre had been opened upto end of the year under review and only 02 extension officers and 04 field officers had been recruited on casual basis.

### 3.5 Uneconomic Transactions

The Institute had paid Rs.9,975 more as a result of failure to purchase a welding transformer before the due date shown in quotation and also Rs.15,000 over the amount agreed for surveying the land locating the Institute of Technology in Anuradhapura. As a result of the payment of this excess amount of Rs.15,000 over the amount agreed on the lowest quotation, the prices in the second and third quotations had also been exceeded.

4. Systems and Controls

Special attention is needed in respect of the following areas of control.

- (a) Fixed Assets
- (b) Utilization of Vehicles
- (c) Advances
- (d) Debtors
- (e) Payment of Allowances

(S.C. Mayadunne)  
Auditor General.

Comments of the Chairman institute of Post Harvest Technology on the discrepancies pointed out by the Auditor General – Annual Report 2002

2.2.1 Accounting Deficiencies

- (a) All the fixed assets of the then Rice Processing Research and Development Center (RPRDC) of the Paddy Marketing Board are vested in the Institute of Post Harvest Technology (IPHT), by virtue of the Incorporation Order under Section 2 of State Agricultural Corporations Act.No.11 of 1972, published in the Gazette Extra Ordinary No.1137/10 dated 18<sup>th</sup> June 2000. As to formalization of the legal transfer of the Assets to the IPHT, on the instructions of the Director General of Public Finance of the General Treasury, the Secretary to the Ministry of Agriculture appointed a Committee of competent persons to value the assets. This report has been sent to the Chairman Paddy Marketing Board (PMB), who has been directed to take action to legally transfer the assets to IPHT. No action has been taken by the Chairman PMB in this regard, despite several reminders sent to him direct and through the Secretary to the Ministry of Economic Reforms, Science & Technology. Although, the IPHT has taken action to complete all formalities with regard to the transfer of the assets to the IPHT, the legal vesting has not been completed due to failure of the PMB to initiate action to legally vest the assets in the IPHT, in compliance of the directive issued to him by the Director General of Public Finance of the General Treasury and the Secretary of the Ministry of Economic Reforms, Science and Technology.
- (b) There has been an accounting error with regard to income of Rs. 29,384.00 from the Hostel earnings for the year 2002. It is noted to rectify this error in the accounts for the year 2003. The accounting staff has already been advised regarding the corrective action to be taken.
- (c) I consider these as minor accounting errors for which action has been taken to rectify these errors. There has been no loss of funds or fraud in these matters.

2.2.2 (a) & (b) There had been problems of reconciliation of accounts due to discrepancies in the accounts maintained by the PMB, as their accounts were not properly maintained over a long period. This can be rectified once the transfer an assets to the IPHT is completed.

2.2.3 Action has been taken to rectify this discrepancy.

2.2.4.

- (i) The sum of Rupees 300 million, which became part of the assets of the IPHT, has been maintained by the PMB as an investment the National Savings Bank. Therefore, there was no necessity to obtain Hon. Finance Minister is approval for it under Section 11 of the Finance Act No. 38 of 1971. However, after the Auditor General pointed out that approval of the Minister of Finance is required for this investment by the IPHT, Hon. Minister of Agriculture & Livestock has approved it and has sought Finance Minister's concurrence which has not been received up to now. The actual sum invested is Rs. 1000 million, as a sum of Rupees 200 million has been remitted to the Treasury in January 202.

- (ii) Action has been taken to prepare the accounts of the IPHT in accordance with the provisions of Finance Act.No.38 of 1971.
- (iii) Approval of the Secretary, Ministry of Agriculture & Livestock has been sought for the Accounting Format.
- (iv) All requests made by the Auditor General regarding schedules and reports have been complied with.
  - (b) There have been instances where the copies of the Tender Board decisions have not been communicated to the Auditor General. Instructions have given to the IPHT staff to comply with requirements of the Financial Regulations and the Guidelines to Govt. Tender Procedures, with regard to Tenders.

2.2.5 Action is being taken to obtain approval from the Director General of Management Services on this matter.

3.1 No comment

3.2 (a) & (b) - Excess amounts of incidental allowances paid, have been recovered. Strict instructions regarding this matter have been issued and action has been taken to prevent repetition of such incidents in the future.

3.3 IPHT is a research organization. Its primary task is to carry out post harvest research on agricultural crops. It is not engaged in full time commercial activities although limited amount of commercial production is engaged in, when the machinery and equipment is not used for research activities.

3.4 Although, Treasury approval was obtained for staff cadres required for the Extension Center, they were not recruited because PMB failed to release the buildings for the establishment of the Field Centres. Subsequently recruitments of staff were stopped by the Management Circular No.15 of 23.05.2002. Thus position has not changed up to date.

3.5

- (i) An extra amount has been paid to the Surveyor, based on approved rates, as the final survey revealed the extent of land assigned to him for surveying.
- (ii) An extra amount was required to pay for the Welding Transformer due to the change in the exchange rates. Calling of fresh quotations to avoid this extra payment, would have resulted in having to pay much higher amount for the Welder as the import price had increased in the subsequent period and receiving the welder a few months late.

Dr. Shanthi Wilson,  
Chairman, IPHT.



## **1.Summary of Significant Accounting Policies.**

### **1.1 General Accounting Policies**

1.1.1 The published results and the financial position of the Institute have been prepared in accordance with the generally accepted accounting principles.

### **1.1.2 Taxation**

Liable for Income Tax.

## **1.2 Assets and Basis of their Valuation**

### **1.2.1 Accounts Receivable**

Accounts receivable are stated as without providing for bad and doubtful debts, because most of the balances were brought forward from Paddy Marketing Board Accounts as at the transfer of assets and liabilities etc.

### **1.2.2. Stocks**

Stocks have been valued at the lowest cost or realizable value.

### **1.2.3 Fixed Assets**

The cost of fixed assets is the cost of acquisition or construction together with the incidental expenses therein. The fixed assets are recorded at cost, less accumulated depreciation which is provided for, on the basis specified below.

Depreciation of fixed assets is provided from the preceding year of purchase or construction of assets. Depreciation of written off or disposed off assets are provided in the current year fully. To depreciate assets straight line method is adopted.

### **1.2.4 Depreciation**

	<b>Useful life (Years)</b>	<b>Rate % per annum</b>
1. Building	40	2.5%
2. Plant, machinery and equipment	13.3	7.5%
3. Equipment	10	10%
4. Furniture and Fittings	10	10%
5. Electricity, Telephone & Fittings	10	10%
6. Library Books	10	10%
7. Vehicles	5	20%

In all cases the basis of depreciation is consistent with those of previous year. No depreciation is provided for land

### **1.3. Liabilities**

Gratuity has been paid to employees who have resigned or retired, under the Gratuity Act. No. 12 of 1983.

**1.4.**An Insurance scheme has been introduced by the I.P.H.T.to cover all Assets and the employees of the institute.



**INSTITUTE OF POST HARVEST TECHNOLOGY**  
**INCOME STATEMENT**  
**FOR THE YEAR ENDED 31 ST DECEMBER 2002**

		Year Ended 31 st December 2002 Rs	Year Ended 31 st December 2001 Rs
<b>INCOME</b>	<b>Note</b>		
Funds Received from General Treasury	02	16,300,000.00	4,650,000.00
Other Oprating Income	03	13,280,348.98	37,431,119.63
Rice Based FOOD Product Development Plant Noodles Profit & Loss Account	04	(3,259,902.87)	(1,039,395.60)
		26,320,446.11	41,041,724.03
Administration & Establishment Expenditure	05	26,916,564.11	18,159,428.32
<b>Net Income from Operations before financing cost</b>	06	(596,118.00)	22,882,295.71
Financing cost		22,434.98	24,960.60
<b>Net Income Before Taxation</b>	07	(618,552.98)	22,857,335.11
Taxation	08	-	-
<b>Net Income after Taxation &amp; before Extraordinary Items</b>		(618,552.98)	22,857,335.11
Extraordinary Items		-	-
<b>NET INCOME /(LOSS)</b>		(618,552.98)	22,857,335.11

sgd:  
Chairman

sgd:  
Director

sgd:  
Accountant

**INSTITUTE OF POST HARVEST TECHNOLOGY**  
**BALANCE SHEET AS AT 31ST DECEMBER 2002**

		Balance as at 31.12. 2002 Rs.	Balance as at 31.12. 2001 Rs.
	Note		
<b>ASSETS</b>			
FIXED ASSETS	09	67,635,313.43	63,537,589.70
NON CURRENT ASSETS	10	97,504,800.00	291,330,000.00
<b>TOTAL NON CURRENT ASSETS</b>		<b><u>165,140,113.43</u></b>	<b><u>354,867,589.70</u></b>
<b>CURRENT ASSETS</b>	11	<b>23,999,156.17</b>	<b>41,096,340.38</b>
<b>TOTAL ASSETS</b>		<b><u><u>189,139,269.60</u></u></b>	<b><u><u>395,963,930.08</u></u></b>
<b>FINANCED BY</b>			
<b>EQUITY &amp; LIABILITIES</b>			
Initiate Capital	12	152,519,190.02	352,519,190.02
Funds Received from General Treasury	13	4,750,000.00	4,750,000.00
Accumulative Revenue		29,222,287.94	36,579,991.55
		<b>186,491,477.96</b>	<b>393,849,181.57</b>
<b>NON CURRENT LIABILITIES</b>		-	-
<b>TOTAL NON CURRENT LIABILITIES</b>		<b><u>186,491,477.96</u></b>	<b><u>393,849,181.57</u></b>
<b>CURRENT LIABILITIES</b>	14	<b>2,647,791.64</b>	<b>2,114,748.51</b>
<b>TOTAL LIABILITIES</b>		<b><u><u>189,139,269.60</u></u></b>	<b><u><u>395,963,930.08</u></u></b>

sgd:  
Chairman

sgd:  
Director

sgd:  
Accountant

**STATEMENT OF CHANGES IN EQUITY**

**INSTITUTE OF POST HARVEST TECHNOLOGY**

**STATEMENT OF CHANGES IN EQUITY**

**AS AT 31ST DECEMBER 2002**

	<b>Capital</b>	<b>Accumulative</b>
	<b>Rs.</b>	<b>Revenue</b>
		<b>Rs.</b>
<b>Balance As at 1.1.2002</b>	<b>352,519,190.02</b>	<b>36,579,991.55</b>
<b>Previous Year Adjustment</b>		
Fund Given to General Treasury	(200,000,000.00)	
Capital Assets Purchases	J-12	116,345.00
Under Provision for Depreciation	J-13	(2'001,312.50)
Fual Charges	J-15	(1,768.25)
Purchases of Bottles	J-23	7,535.00
Training fees	J-26	1,835.01
Training fees	J-39	41,797.24
Purchases of Books	J-40	(77,381.89)
Non refundable Tender Deposits	J-42	500.00
Noodles Sales Returned	J-45	(19,536.00)
Noodles Stocks Devaluation	J-47	684.82
Consumed Diesel	J-54	(419.25)
Tax Provision Write off	J-60	3,038.75
Not realized Interest Income	J-64	(5,343,271.55)
Taxes for Not realized Interest Income	J-65	532,531.10
Rice Flour Stocks Devaluation	J-80	271.89
Income & Expenditure Account		(618,552.98)
<b>TOTAL</b>	<b><u>352,519,190.02</u></b>	<b><u>29,222,287.94</u></b>

**INSTITUTE OF POST HARVEST TECHNOLOGY**

**CASH FLOW STATEMENT**

**FOR THE YEAR ENDED 31 ST DECEMBER 2002**

		<b>Balance as at 31.12. 2002 Rs.</b>	<b>Balance as at 31.12. 2001 Rs.</b>
<b>Cash Flow from Operating Activities</b>			
Net Profit before taxation Extraordinary Items		(618,552.98)	22,857,335.11
<b>Adjustment for :</b>			
Depreciation : Current year		6,077,046.33	2,780,095.31
Gratuity paid		137,525.00	80,340.00
Interest Income		(13,666,148.34)	(39,841,953.77)
Interest Expenses		1,130,898.01	3,227,183.59
Bank Loan Interest		22,434.98	24,960.60
Previous Year Adjustment - Profit & Loss Account		(4,854,183.13)	9,021,644.49
<b>Operating profit before working capital charges</b>		<b>(11,770,980.13)</b>	<b>(1,850394.67)</b>
<b>Working capital Changes</b>			
(Increase )/Decrease in non - current Assets	<b>15</b>	193,825,200.00	(1,330,000.00)
(Increase )/Decrease in current Assets	<b>16</b>	15,474,564.42	(20,999,207.39)
Increase /(Decrease) in non - current Liability		-	-
Increase /(Decrease) in current Liability	<b>17</b>	533,043.13	(2,235,933.46)
<b>Cash Generated from Operations</b>		<b>198,061,827.42</b>	<b>26,415,535.52</b>
<b>Non operating activities</b>			
Bank Loan Interest		(22,434.98)	(24,960.60)
Gratuity paid		(137,525.00)	(80,340.00)
Income Tax Paid			
<b>Net Cash flow/(outflow) from Operating activities : ( A )</b>		<b>197,901,867.44</b>	<b>26,520,836.12</b>
<b>Cash flow from Investing Activities</b>			
Purchase of Fixed Assets		(12,059,737.56)	(13,308,099.51)
Previous Year Adjustment - Fixed Assets			1,401,245.01
Net Interest Received		12,535,250.33	36,614,770.18
<b>Net Cash flow/(outflow) from Investing activities ( B )</b>		<b>475,512.77</b>	<b>24,707,915.68</b>
<b>Financing activities</b>			
Repayment & Loan			(5,000,000.00)
Previous Year Adjustment - Capital		(200,000,000.00)	24,327.55
Capital From General Treasury			700,000.00
Bank Loan			5,000,000.00
<b>Net Cash used in Financing activities ( C )</b>		<b>(200,000,000.00)</b>	<b>724,327.55</b>
<b>Net Increase/( Decrease )in Cash and Cash Equivalents ( A+B+C )</b>		<b>(1,622,619.79)</b>	<b>(1,088,592.89)</b>
<b>Cash &amp; Cash Equivalents at the beginning of period</b>	<b>18</b>	<b>6,095,698.43</b>	<b>7,184,291.32</b>
<b>Cash &amp; Cash Equivalents at the end of period</b>	<b>19</b>	<b>4,473,078.64</b>	<b>6,095,698.43</b>

	Year Ended 31 st December 2002 Rs	Year Ended 31 st December 2001 Rs
<b>2 Funds Received from General Treasury - Recurrent</b>		
Income and expenditure Account	16,300,000.00	4,650,000.00
	<b><u>16,300,000.00</u></b>	<b><u>4,650,000.00</u></b>

### 3 Other Oprating Income

Rice Sales Profit	3.1 (14,436.71)	1,353.94
Rice Flour Sales Profit	3.2 2,571.48	11,187.83
Damage Paddy Sales	3.3 (52,127.56)	
Damage Sales -Losses	3.4 (124,806.14)	
Machinery Sales	3.5 53,430.04	1,048.70
Guner Bissa Sales	570.00	
Hostel Income	133,041.50	148,751.83
Training Programmed	317,624.49	319,785.64
Auditorium fees	26,000.00	20,000.00
House Rent	24,900.00	22,525.00
General Income	20,883.88	89,260.66
Consultancy fees	65,543.25	91,653.88
Sale of Publications	16,291.00	13,980.50
Paddy Sample analysis	2,000.00	3,300.00
Rice Sample analysis	4,870.00	
Colour sorting Income	254,599.75	
Mun Biens Sales	3,008.50	
Telephone Income		35,831.62
Sale of Fruit Product	3.6 322.00	
Interest Income	3.7 12,535,250.33	36,614,770.18
Charges	930.00	57,669.85
Non Refandable Tender Deposits	7,750.00	
	<b><u>13,280,348.98</u></b>	<b><u>37,431,119.63</u></b>

### 3.1 Rice Sales Profit and Loss Account

	Rs	Rs
<b>Sales - Rice</b>		<b>49,626.00</b>
- Rice Brand		<b><u>4,548.00</u></b>
		<b>54,174.00</b>

#### Cost of sale

Add:Received from Mill	68,105.18	
Received Rice Packet Project	3,159.57	
	<u>71,264.75</u>	
Balance as at 31.12.2002	2,654.04	
<b>Cost of Production - Sale of Rice</b>		<b>68,610.71</b>

<b>Rice Sales Profit</b>		<b><u>(14,436.71)</u></b>
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	Rs	Rs
<b>3.2 Rice Flour Sales Profit and Loss Account</b>		
<b>Sales</b>		<b>11,306.00</b>
<b>Cost of sale</b>		
Balance 1.1.2002	4,086.63	
Opening Exsess Stocks	271.89	
	<u>4,358.52</u>	
Rice Flour From Milling	7,245.95	
	<u>11,604.47</u>	
For Research	1,721.97	
	<u>9,882.50</u>	
Balance 13.12.2002	1,147.98	
<b>Cost of sale</b>		<u><b>8,734.52</b></u>
<b>Rice Flour Sales Profit</b>		<u><u><b>2,571.48</b></u></u>

<b>3.3 Damage Paddy Sales</b>	
<b>Sales</b>	55,105.00
<b>Cost of sale</b>	
Received from Rice Mill Damage Paddy	
Book Value	<u>(107,232.56)</u>
<b>Paddy Sales Profit</b>	<u><u><b>(52,127.56)</b></u></u>

<b>3.4 Damage Sales -Losses</b>	
Stors -Paddy	18,751.02
Mill -Paddy	40,589.28
Mill -Rice	40,058.69
By -Products	16,292.15
Packiting Mattrials	9,115.00
	<u><u><b>(124,806.14)</b></u></u>

Note Machinery Manufacturing Trading	Rs	Rs
<b>3.5 Profit &amp; Loss Account</b>		
<b>Machinery Sales</b>		<b>169,238.10</b>
 <b>Machinery Cost Sales</b>		
Raw Material Balance as at 1.1.2002	22,314.50	
Add: Purchases Raw material	94,327.00	
	<u>116,641.50</u>	
Wages	5,000.00	
	<u>121,641.50</u>	
Raw Materials Balance as at 31.12.2002	45,477.75	
<b>Machinery Manufacturing Cost C/F</b>	<u><u>76,163.75</u></u>	
 Machinery Balance as at 1.1.2002	202,688.60	
Machinery Manufacturing Cost B/F	76,163.75	
	<u>278,852.35</u>	
Machinery Balance as at 31.12.2002	166,805.00	
<b>Production Cost -Sale of Machinery</b>	<u><u>112,047.35</u></u>	
<b>Add: Expenses</b>		
Machinery Transport Expenses	3,760.71	
<b>Cost of Sale</b>		<b>115,808.06</b>
 <b>Profit</b>		<u><u>53,430.04</u></u>
 <b>3.6 Sale of Fruit Product Sales Profit and Loss Account</b>		
<b>Sales</b>		
Fruit Drinks		4,191.00
Bottle sales		<u>(322.00)</u>
		3,869.00
Jam		10,485.00
Palpes		<u>112.00</u>
		<b>14,466.00</b>
 <b>Cost of sale</b>		
Add: Purchases Raw material	11,580.50	
Bottles Depreciations	752.33	
<b>Cost of sale</b>		<u><u>12,332.83</u></u>
		<b>2,133.17</b>
<b>Bottle Sales</b>		<u><u>322.00</u></u>
<b>Profit</b>		<u><u>2,455.17</u></u>
 <b>3.7 Interest Income</b>		
National Saving Bank 2- 0001- 12-36628 -Kollupitiya		8,404,300.04
National Saving Bank 2- 0001- 11-15774 -Kollupitiya		4,654,170.09
National Saving Bank 1- 0005- 04-9129-2-Anuradhapura		41,158.70
National Saving Bank 1- 0001- 07-32087-Kollupitiya		<u>566,519.51</u>
		<b>13,666,148.34</b>
 <b>With Holding Tax</b>		
National Saving Bank 2- 0001- 12-36628 -Kollupitiya	988,964.51	
National Saving Bank 2- 0001- 11-15774 -Kollupitiya	107,942.40	
National Saving Bank 1- 0001- 07-32087-Kollupitiya	33,991.10	
		<u><u>1,130,898.01</u></u>
		<u><u>12,535,250.33</u></u>

**INSTITUTE OF POST HARVEST TECHNOLOGY  
INCOME STATEMENT  
FOR THE YEAR ENDED 31 ST DECEMBER 2002**

**RICE BASED FOOD PRODUCT DEVELOPMENT AND  
DEMONSTRATION PILOT PLANT (NOODLES)**

Note		Year Ended 31 st December 2002 Rs	Year Ended 31 st December 2001 Rs
4			
	<b>SALES :</b>	<b>795,280.00</b>	<b>711,081.00</b>
	Less : Taxes	-	-
	<b>NET SALES</b>	<b>795,280.00</b>	<b>711,081.00</b>
	 <b>COST OF SALES</b>		
	<b>RAW MATERIAL CONSUMED</b>		
	Stock as at 1.1. 2002		
	Add: Purchases Rice	-	-
	Received from Rice Mill	4.1 162,398.35	157,935.53
	Received from Rice Flour Mill		449.37
		<u>162,398.35</u>	<u>158,384.90</u>
	Less : Stock as at 31 st December 2002		
		<b>162,398.35</b>	<b>158,384.90</b>
	<b>Direct Expenses</b>		
	Packing Material	4.2 175,552.64	75,564.88
	Packing - Wages	13,878.92	10,426.75
		<u>351,829.91</u>	<u>244,376.53</u>
	<b>Factory Over heads</b>		
	Electricity	187,044.23	113,269.49
	Water	58,149.60	63,824.40
	Diesel	4.3 79,534.77	70,481.23
	Vegetable Oil	1,860.00	1,482.00
	Repairs to Machinery	51,934.88	126,739.57
	Building Maintenance	17,418.68	37,957.25
	Sundry	2,858.88	
	Depreciation	4.4 3,199,152.17	1,197,839.67
	<b>Cost of Goods Manufactured C / F</b>	<b>3,949,783.12</b>	<b>1,855,970.14</b>
	Stock as at 1.1. 2002	330,173.68	224,680.14
	Opening Exsess Stocks	684.82	
	Add : Cost of Goods Manufactured B / F	3,949,783.12	1,855,970.14
		<u>4,280,641.62</u>	<u>2,080,650.28</u>
	Less : Stock as at 31.1. 2002	225,458.75	330,173.68
	Cost of Sales	4,055,182.87	1,750,476.60
	 <b>GROSS PROFIT / LOSS</b>	<b>(3,259,902.87)</b>	<b>(1,039,395.60)</b>



**Note**

**4.1 PADDY STORES, RICE MILL PADDY & RICE MILL  
RICE PRODUCTION**

	Rs	Rs
<b>Paddy Stores - Paddy</b>		
Balance as at 1.1.2002	162,446.52	
Add: Purchases Rice	182,350.00	
	<u>344,796.52</u>	
Stors - Damage Paddy	(18,751.02)	
	<u>326,045.50</u>	
Balance as at 31.12.2002	(100,831.98)	
<b>Issued for Rice Mill</b>	<u><u>225,213.52</u></u>	
<b>Rice Mill - Paddy</b>		
Balance as at 1.1.2002	147,821.84	
Add: Received from Stores	225,213.52	
	<u>373,035.36</u>	
Rice Mill - Damage Paddy	(40,589.28)	
Paddy Sale Account Cost Sales Paddy	(107,232.56)	
	<u>225,213.52</u>	
Balance as at 31.12.2002		
<b>Rice Production C/ F</b>	<u><u>225,213.52</u></u>	
<b>Rice Mill - Rice</b>		
Balance as at 1.1.2002		109,356.31
Rice Production B/ F		<u>225,213.52</u>
		<b>334,569.83</b>
Rice Mill - Damage Rice		(40,058.69)
		<u>374,628.52</u>
Balance as at 31.12.2002		(53,602.09)
		<u>240,909.05</u>
Less: Rice Flour Mill	7,245.95	
Rice Sales Account	68,105.18	
Rice Packet Project	3,159.57	
	<u>78,510.70</u>	
<b>Noodles Manufacturing Account</b>		<u><u>162,398.35</u></u>

**Note**

**4.2 Packing Material**

Balance as at 1.1.2002		928,543.83
Add: Purchase		19,663.20
		<u>948,207.03</u>
Damages Packeting Matrials		(9,115.00)
		<u>939,092.03</u>
Balance as at 31.12.2002		763,539.39
<b>Noodles Manufacturing Account</b>		<u><u>175,552.64</u></u>

	Rs	Rs
<b>4.3 Diesel</b>		
<b>4.3.1 Noodles Manufacturing</b>		
Balance as at 1.1.2002	2,378.69	
Add: Purchase	138,166.67	
	<u>140,545.36</u>	
Balance as at 31.12.2002	(61,010.59)	
<b>Noodles Manufacturing Account</b>	<u><u>79,534.77</u></u>	
<b>4.3.2 Generator</b>		
Balance as at 1.1.2002	6,819.93	
Opening Excess Stocks Adjustment	419.25	
	<u>6,400.68</u>	
Add: Purchase	19,543.33	
	<u>25,944.01</u>	
Balance as at 31.12.2002	(11,969.15)	
<b>Fuel for Generator</b>	<u><u>13,974.86</u></u>	
<b>4.4 Depreciation</b>		
Building	1,015,902.17	
Machinery	2,183,250.00	
	<u>3,199,152.17</u>	

Note 5	Head Office	Research and Development Centre
Note	Rs	Rs
<b>Administration &amp; Establishment Expenditure</b>		
Salaries & Wages-monthly paid staff	890,247.46	10,148,243.68
Daily paid staff	157,229.77	1,278,857.50
E.P.F.	25,850.70	936,429.27
E.T.F.	3,229.99	234,608.55
Overtime and Holiday Pay	37,338.02	235,590.22
Other allowance		29,000.00
Bonus		
Gratuity		137,525.00
Traveling expenses-Domestic	61,750.16	458,300.14
Traveling expenses-Foreign	361,468.27	
Printing and Stationery	60,795.26	331,289.80
Office Requisites, Sundry expenses	1,348,324.56	231,538.16
Staff tea	11,918.00	129,381.50
Consumable for Research projects		389,227.58
Periodicals, journals and news papers	63,967.00	143,847.98
Running expenses of Hostel and kitchen		176,986.70
Research Projects		752,748.22
Seminars		76,527.09
Training Programs		177,784.65
Entertainment	1,045.62	558.00
Contract Labour	6,865.00	58,229.27
Welfare		
Running expenses vehicles	166,877.55	633,979.91
Vehicles maintenance	126,666.08	735,643.60
Insurance and licenses	137,756.85	125,252.39
Buildings and Structures		1,100,189.40
Machinery	84,873.78	503,783.22
Telecommunication	227,930.29	403,939.57
Postal charges	2,844.50	22,971.00
Electricity		438,413.07
Water, Rates and Taxes		148,470.76
House Rent	204,000.00	4,400.00
Generator Useses		13,974.86
Special Project - Post Harvest Losses		
Special Project - Milling Survey		
Depreciation		

	<b>3,980,978.86</b>	<b>20,057,691.09</b>
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**5.1 Depreciation**

Building  
 Plant, machinery and equipment  
 Equipment  
 Furniture and Fittings  
 Electricity Telephone & Fittings  
 Library Books  
 Vehicles

**Note**

**6 Note**

Following deductions have been made when computing the operational profit

	<b>Rs</b>	
1.Losses and damages of stocks	124,806.14	
2.Payment of Gratuity to employees	137,525.00	

**Note**

**7**

	<b>Head Office</b>	<b>Research and Development Centre</b>
<b>Note</b>	<b>Rs</b>	<b>Rs</b>
<b>Financial Expenses</b>		
Bank Charges & Taxes	950.00	21,484.98
	<b>950.00</b>	<b>21,484.98</b>

**8 Note**

Payment of income tax has not been done in cash payment  
 However with holding tax has been deducted from the impress  
 received on fixed deposits and savings. We have been  
 submitted income tax reports to the in Land Revenue.

**9** Transfer of Assets of the Paddy Marketing Board to the I.P.H.T.

is not yet over. However the final report of the committee  
 appointed to value the Assets has been forwarded to the  
 Treasury through the ministry of Agriculture and Livestock  
 The Book values of the P.M.B. Assets are used But the value  
 of Land is not shown in the Accounts.

Note	Balance as at 31.12. 2002 Rs.	Balance as at 31.12. 2001 Rs.
<b>10 Non - Current Assets</b>		
<b>Deposits</b>		
National Saving Bank 2- 0001- 12-36628 -Kollupitiya	57,504,800.00	250,000,000.00
National Saving Bank 2- 0001- 11-15774 -Kollupitiya	40,000,000.00	41,330,000.00
	<b><u>97,504,800.00</u></b>	<b><u>291,330,000.00</u></b>
<b>11 Current Assets</b>		
Stocks	11.1 1,437,701.43	1,932,922.68
Advances	11.2 4,844,394.12	2,458,694.21
Deposits	11.3 675.00	5,275.00
Detours Control Account	11.4 132,482.40	247,245.30
Accrued Income	11.5 8,843,191.91	12,669,187.95
Other Debtors	11.6 165,733.33	
Savings	11.7 4,101,899.34	17,687,316.81
<b>Cash at Bank</b>	11.8 4,473,078.64	6,095,698.43
	<b><u>23,999,156.17</u></b>	<b><u>41,096,340.38</u></b>
<b>11.1 Current Assets</b>		
<b>Stocks</b>		
Noodles	225,458.75	330,173.68
Rice-Noodles Project-Rice flour	1,147.98	4,086.63
Rice Mill -Rice	56,256.13	109,356.31
Paddy - Rice mill		147,821.84
Stors -Paddy	100,831.98	162,446.52
By-Product		16,292.15
Machinery - Raw material	45,477.75	22,314.50
Machinery	166,805.00	202,688.60
Diesel - Factory	61,010.59	2,378.69
- Generator	11,969.15	6,819.93
Bottles	5,204.71	
Packing material	763,539.39	928,543.83
	<b><u>1,437,701.43</u></b>	<b><u>1,932,922.68</u></b>
<b>11.2 Advances</b>		
Salary	403,997.00	378,497.00
Festival	62,266.65	39,766.65
Traveling	10,642.80	17,770.50
Half monthly	150.00	150.00
Suspense Account - General		126,624.68
Intering Advance -General R&D	41,331.03	8,310.50
Intering Advance -General - Head Office	4,213,769.14	1,810,937.42
Suspense Account Salary - Head Office	112,237.50	76,637.46
	<b><u>4,844,394.12</u></b>	<b><u>2,458,694.21</u></b>

	Balance as at 31.12. 2002 Rs.	Balance as at 31.12. 2001 Rs.
<b>Note</b>		
<b>11.3 Deposits</b>		
Services	675.00	5,275.00
<b>11.4 Debtors Control Account</b>		
Rice	23,919.25	23,785.25
By-product	6,575.00	6,983.00
Others	101,988.15	216,477.05
	<u>132,482.40</u>	<u>247,245.30</u>
<b>11.5 Other Debtors</b>		
NSB - Kollupitiya	165,733.33	
<b>11.6 Accrued Income</b>	8,843,191.91	12,669,187.95
<b>11.7 Savings</b>		
National Saving Bank 1- 0005- 04-9129-2-Anuradhapura	600,693.76	999,547.08
National Saving Bank 1- 0001- 07-32087-Kollupitiya	3,501,205.58	16,687,769.73
	<u>4,101,899.34</u>	<u>17,687,316.81</u>
<b>11.8 Cash &amp; Cash equivalents</b>		
Bank of Ceylon - Torinton	3,495,591.40	5,829,497.00
People's Bank -Anuradhapura	977,487.24	266,201.43
	<u>4,473,078.64</u>	<u>6,095,698.43</u>

## 12 Note

The initiate Capitals of the INSTITUTE OF POST HARVEST TECHNOLOGY shown Rs. 500,000,000.00 However as the Starting balance in 2002.1. Was Rs.352,519,190.02 received from the P.M.B. out of this account.Rs.200,000,000 was paid back to the Treasury on their request.

## 13 Note

The institute has received from the treasury on capital expenditure from 2000 to 2002 Rs. 4,750,000.00

## Note

### 14 Current Liabilities

Advances	14.1	88,352.38	2,744.58
Accrued Expenses	14.2	1,691,464.43	1,847,650.71
Detors	14.3	0.00	400.00
Deposits	14.4	467,317.75	79,118.45
Retention	14.5	400,657.08	184,834.77
		<u>2,647,791.64</u>	<u>2,114,748.51</u>

#### 14.1 Advances

Suspense Account - General	85,607.80	
Suspense Account - Salary	2,744.58	2,744.58
	<u>88,352.38</u>	<u>2,744.58</u>

#### 14.2 Accrued Expenses

Accrued Tax for Interest	732,846.41	1,088,113.45
Accrued Expenses - R & D	899,197.33	756,498.51
Accrued Expenses - Head Office G.S.T.	59,420.69	3,038.75
	<u>1,691,464.43</u>	<u>1,847,650.71</u>

#### 14.3 Detors

Sales outlet		400.00
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#### 14.4 Deposits

Contract Supplies	15,560.00	15,264.70
Tender - R&D	7,920.00	10,420.00
Tender - Head Office	421,804.00	31,400.00
Other deposits	22,033.75	22,033.75
	<u>467,317.75</u>	<u>79,118.45</u>

#### 14.5 Retention

Contract Works	329,631.18	103,091.23
Unpaid - salary	54,958.33	65,675.97
Unpaid - wages	16,067.57	16,067.57
	<u>400,657.08</u>	<u>184,834.77</u>

	Balance as at 31.12. 2002 Rs.	Balance as at 31.12. 2001 Rs.
<b>15 Non - Current Assets</b>		
<b>Deposits</b>		
National Saving Bank 2- 0001- 12-36628 -Kollupitiya	57,504,800.00	250,000,000.00
National Saving Bank 2- 0001- 11-15774 -Kollupitiya	40,000,000.00	41,330,000.00
	<b><u>97,504,800.00</u></b>	<b><u>291,330,000.00</u></b>
<b>Balance as at 1.1.2001</b>	291,330,000.00	290,000,000.00
<b>Less : Balance as at 31.12.2002</b>	97,504,800.00	291,330,000.00
<b>Increase / Decrease Non Current Assets</b>	<b><u>(193,825,200.00)</u></b>	<b><u>1,330,000.00</u></b>
<b>16 Current Assets</b>		
Stocks	<b>16.1</b> 1,437,701.43	1,932,922.68
Advances	<b>16.2</b> 4,844,394.12	2,458,694.21
Deposits	<b>16.3</b> 675.00	5,275.00
Debtors Control Account	<b>16.4</b> 132,482.40	247,245.30
Other Debtors	<b>16.5</b> 165,733.33	
Accrued Income	<b>16.6</b> 8,843,191.91	12,669,187.95
Savings	<b>16.7</b> 4,101,899.34	17,687,316.81
	<b><u>19,526,077.53</u></b>	<b><u>35,000,641.95</u></b>
<b>Balance as at 1.1.2001</b>	35,000,641.95	14,001,434.56
<b>Less : Balance as at 31.12.2002</b>	19,526,077.53	35,000,641.95
<b>Increase / Decrease Current Assets</b>	<b><u>(15,474,564.42)</u></b>	<b><u>20,999,207.39</u></b>
<b>16.1 Stocks</b>		
Noodles	225,458.75	330,173.68
Rice-Noodles Project-Rice flour	1,147.98	4,086.63
Rice Mill -Rice	56,256.13	109,356.31
Paddy - Rice mill		147,821.84
Stors -Paddy	100,831.98	162,446.52
By-Product		16,292.15
Machinery - Raw material	45,477.75	22,314.50
Machinery	166,805.00	202,688.60
Diesel - Factory	61,010.59	2,378.69
- Generator	11,969.15	6,819.93
Bottles	5,204.71	
Packing material	763,539.39	928,543.83
	<b><u>1,437,701.43</u></b>	<b><u>1,932,922.68</u></b>
<b>16.2 Advances</b>		
Salary	403,997.00	378,497.00
Festival	62,266.65	39,766.65
Traveling	10,642.80	17,770.50
Half monthly	150.00	150.00
Suspense Account - General		126,624.68
Intering Advance -General R&D	41,331.03	8,310.50
Intering Advance -General - Head Office	4,213,769.14	1,810,937.42
Suspense Account Salary - Head Office	112,237.50	76,637.46
	<b><u>4,844,394.12</u></b>	<b><u>2,458,694.21</u></b>



	Balance as at 31.12. 2002 Rs.	Balance as at 31.12. 2001 Rs.
<b>16.3 Deposits</b>		
Services	675.00	5,275.00
<b>16.4 Detours Control Account</b>		
Rice	23,919.25	23,785.25
By-product	6,575.00	6,983.00
Others	101,988.15	216,477.05
	<u>132,482.40</u>	<u>247,245.30</u>
<b>16.5 Other Debtors</b>		
NSB - Kollupitiya	165,733.33	
<b>16.6 Accrued Income</b>	8,843,191.91	12,669,187.95
<b>16.7 Savings</b>		
National Saving Bank 1- 0005- 04-9129-2-Anuradhapura	600,693.76	999,547.08
National Saving Bank 1- 0001- 07-32087-Kollupitiya	3,501,205.58	16,687,769.73
	<u>4,101,899.34</u>	<u>17,687,316.81</u>
<b>17 Current Liabilities</b>		
Advances	11.1 88,352.38	2,744.58
Accrued Expenses	11.2 1,691,464.43	1,847,650.71
Detors	11.3 0.00	400.00
Deposits	11.4 467,317.75	79,118.45
Retention	11.5 400,657.08	184,834.77
	<u>2,647,791.64</u>	<u>2,114,748.51</u>
<b>17.1 Advances</b>		
Suspense Account - General	85,607.80	
Suspense Account - Salary	2,744.58	2,744.58
	<u>88,352.38</u>	<u>2,744.58</u>
<b>17.2 Accrued Expenses</b>		
Accrued Tax for Interest	732,846.41	1,088,113.45
Accrued Expenses - R & D	899,197.33	756,498.51
Accrued Expenses - Head Office	59,420.69	
G.S.T.		3,038.75
	<u>1,691,464.43</u>	<u>1,847,650.71</u>
<b>17.3 Detors</b>		
Sales outlet		400.00

Note	Balance as at 31.12. 2002 Rs.	Balance as at 31.12. 2001 Rs.
<b>17.4</b>		
<b>Deposits</b>		
Contract Supplies	15,560.00	15,264.70
Tender - R&D	7,920.00	10,420.00
Tender - Head Office	421,804.00	31,400.00
Other deposits	22,033.75	22,033.75
	<b>467,317.75</b>	<b>79,118.45</b>
<b>17.5 Retention</b>		
Contract Works	329,631.18	103,091.23
Unpaid - salary	54,958.33	65,675.97
Unpaid - wages	16,067.57	16,067.57
	<b>400,657.08</b>	<b>184,834.77</b>
<b>18 Cash &amp; Cash equivalents at the beginning of period</b>		
<b>Cash at Bank</b>		
Bank of Ceylon - Torinton	5,829,497.00	6,173,751.46
People's Bank -Anuradhapura	266,201.43	1,010,539.86
<b>Cash &amp; Cash equivalents as at 31.12.2001</b>	<b>6,095,698.43</b>	<b>7,184,291.32</b>
<b>19 Cash &amp; Cash equivalents at the ending of period</b>		
<b>Cash at Bank</b>		
Bank of Ceylon - Torinton	3,495,591.40	5,829,497.00
People's Bank -Anuradhapura	977,487.24	266,201.43
<b>Cash &amp; Cash equivalents as at 31.12.202</b>	<b>4,473,078.64</b>	<b>6,095,698.43</b>





<b>Funds Received General Treasury Rs.</b>	<b>Total Rs.</b>
<b>4,750,000.00</b>	<b>393,849,181.57</b>
	<b>(200,000,000.00)</b>
	<b>116,345.00</b>
	<b>(2,001,312.50)</b>
	<b>(1,768.25)</b>
	<b>7,535.00</b>
	<b>1,835.01</b>
	<b>41,797.24</b>
	<b>(77,381.89)</b>
	<b>500.00</b>
	<b>(19,536.00)</b>
	<b>684.82</b>
	<b>(419.25)</b>
	<b>3,038.75</b>
	<b>(5,343,271.55)</b>
	<b>532,531.10</b>
	<b>271.89</b>
	<b>(618,,552.98)</b>
<b><u>4,750,000.00</u></b>	<b><u>186,491,477.96</u></b>

















<b>Year Ended 31 st December 2002 Rs</b>	<b>Year Ended 31 st December 2001 Rs</b>
11,038,491.14	7,031,358.23
1,436,087.27	1,864,800.33
962,279.97	627,342.62
237,838.54	154,113.53
272,928.24	224,271.92
29,000.00	
0.00	73,012.02
137,525.00	80,340.00
520,050.30	280,029.42
361,468.27	487,293.07
392,085.06	222,125.87
1,579,862.72	642,382.85
141,299.50	125,034.90
389,227.58	173,692.51
207,814.98	206,762.38
176,986.70	60,418.15
752,748.22	234,222.03
76,527.09	91,473.75
177,784.65	129,720.25
1,603.62	8,886.00
65,094.27	12,925.00
0.00	2,985.00
800,857.46	627,028.10
862,309.68	625,288.42
263,009.24	325,357.20
1,100,189.40	795,018.85
588,657.00	253,526.46
631,869.86	520,196.58
25,815.50	25,747.00
438,413.07	315,527.23
148,470.76	145,165.18
208,400.00	
13,974.86	
	204,629.03
	6,498.80
2,877,894.16	1,582,255.64

<b>26,916,564.11</b>	<b>18,159,428.32</b>
198,756.71	160,086.10
789,551.49	187,169.54
35,368.90	
47,553.96	
12,788.50	
18,874.80	
1,774,999.80	1,235,000.00
<b>2,877,894.16</b>	<b>1,582,255.64</b>

<b>Year Ended 31 st December 2002 Rs</b>	<b>Year Ended 31 st December 2001 Rs</b>
22,434.98	24,960.60
<b>22,434.98</b>	<b>24,960.60</b>















**INSTITUTE OF POST HARVEST TECHNOLOGY**

**FIXED ASSETS**

**BALANCE AS AT 31ST DECEMBER 20x1**

Note	No	Balance as at 01.01.20x1	Adjustment to Opening Balance	Disposed	Additions During the Year	Balance as at 31.12.20x1	Aggregated Depreciation as at 1.1.20x1	Adjustment to Opening Balance	Disposed	Depreciation for the Year	Aggregated Depreciation as at 31.12.20x1	Balance as at 31.12.20x1	Balance as at 31.12.20x0
		Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
<b>6</b>	<b>FIXED ASSETS</b>												
<b>6.1</b>	<b>Land &amp; Building</b> Office ,Laboratory Workshop & Mill Office ,Laboratory Workshop Rice Mill Rice Based Food Products Plant <b>Sub Total</b>												
<b>6.2</b>	<b>Plant, machinery and equipment</b> Office ,Laboratory Workshop & Mill Rice Based Food Products Plant <b>Sub Total</b>												
<b>6.3</b>	<b>Equipment</b> Office ,Laboratory Workshop & Mill Stores <b>Sub Total</b>												
<b>6.4</b>	<b>Furniture and Fittings</b> Office ,Laboratory Workshop Rice Mill <b>Sub Total</b>												
<b>6.5</b>	<b>Electricity and Telephone Fittings</b> Office ,Laboratory Workshop Rice Mill <b>Sub Total</b>												
<b>6.6</b>	<b>Library Books</b> <b>Sub Total</b>												
<b>6.7</b>	<b>Vehicles</b> <b>Sub Total</b>												
	<b>Total</b>												

**Note**

**Depreciation**

1 Building	2.5%
2 Plant, machinery and equipment	7.5%
3 Equipment	10%
4 Furniture and Fittings	10%
5 Electricity Telephone & Fittings	10%
6 Library Books	10%
7 Vehicles	20%



Note  
9 - A

Descriptions	No	Balance as at 1.1.2001 Rs	Adjustment to Opening Balance Rs	Disposed Rs	Additions During the Year Rs	Balance as at 31.12.2002 Rs	Aggregated Depreciation as at 1.1.2001 Rs	Adjustment to Opening Balance Rs	Disposed Rs	Depreciation for the Year Rs	Aggregated Depreciation as at 31.12.2002 Rs	Balance as at 31.12.2002 Rs
<b>Buildings</b>												
Office ,Laboratory Workshop & Mill		5,249,014.85				5,249,014.85	3,149,408.91			131,225.37	3,280,634.28	1,968,380.57
Boundary wall		95,997.00			152,946.40	248,943.40	2,399.93			2,399.93	4,799.86	244,143.55
Bachelor Quarters	1	959,227.75				959,227.75	23,980.69			23,980.69	47,961.38	911,266.37
Workshop Extension	1	1,150,620.01				1,150,620.01				28,765.50	28,765.50	1,121,854.51
Airconditioners	6	495,408.77				495,408.77	2,480.11			12,385.22	14,865.33	480,543.44
Twin Quarters	2				2,363,726.22	2,363,726.22						2,363,726.22
Room-Partician					50,150.00	50,150.00						50,150.00
<b>Sub Total</b>		<b>7,950,268.38</b>	<b>0.00</b>	<b>0.00</b>	<b>2,566,822.62</b>	<b>10,517,091.00</b>	<b>3,178,269.64</b>	<b>0.00</b>	<b>0.00</b>	<b>198,756.71</b>	<b>3,377,026.35</b>	<b>7,140,064.65</b>
<b>Buildings</b>												
Rice Based Food Products Plant		40,636,087.00				40,636,087.00	10,159,021.75			1,015,902.18	11,174,923.93	29,461,163.08
<b>Sub Total</b>		<b>40,636,087.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>40,636,087.00</b>	<b>10,159,021.75</b>	<b>0.00</b>	<b>0.00</b>	<b>1,015,902.18</b>	<b>11,174,923.93</b>	<b>29,461,163.08</b>
<b>Plant, machinery &amp; Equipment</b>												
Office ,Laboratory Workshop & Mill		12,507,979.26				12,507,979.26	12,507,978.26				12,507,978.26	1.00
Copy Printer	1	437,625.00				437,625.00	32,821.88			32,821.88	65,643.76	371,981.25
Paper Cutter	1	22,000.00				22,000.00	1,650.00			1,650.00	3,300.00	18,700.00
Typewriter (English)	1	50,625.00				50,625.00				3,796.88	3,796.88	46,828.13
Gas Welding Set	1	37,500.00				37,500.00	2,812.50			2,812.50	5,625.00	31,875.00
Spot Welding plant	1	200,000.00				200,000.00				15,000.00	15,000.00	185,000.00
Grass cutter	1	76,500.00				76,500.00	5,737.50			5,737.50	11,475.00	65,025.00
Laboratory waterde-ionizer	1	192,404.44				192,404.44	14,430.33			14,430.33	28,860.66	163,543.78
Auto clave	1	774,675.00				774,675.00	58,100.63			58,100.63	116,201.26	658,473.75
UV- lamp	1	70,279.11				70,279.11	5,270.93			5,270.93	10,541.86	59,737.25
Facsimile machine	3	58,500.00			23,343.75	81,843.75	4,387.50			4,387.50	8,775.00	73,068.75
Note Book Computer	3	445,410.00			218,841.75	664,251.75	33,405.75			33,405.75	66,811.50	597,440.25
Computer U.P.S.	14	106,125.76			79,151.18	185,276.94	5,317.65			7,959.43	13,277.08	171,999.86
Computer & Printers	13,13	949,200.50			970,648.12	1,919,848.62	23,234.87			71,190.04	94,424.91	1,825,423.71
Multimedia Projector	1	354,375.00				354,375.00				26,578.13	26,578.13	327,796.88
Photocopy machine	2	323,750.00				323,750.00				24,281.25	24,281.25	299,468.75
Emboss Seal	1	28,125.00				28,125.00				2,109.38	2,109.38	26,015.63
Computer Software-Thibus	2	20,452.50			19,316.25	39,768.75				1,533.94	1,533.94	38,234.81
Refrigerator	1	49,504.00				49,504.00				3,712.80	3,712.80	45,791.20
Bread cutter	1	57,500.00				57,500.00				4,312.50	4,312.50	53,187.50
Vacuum Sealer	1	180,000.00				180,000.00				13,500.00	13,500.00	166,500.00
Colour soarting machine	1	5,736,788.83				5,736,788.83				430,259.16	430,259.16	5,306,529.67
Uprighter Freezer	2	75,000.00				75,000.00				5,625.00	5,625.00	69,375.00
Refrigerator	4	123,200.01				123,200.01				9,240.00	9,240.00	113,960.01
Freezer	2	79,000.00				79,000.00				5,925.00	5,925.00	73,075.00
Typewriter (Sinhala)	3	78,813.00				78,813.00				5,910.98	5,910.98	72,902.03
Mycro soil Hot air oven	1				75,960.00	75,960.00						75,960.00
Universal oven	1				184,500.00	184,500.00						184,500.00
Laboratory Oven	2				342,000.00	342,000.00						342,000.00
Rotary Evaporator	3				559,776.00	559,776.00						559,776.00
P.H. meter - hand held	4				187,264.00	187,264.00						187,264.00
- Bench Top	3				181,518.00	181,518.00						181,518.00

Balance C/F	23,035,332.41	0.00	0.00	2,842,319.05	25,877,651.46	12,695,147.80	0.00	0.00	789,551.49	13,484,699.29	12,392,952.17
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Note  
9 - A

Descriptions	No	Balance as at 1.1.2001 Rs	Adjustment to Opening Balance Rs	Disposed Rs	Additions During the Year Rs	Balance as at 31.12.2002 Rs	Aggregated Depreciation as at 1.1.2001 Rs	Adjustment to Opening Balance Rs	Disposed Rs	Depreciation for the Year Rs	Aggregated Depreciation as at 31.12.2002 Rs	Balance as at 31.12.2002 Rs
<b>Plant, machinery &amp; Equipment Balance B/F</b>		<b>23,035,332.41</b>	<b>0.00</b>	<b>0.00</b>	<b>2,842,319.05</b>	<b>25,877,651.46</b>	<b>12,695,147.80</b>	<b>0.00</b>	<b>0.00</b>	<b>789,551.49</b>	<b>13,484,699.29</b>	<b>12,392,952.17</b>
Heating mantles - 500ml	6				183,816.00	183,816.00						183,816.00
Heating mantles -1000ml	6				193,248.00	193,248.00						193,248.00
Heating mantles - 2000ml	3				131,088.00	131,088.00						131,088.00
Soxhelet Extraction set - 1000ml	6				156,600.00	156,600.00						156,600.00
Soxhelet Extraction set - 2000ml	3				105,750.00	105,750.00						105,750.00
Laboratory Balance	7				1,967,760.00	1,967,760.00						1,967,760.00
Colour meter	1				105,750.00	105,750.00						105,750.00
Bush cutter	1				41,970.00	41,970.00						41,970.00
Welding transformer	1				204,975.00	204,975.00						204,975.00
Rice Polishing machine	1				660,697.42	660,697.42						660,697.42
Computer pendriver	1				9,900.00	9,900.00						9,900.00
Pentrometer	2				62,100.00	62,100.00						62,100.00
Laboratory waterbath wih racks	1				89,200.00	89,200.00						89,200.00
Sterep zoom microscope	1				88,000.00	88,000.00						88,000.00
Microscope with Photography & Display	1				164,007.00	164,007.00						164,007.00
Microsype	1				104,700.00	104,700.00						104,700.00
Colony Counter	1				76,800.00	76,800.00						76,800.00
Brookfield	1				258,199.20	258,199.20						258,199.20
<b>Sub Total</b>		<b>23,035,332.41</b>	<b>0.00</b>	<b>0.00</b>	<b>7,446,879.67</b>	<b>30,482,212.08</b>	<b>12,695,147.80</b>	<b>0.00</b>	<b>0.00</b>	<b>789,551.49</b>	<b>13,484,699.29</b>	<b>16,997,512.79</b>
Rice Based Food Products Plant		29,110,000.00				29,110,000.00	19,831,187.50	2,001,312.50		2,183,250.00	24,015,750.00	5,094,250.00
<b>Sub Total</b>		<b>29,110,000.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>29,110,000.00</b>	<b>19,831,187.50</b>	<b>2,001,312.50</b>	<b>0.00</b>	<b>2,183,250.00</b>	<b>24,015,750.00</b>	<b>5,094,250.00</b>



Note  
9 - A

Descriptions	No	Balance as at	Adjustment	Disposed	Additions	Balance as at	Aggregated	Adjustment	Disposed	Depreciation	Aggregated	Balance
		1.1.2001	to Opening		During the	31.12.2002	Depreciation	to Opening		for the	Depreciation	as at
		Rs	Balance	Rs	Year	Rs	as at	Balance	Rs	Year	as at	Rs
			Rs	Rs	Rs	Rs	1.1.2001	Rs	Rs	Rs	31.12.2002	Rs
<b>Equipments</b>												
Office Laboratory Workshop & Mill		51,377.84				51,377.84	51,376.84				51,376.84	1.00
Stores		2,600.00				2,600.00	2,599.00				2,599.00	1.00
Weighing machine	4	2,550.00				2,550.00	2,549.00				2,549.00	1.00
Moisture meter	84	237,676.56				237,676.56	237,675.56				237,675.56	1.00
Stainless Sttel Vessel Plantes	8,10	6,650.00				6,650.00				665.00	665.00	5,985.00
Kitchine knife, Spoons, Chopping Board		7,092.00				7,092.00				709.20	709.20	6,382.80
Dial Thermometer	6	8,100.00				8,100.00				810.00	810.00	7,290.00
National Gas cooker	4	17,000.00				17,000.00				1,700.00	1,700.00	15,300.00
Bottel Sealer	1	2,250.00				2,250.00				225.00	225.00	2,025.00
Poly Sealer	1	1,900.00				1,900.00				190.00	190.00	1,710.00
Plastic Vessel	11	3,760.00				3,760.00				376.00	376.00	3,384.00
Electric Kettel - Head Office	1	2,890.00				2,890.00				289.00	289.00	2,601.00
Food Processign machine	1	117,450.00				117,450.00				11,745.00	11,745.00	105,705.00
Food Processer	2	25,000.00				25,000.00				2,500.00	2,500.00	22,500.00
Deep fryer	2	19,000.00				19,000.00				1,900.00	1,900.00	17,100.00
Electric Oven	1	15,950.00				15,950.00				1,595.00	1,595.00	14,355.00
Kitchen Grinder	2	4,392.00				4,392.00				439.20	439.20	3,952.80
Kitchen Beeter	2	3,240.00				3,240.00				324.00	324.00	2,916.00
Cooking pot / Pans	2	3,600.00				3,600.00				360.00	360.00	3,240.00
Cutlery set	8	5,472.00				5,472.00				547.20	547.20	4,924.80
Kenwood Food Processer	1	36,300.00				36,300.00				3,630.00	3,630.00	32,670.00
Gas Silinder & House and others	2	30,448.00				30,448.00				3,044.80	3,044.80	27,403.20
Gas Cookers	2	6,000.00				6,000.00				600.00	600.00	5,400.00
Microvave Oven	2	23,800.01				23,800.01				2,380.00	2,380.00	21,420.01
Pressure Cooker	2	6,350.00				6,350.00				635.00	635.00	5,715.00
Caste Recorder	1		3,720.00			3,720.00				372.00	372.00	3,348.00
Gas Silnders	5				17,299.00	17,299.00						17,299.00
Burner	1				3,850.00	3,850.00						3,850.00
Moisture Meter	1				25,875.00	25,875.00						25,875.00
Emergency light with table lamp	1				4,000.00	4,000.00						4,000.00
Codiang machine	1				10,811.25	10,811.25						10,811.25
Calculator	7		3,325.00		8,717.50	12,042.50				332.50	332.50	11,710.00
Digital Multimeter & power controler	1				44,050.00	44,050.00						44,050.00
Time machine - small	1				34,000.00	34,000.00						34,000.00
- large	2				84,000.00	84,000.00						84,000.00
Cellular Phone	1				26,700.00	26,700.00						26,700.00
Stapler	4				4,954.00	4,954.00						4,954.00
Wall clock	1				414.00	414.00						414.00
Puncher	2				580.00	580.00						580.00
Oasis quat sntzer	1				6,727.50	6,727.50						6,727.50
Micro - Chior	1				6,750.00	6,750.00						6,750.00
<b>Balance C/F</b>		<b>640,848.41</b>	<b>7,045.00</b>	<b>0.00</b>	<b>278,728.25</b>	<b>926,621.66</b>	<b>294,200.40</b>	<b>0.00</b>	<b>0.00</b>	<b>35,368.90</b>	<b>329,569.30</b>	<b>597,052.36</b>

Note  
9 - A

Descriptions	No	Balance as at	Adjustment	Disposed	Additions	Balance as at	Aggregated	Adjustment	Disposed	Depreciation	Aggregated	Balance
		1.1.2001	to Opening		During the	31.12.2002	Depreciation	to Opening		for the	Depreciation	as at
		Rs	Balance	Rs	Year	Rs	as at	Balance	Rs	Year	as at	Rs
			Rs	Rs	Rs	Rs	1.1.2001	Rs	Rs	Rs	31.12.2002	Rs
<b>Equipments</b>												
<b>Balance C/F</b>		<b>640,848.41</b>	<b>7,045.00</b>	<b>0.00</b>	<b>278,728.25</b>	<b>926,621.66</b>	<b>294,200.40</b>	<b>0.00</b>	<b>0.00</b>	<b>35,368.90</b>	<b>329,569.30</b>	<b>597,052.36</b>
Digital Themeter	2				24,760.00	24,760.00						24,760.00
Immersion probe	2				7,510.00	7,510.00						7,510.00
Spear temperature probes	2				10,124.00	10,124.00						10,124.00
Thermometers - General 10 - 360	3				1,950.00	1,950.00						1,950.00
Thermometers - General 10 -250	3				1,950.00	1,950.00						1,950.00
Thermometers - General 10 - 110	3				1,665.00	1,665.00						1,665.00
Thermometers - Murcury enclosed scale	1				5,900.00	5,900.00						5,900.00
Timer Programable	3				8,370.00	8,370.00						8,370.00
Water distill plant	1				29,700.00	29,700.00						29,700.00
Refractormeter Fan	2				74,870.00	74,870.00						74,870.00
Ebiliometer withRoplaement Thermometer	1				54,900.00	54,900.00						54,900.00
Bunsan burner	6				2,700.00	2,700.00						2,700.00
Electric Bunsan burner	1				43,353.60	43,353.60						43,353.60
Heidolpeh	1				69,669.60	69,669.60						69,669.60
Allpeeoh 7645 rectangular	3				40,924.80	40,924.80						40,924.80
Allpeeoh 7550 rectangular	10				101,376.00	101,376.00						101,376.00
Duplo Spare Drum of	1				104,500.00	104,500.00						104,500.00
Food Dehydrator	1				1,494.99	1,494.99						1,494.99
<b>Sub Total</b>		<b>640,848.41</b>	<b>7,045.00</b>	<b>0.00</b>	<b>864,446.24</b>	<b>1,512,339.65</b>	<b>294,200.40</b>	<b>0.00</b>	<b>0.00</b>	<b>35,368.90</b>	<b>329,569.30</b>	<b>1,182,770.35</b>

Note  
9 - A

Descriptions	No	Balance as at	Adjustment	Disposed	Additions	Balance as at	Aggregated	Adjustment	Disposed	Depreciation	Aggregated	Balance
		1.1.2001	to Opening		During the	31.12.2002	Depreciation	to Opening		for the	Depreciation	as at
		Rs	Balance	Rs	Year	Rs	as at 1.1.2001	Balance	Rs	Year	as at	Rs
			Rs	Rs	Rs		Rs	Rs	Rs	Rs	31.12.2002	Rs
<b>Furniture &amp; Fittings</b>												
Office Laboratory Workshop & Mill		4,336,934.08				4,336,934.08	4,336,932.08				4,336,932.08	2.00
Office Equipment - Conference Table	1	42,000.00				42,000.00				4,200.00	4,200.00	37,800.00
Office Equipment - Conference Chairs	25	118,750.00				118,750.00				11,875.00	11,875.00	106,875.00
At 1400 writing table	2	15,149.91				15,149.91				1,514.99	1,514.99	13,634.92
At 135 Side returns	2	11,362.44				11,362.44				1,136.24	1,136.24	10,226.20
At S2 drawers	2	7,574.97				7,574.97				757.50	757.50	6,817.47
500 TGA chairs	2	15,926.85				15,926.85				1,592.69	1,592.69	14,334.17
6404 EA V/chairs	4	13,207.62				13,207.62				1,320.76	1,320.76	11,886.86
Utility witing table	2	15,981.23				15,981.23				1,598.12	1,598.12	14,383.11
Utility armchairs	2	4,721.73				4,721.73				472.17	472.17	4,249.56
Utility chairs W/outarms	4	9,080.25				9,080.25				908.03	908.03	8,172.23
Standard Steel cupboard	1	6,658.78				6,658.78				665.88	665.88	5,992.90
Filling cabinet - for drawers	3	22,950.00				22,950.00				2,295.00	2,295.00	20,655.00
Filling cabinet	1	5,448.64				5,448.64				544.86	544.86	4,903.78
Side unit 30*20*13 with brown tap	1	4,347.98				4,347.98				434.80	434.80	3,913.18
Cash Box - Standard	1	1,289.19				1,289.19				128.92	128.92	1,160.27
Table Fans	2	12,150.00				12,150.00				1,215.00	1,215.00	10,935.00
Computer table & chairs	1	12,900.00				12,900.00				1,290.00	1,290.00	11,610.00
Cupboards	1	4,990.00				4,990.00				499.00	499.00	4,491.00
Tables	4	23,800.00				23,800.00				2,380.00	2,380.00	21,420.00
Stainless Steel Table	6	70,450.00				70,450.00				7,045.00	7,045.00	63,405.00
Cupboards	1	14,500.00				14,500.00				1,450.00	1,450.00	13,050.00
Steel filling cabinet	5		5,500.00		29,902.42	35,402.42				550.00	550.00	34,852.42
Steel writing tables	7				46,850.00	46,850.00						46,850.00
Wooden tables	5				17,500.00	17,500.00						17,500.00
Computer table	8		28,800.00		11,250.00	40,050.00				2,880.00	2,880.00	37,170.00
Laboratory - Tables	2				8,000.00	8,000.00						8,000.00
- Stools	10				4,750.00	4,750.00						4,750.00
Conference - Chairs	46				99,418.00	99,418.00						99,418.00
Library Cupboards	2				24,829.06	24,829.06						24,829.06
Tender Box	1				2,125.00	2,125.00						2,125.00
Filling rack	2		8,000.00		1,850.00	9,850.00				800.00	800.00	9,050.00
Dining Table	1				3,000.00	3,000.00						3,000.00
Tea Table	1				1,500.00	1,500.00						1,500.00
Chairs	6				2,700.00	2,700.00						2,700.00
Steel chairs	3				5,214.00	5,214.00						5,214.00
Typing Tables	2				9,980.00	9,980.00						9,980.00
Conference - Tables	1				29,200.00	29,200.00						29,200.00
- Chairs	10				77,900.00	77,900.00						77,900.00
<b>Sub Total</b>		<b>4,770,173.67</b>	<b>42,300.00</b>	<b>0.00</b>	<b>375,968.48</b>	<b>5,188,442.15</b>	<b>4,336,932.08</b>	<b>0.00</b>	<b>0.00</b>	<b>47,553.96</b>	<b>4,384,486.04</b>	<b>803,956.11</b>

Note  
9 - A

Descriptions	No	Balance as at 1.1.2001 Rs	Adjustment to Opening Balance Rs	Disposed Rs	Additions During the Year Rs	Balance as at 31.12.2002 Rs	Aggregated Depreciation as at 1.1.2001 Rs	Adjustment to Opening Balance Rs	Disposed Rs	Depreciation for the Year Rs	Aggregated Depreciation as at 31.12.2002 Rs	Balance as at 31.12.2002 Rs
<b>Electric &amp; Telephone Fittings</b>												
Office Laboratory Workshop & Mill		522,917.41				522,917.41	522,915.41				522,915.41	2.00
Telephone	3	49,635.00				49,635.00				4,963.50	4,963.50	44,671.50
Sink & fittings	3	11,250.00				11,250.00				1,125.00	1,125.00	10,125.00
Scrien	1		67,000.00			67,000.00				6,700.00	6,700.00	60,300.00
Ceiling fan	1				2,550.00	2,550.00						2,550.00
Name Board	2				118,750.00	118,750.00						118,750.00
<b>Sub total</b>		<b>583,802.41</b>	<b>67,000.00</b>	<b>0.00</b>	<b>121,300.00</b>	<b>772,102.41</b>	<b>522,915.41</b>	<b>0.00</b>	<b>0.00</b>	<b>12,788.50</b>	<b>535,703.91</b>	<b>236,398.50</b>
<b>Books</b>												
Library		188,748.00			684,320.55	873,068.55						873,068.55
<b>Sub Total</b>		<b>188,748.00</b>	<b>0.00</b>	<b>0.00</b>	<b>684,320.55</b>	<b>873,068.55</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>873,068.55</b>
<b>Vehicles</b>												
Jeeps	2	410,667.72				410,667.72	410,665.72				410,665.72	2.00
Van	1	489,850.00				489,850.00	489,849.00				489,849.00	1.00
Lorry	1	275,848.04				275,848.04	275,847.04				275,847.04	1.00
Cycle	1	1,250.00				1,250.00	1,249.00				1,249.00	1.00
Motor Cycle	2	196,874.00				196,874.00				39,374.80	39,374.80	157,499.20
Double Cab, 4 WD	2	4,725,000.00				4,725,000.00	945,000.00			945,000.00	1,890,000.00	2,835,000.00
Double Cab, 4 WD	1	2,503,125.00				2,503,125.00				500,625.00	500,625.00	2,002,500.00
Motor Car	1	1,450,000.00				1,450,000.00	290,000.00			290,000.00	580,000.00	870,000.00
<b>Sub Total</b>		<b>10,052,614.76</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>10,052,614.76</b>	<b>2,412,610.76</b>	<b>0.00</b>	<b>0.00</b>	<b>1,774,999.80</b>	<b>4,187,610.56</b>	<b>5,865,004.20</b>

**Note**

**9 PROPERTY, PLANT & EQUIPMENT**

	<b>Building</b>	
<b>Descriptions</b>	<b>Office, Laboratory Workshop Mill Rs</b>	<b>Rice Based Products Food Plants Rs</b>
<b>COST</b>		
<b>Balance as at 1.1.2001</b>	<b>7,950,268.38</b>	<b>40,636,087.00</b>
Adjustment		
Additions	2,566,822.62	
Disposal		
<b>Balance as at 31.12.2002</b>	<b>10,517,091.00</b>	<b>40,636,087.00</b>
<b>DEPRECIATION</b>		
<b>Balance as at 1.12.2001</b>	<b>3,178,269.64</b>	<b>10,159,021.75</b>
Adjustment		
Charges for the Year	198,756.71	1,015,902.17
Depreciation on Disposals		
<b>Balance as at 31.12.2002</b>	<b>3,377,026.35</b>	<b>11,174,923.92</b>
<b>WRITTEN DOWN VALUE</b>		
<b>Balance as at 31.12.2002</b>	<b>7,140,064.65</b>	<b>29,461,163.08</b>
<b>Balance as at 1.12.2001</b>	<b>4,771,998.74</b>	<b>30,477,065.25</b>

**Note**

Depreciation	
Building	2.5%
Plant, Machinery & Equipment	7.5%
Equipment	10%
Furniture & Fittings	10%
Electricity Telephone & Fittings	10%
Library Books	10%
Vehicles	20%

Balance as at 31.12.2001
Rs
2,099,605.94
93,597.07
935,247.06
1,150,620.01
492,928.66
<b>4,771,998.74</b>
30,477,065.25
<b>30,477,065.25</b>
1.00
404,803.12
20,350.00
50,625.00
34,687.50
200,000.00
70,762.50
177,974.11
716,574.37
65,008.18
54,112.50
412,004.25
100,808.11
925,965.63
354,375.00
323,750.00
28,125.00
20,452.50
49,504.00
57,500.00
180,000.00
5,736,788.83
75,000.00
123,200.01
79,000.00
78,813.00

10,340,184.61

Balance as at 31.12.2001  Rs
10,340,184.61
10,340,184.61
9,278,812.50
9,278,812.50

<b>Balance as at 31.12.2001</b>
<b>Rs</b>
1.00
1.00
1.00
1.00
6,650.00
7,092.00
8,100.00
17,000.00
2,250.00
1,900.00
3,760.00
2,890.00
117,450.00
25,000.00
19,000.00
15,950.00
4,392.00
3,240.00
3,600.00
5,472.00
36,300.00
30,448.00
6,000.00
23,800.01
6,350.00
<b>346,648.01</b>



Balance  
as at  
31.12.2001  
Rs

346,648.01

346,648.01

<b>Balance as at 31.12.2001</b>
<b>Rs</b>
2.00
42,000.00
118,750.00
15,149.91
11,362.44
7,574.97
15,926.85
13,207.62
15,981.23
4,721.73
9,080.25
6,658.78
22,950.00
5,448.64
4,347.98
1,289.19
12,150.00
12,900.00
4,990.00
23,800.00
70,450.00
14,500.00
<b>433,241.59</b>

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<b>Balance as at 31.12.2001</b>
<b>Rs</b>
2.00 49,635.00 11,250.00
<b>60,887.00</b>
188,748.00
<b>188,748.00</b>
2.00 1.00 1.00 1.00 196,874.00 3,780,000.00 2,503,125.00 1,160,000.00
<b>7,640,004.00</b>

Plant, Machinery & Equipment		Equipment	Furniture & Fittings	Electricity Telephone & Fittings	Library Books	Vehicles	Total
Office, Laboratory Workshop Mill Rs	Rice Based Products Food Plants Rs	Office, Laboratory Workshop Mill Rs	Office, Laboratory Workshop Mill Rs	Office, Laboratory Workshop Mill Rs	Office, Rs	Office, Rs	
23,035,332.41	29,110,000.00	640,848.41	4,770,173.67	583,802.41	188,748.00	10,052,614.76	116,967,875.04
7,446,879.67		7,045.00	42,300.00	67,000.00	684,320.55		116,345.00
		864,446.24	375,968.48	121,300.00			12,059,737.56
<b>30,482,212.08</b>	<b>29,110,000.00</b>	<b>1,512,339.65</b>	<b>5,188,442.15</b>	<b>772,102.41</b>	<b>873,068.55</b>	<b>10,052,614.76</b>	<b>129,143,957.60</b>
12,695,147.80	19,831,187.50	294,200.40	4,336,932.08	522,915.41		2,412,610.76	53,430,285.34
789,551.49	2,001,312.50	35,368.90	47,553.96	12,788.50	18,874.80	1,774,999.80	2,001,312.50
	2,183,250.00						6,077,046.33
<b>13,484,699.29</b>	<b>24,015,750.00</b>	<b>329,569.30</b>	<b>4,384,486.04</b>	<b>535,703.91</b>	<b>18,874.80</b>	<b>4,187,610.56</b>	<b>61,508,644.17</b>
<b>16,997,512.79</b>	<b>5,094,250.00</b>	<b>1,182,770.35</b>	<b>803,956.11</b>	<b>236,398.50</b>	<b>854,193.75</b>	<b>5,865,004.20</b>	<b>67,635,313.43</b>
<b>10,340,184.61</b>	<b>9,278,812.50</b>	<b>346,648.01</b>	<b>433,241.59</b>	<b>60,887.00</b>	<b>188,748.00</b>	<b>7,640,004.00</b>	<b>63,537,589.70</b>













