

F 201	F 209	F 214	F 219	F 224	F 229
F 204/5	F 210	F 215	F 220	F 225	F 230
F 206	F 211	F 216	F 221	F 226	F 231
F 207	F 212	F 217	F 222	F 227	
F 208	F 213	F 218	F 223	F 228	

## F 201

### The profile of women seeking induced abortion

Little is known about the profile of abortion seekers in Sri Lanka where drawing of direct information from women is difficult. This paper report the results of a self-administered questionnaire survey filled by a group of health professionals involved with cases abortion.

The survey was undertaken in Colombo district. 247 health professionals in eight categories were selected and 119 respondents, with a response rate of 48.2%, returned the questionnaire mailed to them in 1998-99. The categories were: bsterician/gynaecologists, psychiatrists, judicial medical officers, district medical officers, medical officers of health, general practitioners, senior nursing sisters in gynaecological wards and senior family health workers in MOH areas. The six characteristics of the abortion seekers investigated were marital status, age, working status, income, educational attainment, and living status.

A majority of the respondents had seen induced abortions among women who were married, non-working, aged between 21-30 years, having a middle income, had some schooling and living inurn areas. All unmarried abortion seekers were found to be younger,, than married women. Among married women, the largest proportions were in the age groups of 21-30 and 31-40 years. A majority of abortion cases in both unmarried and married groups was not working, living in urban areas and has had some level of schooling. The medium level of income is associated with married women than unmarried women. Also, over 90% level of income is associated with married women than unmarried women. Also, over 90% of obstetricians/gynaecologists and medical officers of health had found abortions among married women. Family health workers had see abortions among non-working women. Many abortion cases referred to the judicial medical officers were in the low-income category. Psychiatrists had seen higher proportion of abortion cases among unmarried and younger women. General practitioners had seen a large proportion of abortion cases in urban areas. A sizeable proportion of abortion cases handled by obstetricians/gynaecologists and psychiaatrists belonged to the upper income category.

The differences in the characteristics of abortion cases are evident in categories of health professionals. It can be concluded that this methodology may be employed as a better alternative to the direct survey of women in assessing the profile of abortion seekers. Since characteristics were not derived directly from the abortion seekers, minimizing

any error can be made by directing respondents to examine diagnosis reports before completing questionnaire.

**F 204/205**

**Comparability of two survey instruments employed in the investigation of induced abortion.**

Recognising the difficulties I data gathering on induced abortion, the present study has attempted to employ an innovative approach for better information, by investigating the opinions of health professionals in the context of Colombo district in Sri Lanka.

The opinions of two groups of health professionals were investigated using two different survey instruments. The first survey, using an interviewer-administered questionnaire (IAQ), was conducted in 1991-93 while the second survey, using a self-administered questionnaire (SAQ) was conducted in 1998-99. The objectives were to find out whether there were similarities and differences in the characteristics and responses between the two survey samples and to explore the advantages and disadvantages of two survey instruments. The response rates in the two surveys were 81% (IAQ) and 48% (SAQ) respectively.

The SAQ sample was educationally highly qualified than the IAQ sample. There were more SAQ respondents who had over 10 years of professional experience, than the proportion in the IAQ sample with similar duration of experience. The IAQ sample was evenly distributed at all age categories with the peak at the age group, 30-39 years. Over 57% of SAQ sample were older than 50 years of age. Nearly 86% the IAQ sample constituted female health professionals. The male-female proportion in the SAQ sample was approximately two to one. The differences in the opinions between the IAQ and SAQ samples were evident at several instances. For example, a majority of IAQ respondents did not wish for a change in the abortion law, while a large proportion of SAQ respondents agreed that there should be a change in the law allowing more freedom for the women to seek abortion. The adopted methodology has provided a general model for resolving some obstacles that affect the investigation of induced abortion. The two cooperative survey instruments provided the ways of improving the representatives of the study samples, and increasing the range and validity of the information collected on a sensitive topic.

The SAQ sample may be a better-qualified group of respondents for data gathering on induced abortion in contexts where abortion is illegal. The SAQ survey had the advantages of deriving thoughtful responses under complete anonymity and use of moderate amount of resources.

F 206

### **Traditional health practices relevant to maternal and child care in Sri Lanka**

This paper reveals a medical anthropological perspective of Sri Lankans' health seeking behaviour related to Maternal and Child Health. Three communities with different characteristics were selected to study behavior patterns in seeking good health and practices followed to promote maternal and child Health. A total of 183 housewives in three different characteristic areas were interviewed by "in-depth interview" and summarized through qualitative research methods. Every society has its own unique behavior pattern, beliefs and practices to cope with the crisis of childbirth. Although cosmopolitan medicine plays an important role in Maternal and Child Care in Sri Lanka, people use indigenous medicine and practice traditional health methods in their daily lives. They choose the most effective medicine from each discipline. For instance people depend on cosmopolitan medicine rather than indigenous medicine for treatment of their babies' illnesses. It was found that house wives practiced both traditional and modern methods to promote health, prevent and treat illnesses of their babies. The practice of traditional methods differed from area to area depending on their own characteristics, i.e., demographic socioeconomic, psycho-social and health condition.

F 207

### **Implementation of grade 1 new syllabus: Reflection of a teacher**

A teacher in the District of Gampaha was guided to reflect upon the new grade 1 syllabus piloted in 1998. Objectives of the reflection were to assess the training package and to identify the successful and unsuccessful aspects of curriculum implementation at school level. Further the improvement of professional practice of the teacher, via Action Research was also aimed at. Reflective Action Research methodology was employed. The teacher collected observational data (sometimes using tape recorders) on the orientation she received, implementation of competency based lessons by herself in the old classroom/renovated classroom and the play area. Official documents were also reviewed. Data, qualitative in nature were analysed and categorized into three segments: training package, similarities and dissimilarities of instructions given by various sources and successful and unsuccessful aspects of curriculum implementation of new year 1 curriculum. Findings of the research are two fold i.e the assessment of the reforms and the improvement of professional practice via reflective practice. Findings related to the reforms are weaknesses in managing training sessions. Novelty in presentations of orientation programme, improper management of teacher deployment and training, the clash of instructions provided by National Institute of Education/In Service Advisers and Officers of Regional Departments, delay in completion of new classrooms hindering the successful implementation of relevant reforms and maintenance problems of the play area. More knowledge in English language will be helpful to the teacher in implementing simple English conversational programme. It was found that the teacher improved her capabilities in Action Research. The Research highlights the importance of employing teachers as action researchers to improve their professional practice.

F 208

### **Where was the origin of carnelian beads/artifacts of antiquity found in Sri Lanka.**

Carnelian beads were often discovered in Sri Lankan archaeological sites. The excavation of Citadel of Anuradhapura unearthed many varieties of carnelian and agate beads. Most archaeologists are under the impression that carnelian was not found in Sri Lanka, but exported from countries like India (Gujarat). This study was undertaken to unravel that the material for making carnelian is freely available throughout the country and the process of making carnelian out of common chalcedony found in Sri Lanka is quite simple.

Alluvial chalcedony and agate are found in plenty during the course of gem mining. Since the material does not fetch a price it is discarded by the miners except for a few large stones which could be sold as ornamental stones. This material was found freely as alluvial pebbles in gem mines of Ratnapura, Nivithigala, Kahawatte and Patmadulla areas and local miners used to call it "Sewvandi". An in-situ occurrence of a partially microcrystalline variety of quartz was found at the lower levels of the Bogala graphite mine.

The diesel coloured material called "Sewvandi" in smaller sizes are freely available. Since it is very similar to the diesel coloured corundum variety of geuda, traders include some stones of this material mixed up with geuda for sale. Most of the time if this material were included during the process of corundum heat treatment it would melt and make the operation of extracting the burned corundum difficult. But if it is not melted then it turns into a beautiful red coloured carnelian. Therefore subjecting purely this material to heat treatment should be further experimented to find out the correct temperature needed for the colour enhancement. With the available facilities it is not possible to determine the exact temperature at which the change of colour takes place, but it was observed that stones treated to a temperature of approximately 1100°C had turned into an orange colour similar to common carnelian.

There is evidence to believe that the Pandukal people who had migrated from India were responsible for bead making in ancient Sri Lanka and they were also familiar with the heat treatment process. Some of the artifacts contain characteristic features to identify them as products manufactured in Sri Lanka. Therefore the conclusion would be that up to some percentage carnelian were produced and worked in Sri Lanka using our own material.

F 209

### **A production function approach in coconut cultivation**

A production function for coconut, one of the major crops in Sri Lanka was estimated by using time series data from 1971 to 1998. Regression analysis was carried out using multiple-linear, Cobb-Douglas and translog functional forms of total coconut

production, effected by cultivated area, fertilizer use, rainfall and the technological change. From the economic theories and the statistical point of view, the Cobb-Douglas model revealed good insight to other functional forms tested. However, this model only explains 35% of the total variability of the coconut production, attributed to the changes in the input variables included in the model. This suggests, the magnificent combined effect of many other excluded variables in the model and the unexplained variability, on the coconut production.

Inputs evaluated according to their contribution to total production suggested that soil moisture (rainfall) and the technology (research & development ) were significant at 5% level for production increase at aggregate level. The output elasticity indicate that for 10% increase in fertilizer use and soil moisture, increases the nut yeild by 2% and 4% respectively. The marginal product for rainfall, fertilizer and technology was positive as expected, but less than one which indicates operating at the rational zone of production. There was a negative marginal product for land, implying the characteristic nature of land use by coconut palms utilizing only 25% of the land under cultivation. Returns to scale was 0.42, indicating decreasing returns to scale in production. The results reveal that, only 42% change in output can be expected for a 100% change in all these inputs together.

According to the findings of this study, the soil moisture was found to be the signification factor in determining the coconut yield on aggregate level. This clearly indicates that the investments in irrigation, which facilitates soil moisture improvements during dry periods, would be extremely valuable to increase coconut production at national level.

## **F 210**

### **Utilisation of village level institutional mechanism to undertake sustainable development and participatory conservation - A case study at Ritigala**

Ritigala Community Based Development and Environmental Management Foundation (RITICOE) was an outcome of a community based conservation initiative. RITICOE instituted a sustainable development programme which included participatory conservation of biodiversity in the Ritigala Strict Nature Reserve and its surroundings.

To implement its programmes RITICOE embarked on establishing a village level institutional mechanism. Initially, a series of community level discussions and workshops were conducted for CBO leaders and the broader village community, to discuss the importance of forming village level institutions named Grama Sanwardane Sabhas (GSSs). Using internal and external professional facilitation, village communities were encouraged to form GSSs to undertake programmes initiated by RITICOE. Community leaders were assigned the task of GSS formation, and this task was fulfilled by house-to-house visits, discussions with CBOs and finally facilitating the formation fo GSS in a public village meeting.

As a result of the mobilisation process, the broader community inclined towards sustainable development, CBOs expressed their willingness to form GSSs, and a core-group of community leaders capable of serving as a vanguard in GSS formation and managing participatory conservation development programs, emerged. The community group completed the formation of 12 GSS at the beginning of year 2000 and initiated preparation and implementation of sustainable development plans in a few GSS. This also contributed to a reduction in the unauthorised exploitation of the RSNR.

While the success of participatory conservation programmes is ensured by coupling the programmes with the integrated development process of the villages, the process itself could be replicated in other situations where such programmes have failed. However, to ensure success these programmes will have to be exclusively planned and implemented by community owned village level institutions which genuinely represents the whole village.

## **F 211**

### **A preliminary assessment of social impacts from the conversion of *chena* and fallow lands into woodlots for local communities in Anuradhapura district**

An understanding of the dependency of rural communities on the protected forest reserves and degraded forest lands is crucial for the successful implementation of conservation and reforestation projects because rural communities are affected by the restricted uses of such lands. However, little attention has been paid to understand social impacts for local communities from the conversion of degraded forestlands into woodlots in the dry zone of Sri Lanka. This paper makes a preliminary social impact assessment from reforestation for rural communities in the Anurudhapura district.

Field research was conducted in 10 sample villages and data collection techniques included focus group discussions, interviews and a structured questionnaire administered to a sample of 40 households. The results suggest that 30% to 80% households do *chena* cultivation. The high degree of economic dependency of low income groups on *chena* and forest lands was found. Some were against the use of active *chena* and fallow lands for any reforestation activities in future because Private Reforestation Programme may create conflicts with the villagers and some may use the natural forests for *chena* and human settlement.

The study shows the need for the identification of suitable lands for reforestation to minimize social impact for the local people. A detailed study of land use pattern in consultation with the present users of *chena* lands is suggested. Also, in future reforestation projects preference should be given to those who do *chena* and live in close proximity to the protected forest reserves. Further research on the dependence of local communities on active *chena* and fallow lands is also suggested.

**F 212**

**A study on tutor comments given for essay-type assignments**

The Open university of Sri Lanka (OUSL) uses assignments as a means of teaching. Tutors are expected to write comprehensive comments on student assignments with the aim of facilitating learning, communicating knowledge and providing information about their progress to students. There is a general belief that the OUSL tutors tend to limit themselves to the assessor's role by neglecting other significant roles. Therefore, a detailed investigation was carried out to examine the different roles performed by tutors in the light of their comments given on assignments. The sample consisted of 10 tutors and 500 assignments marked by these tutors. As a way of improving the quality of tutor comments, suggestions were made for the provision of sufficient training to tutors and for maintaining a proper monitoring system by the institution.

**F 215**

**Teachers' awareness about students' sense-making in learning science**

This paper is based on a part of a study on preparation of curricular materials for meaningful understandign of science. Most of our students find it hard to understand science. Teachers' knowledge about how students make sense of scientific concepts plays a major role in helping students to understand science. This study was carried out to find out how and what strategies are used by the teachers to develop their understanding of students about their sense-making. Science teaching in three classes-year-7,8 and 9 in two rural schools in two districts were selected as research sites, based on accessibility availability and acceptability. Lessons taught in the unit on, "Light reflection" was observed for about fifteen hours I each classroom and detailed field notes wee taken. Students were interviewed before starting the unit and after teaching the unit. All the lessons of the year-9, and interviews were tape recorded to get accurate verbal data. Data was also collected from the students' notebooks. Teachers were interviewed informally when and where it was possible, and formally after the last lesson. It was found that oral questioning of teachers was not to understand the difficulties of students, but to check the memorizing power of students. Teachers were concerned about the covering of the subject-matter content and emphasized on transmitting the subject-matter knowledge, ignoring the level of understanding of students. Teachers should be made aware of using different strategies to understand problems of students by involving them in training sessions in classrooms.

**F 216**

**Employability and expectations of university students: A cross faculty comparison of the attributes of university students**

In Sri Lanka the incidence of unemployment among educated youth has been reported to be significantly high. It was reported that " the more a person has been educated, the

greater the likelihood that he or she may be unemployed" This situation arises out of high rate of entry to the labour force on the one hand and the relatively sluggish expansion of the economy on the other. An outcome of this situation has been the unemployment mismatch, which deals with an imbalance between the type of work, people are willing and able to do and the available job opportunities.

The objective of this study is to ascertain the extent to which employability and expectations affect job opportunities of educated youth. This was done by means of evaluating the preferred attributes students possess (vis a vis a job situation) and their expectations in terms of employment.

A questionnaire survey was administered among a sample of sixty-eight students from the Faculties of Science Commerce and Management and Social Sciences of the University of Kelaniya to elicit information on those "preferred attributes" as seen by the private sector employers and the employment expectations of university undergraduates.

The findings corroborated the view that there is a "mismatch" which enabled the employers to short list such applicants at the time of selection. This discriminated against those undergraduates having predominantly rural backgrounds. The situation was particularly unfavorable for female undergraduates and those students in the Faculty of Social Sciences.

## **F 217**

### **Regional development in the midst of decentralization**

Due to the nature of the Top -down development that was prevalent in our society it is unfortunate that the desired results pertaining to development did not reach the rural areas especially after Sri Lanka gained Independence. Thus the inter-regional gap has continued to increase. The decentralized budget has certainly succeeded in reducing the trend to some extent. Yet the severe unemployment problem objects poverty and the unequal supply of basic human needs has had an adverse affect and arrested the progress in rural development. In order to change this status Quo to there are many methods that could be adopted.

1. The establishment of an independent authority to carry out the delegated Authority specifically defined by the Central government.
2. Devolution of power to regional or provincial Government is of utmost importance.

In Sri Lanka two such programs are being carried out in the southern province

1. The Southern Province Development authority established by the southern Provincial Council.

2. The Southern Development Authority of Sri Lanka which has been established by the Central Government.

The study investigates

1. Socio-economic background of this particular area.
2. Objectives, power, and duties of both institutions
3. Organization structure, planning and resources of both institution.
4. The Obstacles we meet when we try to achieve the said objections

Weaknesses in SDA

1. Acquisition of powers of Pcs. By the central government over riding the powers of the provincial council by the Act.
2. Inability to provide investment to the SDA even though the priority was given to the target of large Scale projects.

Finally

1. The SDA more than to SPDA Capable of handling the regional development

If there is devolution of power; should have central government Intervention or there must be a Specified time frame to the provincial Council an the Central government be work together.

**F 218**

### **A travel cost approach to value Bopath Ella: A recreational site in the Ratnapura district of Sri Lanka**

The Bopathella waterfall is one of the exquisite beautiful recreational sites in Sri Lanka. This is one of the loveliest of all waterfalls in the island and is still known only to a few, hidden away on a wild and lonely detour from one of the island's trunk routes. Economic aspects of the program play an important role in conservation and management of the recreational site.

The study aims to value the Bopathella waterfall, which is located in Ratnapura District, off Kuruvita. A pre- tested structured questionnaire was administrated to a sample of 150 visitors. Travel cost method was used to value the water fall and the weighted expenses for travelling to visit the waterfall was considered as a proxy for the price paid by the individual and the number of visits of a respondent was the proxy for the quantity demanded. The regression procedure was used to estimate the demand curve and the  $\alpha$  and  $\beta$  estimates were used to draw the demand function for the Bopathella. Zonal travel cost method was applied with relevant to the following formula.  $V_1$  (number of visits made in a time period) =f TC (Travel Cost),  $X_1$  (factors determine individual visits). Since there was no entrance fee to the site, total area under the

demand curve was considered on the consumer surplus and the value for the society. According to the survey and analysis of travel cost results, recreation value of the Bopathella was estimated to 25 million rupees in 1988.

Positive relationship was observed between education level and visitation rate. This means more visits to Bopathella were made by educated. Results show the negative relationship between the female visitors well as married.

## **F 219**

### **Forecasting natural rubber (NR) production in Sri Lanka**

Natural Rubber (NR) is a traditional export commodity in Sri Lankan economy. The Sri Lanka's share of NR exports account for nearly 1.82% of the world NR exports. Therefore, Sri Lanka has to act as a 'price taker' in the global context. However, it is important to study the behavior and future projections of NR production, which depends on various economic factors. This information is useful to policy makers to explore the areas to be addressed to increase productivity.

This study was carried out to identify the behavioral patterns in NR production; trend, seasonals and cycles and subsequently, to select the best technique to predict NR production. Monthly NR production data for 19 years (1980-1998) were collected for the analysis. Time series statistical methods were used to isolate trend, seasonal and cyclic components. Three forecasting approaches were employed, namely; trend fitting, decomposition and ARIMA approach.

A declining trend was observed in NR production of 176.4 MT per year. The highest seasonal index was observed in March (109.8) followed by December (104.8) and January (103.5). No distinct cycles were observed in the data series. Trend fitting method gave the lowest Mean Absolute Percentage Error [MAPE] of 8.2, but the residual autocorrelations showed unaccounted seasonally for monthly data. Hence, this method can be successfully used for annual predictions. Decomposition and ARIMA methods gave MAPE values of 12.8 and 11.1 respectively, with non-significant residual autocorrelations with random distribution. Therefore, both these methods can be used to forecast monthly NR production with sufficient accuracy.

## **F 220**

### **Excellence in management in Sri Lankan organizations: Cultural or organizational? A comparative analysis**

This research studies gender and organisations in Sri Lanka. The research question addresses factors related to women and men's orientations to work. The research question addresses the extent to which institutional factors, located in the broader societal context of Sri Lankan organisations, add explanatory power in analysis of the degree of job satisfaction and work perceptions. While using Silverman's (1970) action frame for reference and Goldthorpe et al.s (1968) orientations to work perspective, the

research also investigates the relationship between organisational level attributes and the understanding of managers' work perceptions, as well as seeking variation at the institutional level.

The research uses quantitative data generated from field surveys of 382 Sri Lankan male and female managers. The main research instrument was a questionnaire. The data is stratified randomly, forming a sample of top, middle, and junior level managers. These managers belong to diverse Sri Lankan organisations in terms of size, ownership, and line(s) of business. The findings illustrate that organisational level attributes have greater explanatory power in interpreting the work perceptions of male and female managers in Sri Lanka than do the institutional factors. Organisational policies and recommendations that can be derived from this finding are elaborated.

## **F 221**

### **Environmental input-output framework to estimate the net national accounts for Sri Lanka**

Traditional System of National Accounting (SNA) has been criticized throughout the world for neglecting most environmental costs and benefits and merely relying on quantifiable monetary benefits. A global voice that transcends the economists has now been raised to incorporate in the SNA computation not only the full economic value of the impact on the environmental resources caused directly or indirectly by all types of economic production processes but also the full economic value of all natural resources that exist within a national boundary.

Economists with multidisciplinary interaction concerned with the environment have developed a range of techniques to overcome this criticism in way of upgrading the national accounts by reflecting the net national product more completely. In this regard several studies and strategies that sought to integrate the environmental component have been carried out internationally, though to a limited extent locally. In this study some existing models and studies on green accounting are reviewed. Whatever the model used, the major problem is developing environmental extension into the traditional input-output model. Therefore, an attempt is made to introduce a comprehensive model that incorporates the environmental aspects as columns (or rows) with matrices that correspond to the input-output table available for Sri Lanka. Furthermore it also seeks to classify the environmental aspects so as to capture non-marketable values.

The environmental input-output matrix thus developed consists of five major eco-systems as columns and 17 major eco-system functions as rows.

## **F 223**

### **Determinants of academic performance of medical students in Sri Lankan universities**

In spite of the highly competitive admission policy to a medical faculty a substantial number fail university examinations and is unable to graduate with the batch. Hence the research was aimed at finding the per-entry variables which affect academic performance in the university. The Colombo university was selected as the oldest faculty and most of the students had entered with very high marks at the A Level examination. The study was confined to the academic performance at the first and final examinations of 1989/90 and 1990/91 cohorts of students.

Logistic regression analysis was used to identify the variables which predict academic performance in the university. The categorical variables identified were used to group the students and compare the aggregate marks at A level and final examination among these groups using T-test for independent samples.

Attempt is the most important factor which predicts the academic performance at the second MBBS examination. Students entered in their first attempt had scored high marks at the A Level examination and they did better than the repeaters at the first and final examinations. These students passed both university examinations too with classes. This suggests that it is not advisable to repeat the A Level examination to enter a medical faculty other than in exceptional cases where the studies during the first attempt were interrupted due to ill health, family problems etc.

The results of the second examination is the most important factor which predicts academic performance at the final examination.

## **F 224**

### **A micro-scale primary science intervention implemented in an in-formal community-based setting**

Emphasis on primary science in the past years in Sri Lanka has increased and it is stressed that more innovative strategies on teaching science should be popularized to take science within the reach of all citizens.

Objective of this study was to launch a series of teaching experiments based on constructivist teaching in a community base informal setting to enable learning science more effectively and enjoyably using low cost strategies which would in return enrich science learning in school and to give an understanding of learning science to parents to change their perceptions on science learning.

A qualitative research study was designed to understand the changes in a group of subjects, namely primary school children of Year 4 and 5 who came from low-income families in a primary school in a sub urban area of Colombo and their parents. Science sessions were conducted by the researcher after school twice a week for twelve weeks within the school premises.

Data collection was done using participant observation, interviews and collection of student notes and diagrams. Analysis revealed that both children and parents welcomed the program. Student note keeping improved and attempted to construct spider charts and concept maps. Coping and rote learning was reduced. Observation skills developed. Problem solving strategies were developed.

Study is an example to show that primary science can be taught with low cost activities. Children enjoy "doing science" and it is possible to give them opportunities with simple creative activities. Constructivist teaching strategies are adaptable and rewarding to be used in the Sri Lankan context. Parent participation facilitated low teacher-investment in groups during pupil activities. This study is an example of a low cost intervention for popularization of science among disadvantaged community groups to reach the objectives of "Science for All" concept.

**F 225**

### **Computer technology & future of Sri Lankan society**

Computer & Information technologies are fast growing fields in the modern world. Developed countries are operating at the research and development level of these areas while we Sri Lankans are mainly operating at the "package-user" level. In our society students failing G.C.E.(O/L), G.C.E (A/L) and graduates with computer science also join as programmers (package users) mainly due to financial reasons. Society and universities too are geared to produce more and more IT people for the international market but not for national needs. For example, our university system fails to keep their own high quality computer science graduate as academics in the university system by preventing them from going to the industry. There is also a trend of learning to concentrate on computer related subjects while neglecting of other subject areas. Some parents are very much responsible in misguiding their children to follow computer courses even at the cost of neglecting higher studies.

With the current trend it is very likely that there will be an overflow of "package-user" level IT people in the country. The future of their jobs is under the control of countries that do research and development in the field. Therefore, Sri Lankan society needs to be more educated to go beyond user-level of IT due to mere financial reasons and keep a balance between the production of programmers and academics. Otherwise one day we will not have people in Sri Lanka to teach computer and information technology. We definitely need a balance. Finally, money oriented people should be reminded that all developed countries have sacrificed immediate financial gain, at some point of time, for the development what they have now.

**F 227**

### **Designing a self - guided study -pack on post harvest technology of fruits and vegetables to advanced level biology students**

Postharvest technology of fruits and vegetables (PTFV), is aimed at maintaining quality and increasing shelf-life of commodity. The principles are based on subject matter in the Advanced Level biology course; Biochemistry, Physiology, Microbiology Anatomy and Applied Biology.

A study -pack was thought to be effective in introducing PTFV. Such a pack would have several immediate advantages; acquire skills to follow written instructions, understand concepts learnt in class-room by their applications, understand importance of theoretical knowledge. Educating the future consumer and stimulating ideas on future employment opportunities were also considered. The study-pack included a students' guide, photo-album, booklet, an audio cassette and posters (3). The photos were on common diseases and handling practices of fruits/vegetables. The students' guide outlined basic concepts of PHT in 12 lessons followed by short questions and answers. Our day to day experience and technology used in developed countries were considered when preparing the lessons, activities and practicals. They were related to A/L knowledge and could be carried out with inexpensive materials without technical help. The booklet contained information on standard handling practices of local produce and some useful addresses to get further information on specialized areas. The audio-cassette explained information on posters followed by quizzes.

The pack was tested on a sample (n=10) of year thirteen students. The same test consisting of 37 questions (relevant to the A/L syllabus) was given before and after following the study pack. Performance improved significantly ( $p < 0.0001$ ) after following the study-pack. 95% confident interval for the difference of marks was 19 and 10.8.

**F 228**

### **Economics of soil conservation: A case study for rainfed uplands farming in Dry Zone of Sri Lanka**

Soil erosion in its broadest sense is one of the major problems, highland farming in dry zone agricultural frontier is facing at this moment in Sri Lanka. It depresses soil fertility and crop yield and leads to reduce income(s) of rainfed farmers in the Dry Zone as well as incomes in down-stream irrigation agriculture and hydropower generation via externalities. Meanwhile, many of the agroforestry programs designed to minimize the above problem have fallen short of expectations: often small farmers have not adopted recommended agroforestry practices or have abandoned them once the project(s) are terminated.

An extent of household's participation in agroforestry is dependent on the expected levels and variations in the marginal profit to labour gained from such practices. The aim of the study is to examine expected value of household's participation in agroforestry in a given locality using labour supply function of households.

Many have pointed out that it is difficult to accept the view that the marginal productivity of labour ( $MPL_a = 0$ ) is always near or equal to zero in subsistence

agriculture in developing countries. Several empirical studies suggest that the MPLa is greater than zero ( $MPLa > 0$ ). If this is true, then there will be positive opportunity costs due to a transfer of labour from on-farm/off farm to conservation since such a transfer will tend to reduce the level of on-farm output/or off- farm income.

The study therefore, uses a labor supply framework for identifying factors contributing to participation of households in alley cropping a form of agroforestry within highland rainfed farming. A case study was undertaken in Huruluwewa watershed area in the north Central Province, Sri Lanka. The study provides empirical evidences to confirm the theoreticla framework.

The model indicates that farmers with substantial off-farm employment and income tend to invest in soil conservation than those without. The model identifies three important recommendatins: at micro-level. (a) farmers' objectives should be clearly understood so that agroforestry programmes can be designed with greater acceptance, (a) agroforestry programs should minimize expenditures that farmers would be willing to make on their own and (c) long term credit and banking facilities should be made available for agroforestry programmes.

## F 231

### Determinants of private saving in Sri Lanka 1970-1998

This paper empirically examines the factors affecting private saving behaviour in Sri Lanka in the period 1970-98. A broad set of determinants of private saving in an economy is available in theoretical literatue. The fiscal position of the government, GDP growth rate, real interest rate, per capita income, change in the terms of trade (TOT), wealth, inflation and age structure (dependency ratio) of the population are most importance factors among then. Although a number of empirical studies have been carried out under this topic, the relationship between private saving ratio and the factors underlined above have not been resolved conclusively. An investigation of private saving/investment behaviour is therefore, important. Table 1 gives the estimated results.

**Table 1**

Determinants of private saving in Sri Lanka 1970-98

Variables	B	SE B	BETA	T	Sig T
1. Government saving	-1.397	0.297	-0.425	-4.695	.0001
2. Government investment expenditure	-1.631	0.419	-0.324	-3.890	.0008
3. Government current expenditure	-0.483	0.305	-0.149	-1.591	.2335
4. GDP growth	0.639	0.333	0.154	2.107	.0513
5. Percentage change of TOT	0.043	0.037	0.091	1.157	.2643
6. Current account GDP ratio	0.386	0.299	0.209	1.293	.2144

7. Inflation	0.101	0.157	0.095	0.644	.5285
8. Dependency ration	-0.022	0.095	-0.026	-0.237	.8156
9. Real interest rate	0.178	0.172	0.186	1.077	.3153
10. Percapita income	-0.162	0.118	-0.134	-1.363	.1905

Constant	28.4314
Adjusted R Square	0.92569
Significant F	0.0000

The simple regression method used to analyse the factors affecting private saving in Sri Lanka in 1970-98 disclosed that the government fiscal position adversely affected private saving behaviour. A one percent increase of government (dis) saving results in a reduction of private saving by 1.4 percent, while the government investment expenditure causes to reduces private saving by 1.6 percent. The policies directed at the reduction of the budget deficit of the government through management of its expenditure are vital to increase the private saving and in turn to achieve a meaningful economic growth in the country.