

# ECONOMIC REVIEW

1994 May - June



# PRIVATE TUITION IN SRI LANKA

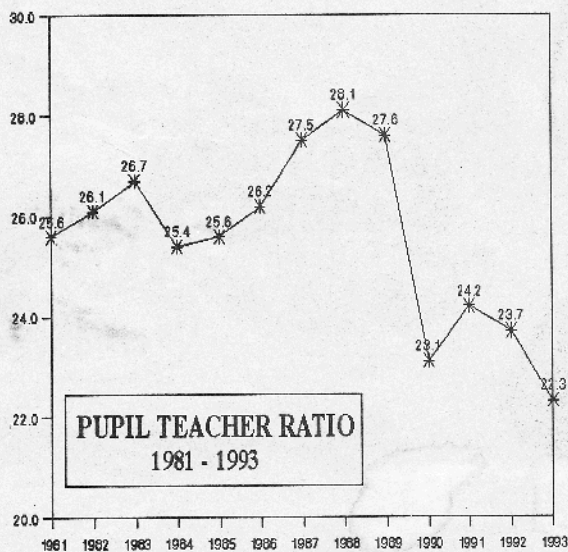
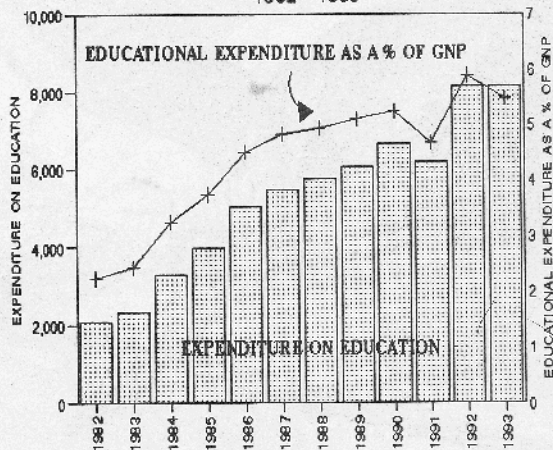
## A NEW STYLE OF EDUCATION



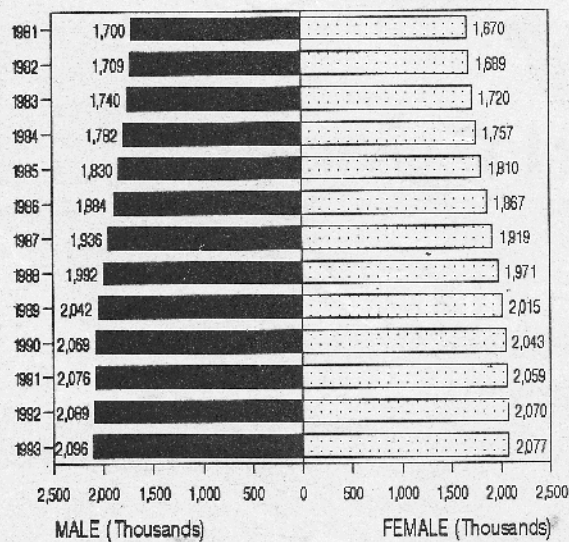


# COMMITMENT TO NATIONAL EDUCATION SYSTEM

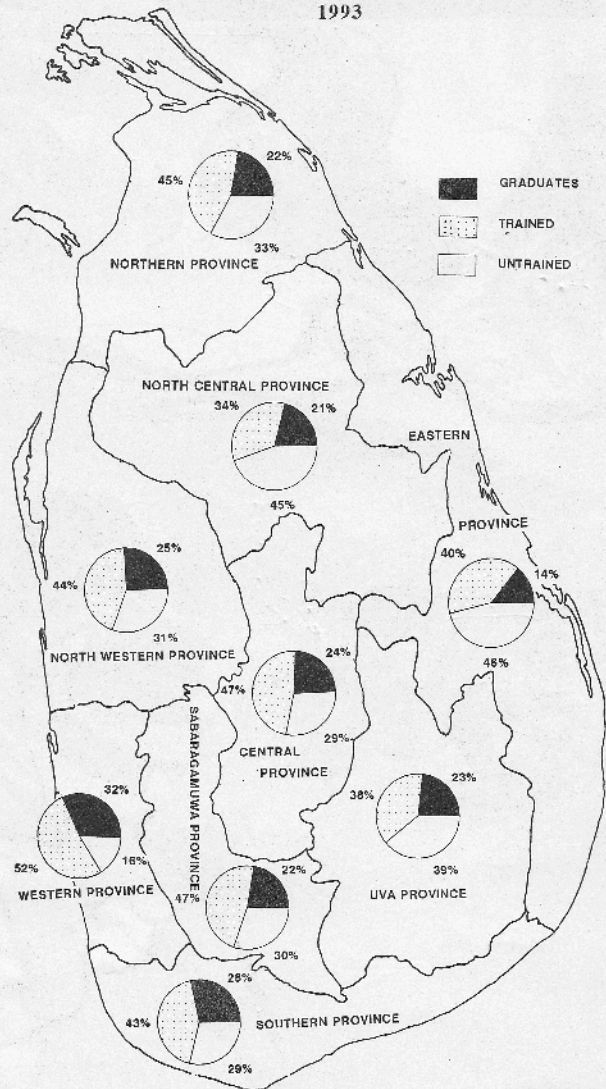
GOVERNMENT EXPENDITURE ON EDUCATION  
1982 - 1993



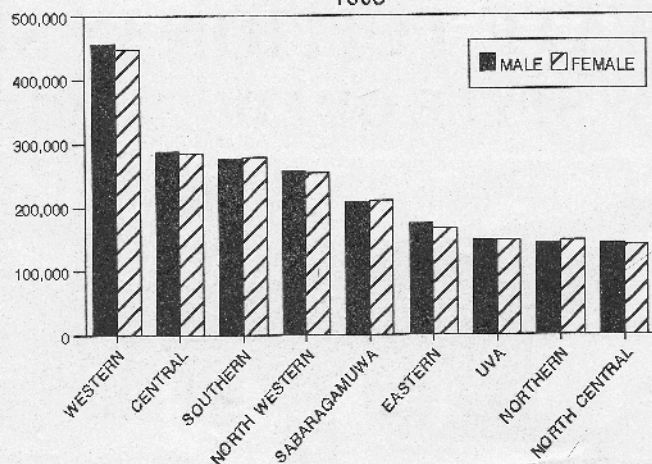
PUPIL POPULATION BY GENDER



TEACHERS BY EDUCATIONAL QUALIFICATIONS  
IN GOVERNMENT SCHOOLS  
1993



PUPIL POPULATION BY PROVINCE  
1993



SOURCE: STATISTICAL DIVISION, MINISTRY OF EDUCATION.



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THE ECONOMIC REVIEW is intended to promote knowledge of and interest in the economy and economic development process by a many sided presentation of views & reportage, facts and debate. THE ECONOMIC REVIEW is a community service project of the People's Bank. Its contents however are the result of editorial considerations only and do not necessarily reflect Bank policies or the official viewpoint. Signed feature articles also are the personal views of the authors and do not represent the institutions to which they are attached. Similar contributions as well as comments and viewpoints are welcome. THE ECONOMIC REVIEW is published monthly and is available both on subscription and on direct sale.



# Different Perception on Private Tuition System

- \* Tuition classes are not suited to the free education scheme. Students lose their respect for their teachers.

- **Professor K. Dharmasena,**  
University of Kelaniya

- \* The fierce competitiveness of the present examination system has forced parents to send their children for tuition classes. It is timely to evolve a system of exams designed to improve the intellectual pursuits through the use of reference books. This scheme of tuition classes does not fulfil the aspirations of a National education.

- **Professor G.L. Peiris**

- \* Alternatives must be offered to the system of private tuition classes instead of condemning them. School hours have been limited to six taking into consideration the children's capacity for study. However, under the present system of tuition classes children are compelled to study throughout the day.

- **H.M. Sirisena,**

Director of Education, Western Province.

- \* Papers are based on the syllabus and if the syllabuses are covered there is no need for students to follow tuition classes.

- **A. Wedamulla,**

The Commissioner of Examinations.

- \* Tuition classes would become redundant if teachers finish the syllabus in time.

- **A.P. Gunaratne**

The Principal, Ananda College.

- \* Students need a little help due to the fierce competition. However, tuition classes have now become a major commercial enterprise. It has been found that this has been an encouragement for highly qualified talented teachers in certain cases to remain in the teacher service.

- **P. Sooriyaarachchi,** The Principal, Royal College.

- \* Various students have suffered from mental problems due to parents making so many demands regarding better results at examinations. More students with this problem come for treatment during the period when OL and AL examinations are held.

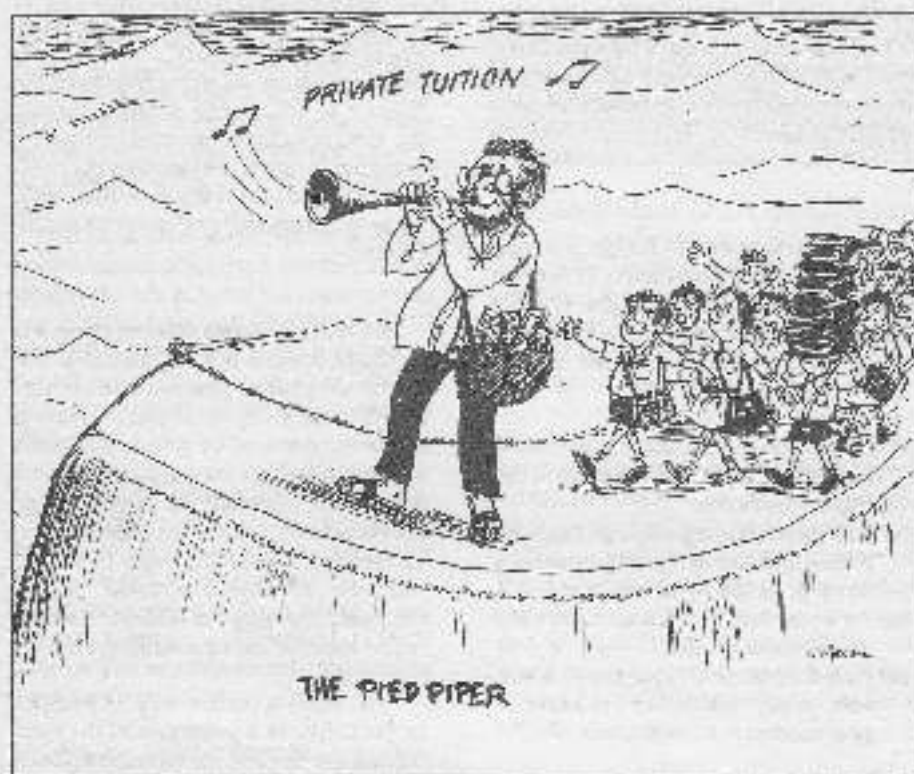
- **Dr. Gamini Prematilake,** Psychiatrist,  
Sahanaya Institution.

Courtesy: Sri Lanka Broadcasting Corporation.



# PRIVATE TUITION IN SRI LANKA :

## A New Style of Education Today



This new style of education, even though the direct cost to them is prohibitive. Since the effect of private tuition is related to fees charged by reputed suppliers, parents are forced to pay more for better results. This tendency leads not only to financial difficulties but also to increase the cost of education. The more critical issue is that many parents and pupils who fail to achieve their goals end up with disappointment, frustration and in some cases with psychological problems.

On the other hand the effectiveness of private tuition will lead to a weakening of the national education. The argument relates to two main issues. The first, would be the breaking of the monopoly of the national education system in its areas of public school education, and the creation of a competitive framework that would improve the overall performance of the national education system.

Secondly, through its overall effect would weaken the quality of public schooling. These two issues have led to a policy debate on possible implications of the co-existence of a commercialized private tuition system and the subsidized public schooling system. The policy issues revolve around the argument that aggressiveness of the second system of education (private tuition) in the market, which is class related, would override wider social considerations of the national system of education, in the absence of low-cost private alternatives. The challenge of education policies is to find ways of allowing all social groups to have sufficient access to an organized alternative if the national education system, in practice, is not upto the expectation of less privileged pupils and parents.

In the following discussion our contributors provide a comprehensive analysis on macro implications of private tuition in Sri Lanka and highlight merits and demerits of the new enterprise.

**'P** rivate Tuition' in Sri Lanka is spreading its tentacles rapidly into every avenue where the demand for such tuition is on the increase. The expansion of this enterprise, with increased competition for pupils in the market, indicates that private tuition is established as an alternative system of education. In areas where competition is high for private tuition, the balance of power in education is changing from teachers and policy-makers to pupils and their parents. Even though the education policy is not implemented in favour of market competition, increased

number of suppliers are moving into the market, with an aggressive advertising campaign. In order to establish themselves in this lucrative commercial business. As more privileged parents are better placed to opt for private tuition, they no longer depend on the effective performance of the heavily subsidized national education system. Thus the issue revolving around the belief in the effectiveness of private tuition, is very much related to its overall performance. This is often determined by the rich who have benefited most. However, it is not only the rich, but the upper and middle class of parents also opt for private tuition in order to identify themselves with



# The Present Status of Private Tutoring in Sri Lanka

Professor Ariyadasa de Silva

*Professor Ariyadasa de Silva serves as Professor of Humanities Education in the University of Colombo where he has also served as Dean of the Faculty of Education. He co-ordinated a major piece of research on Extra-school Instruction in Sri Lanka, 1989-1990.*

In 1969 Sri Lanka celebrated the **Siyawasa**, the centenary of the establishment of the Department of Public Instruction responsible for general school education. The number of schools has now topped the 10,000 mark. Free education was introduced in 1945. A free mid-day meal has been provided, if not continuously, at least from time to time. Concessionary travel has been permitted to school children patronising the state train and road (now peopled) passenger services. Scholarships covering board and lodging have been offered to a large number of students selected every year on need and merit. Free school textbooks and free school uniforms are now being provided to most school children.

In the context of these measures undertaken for the spread and advancement of education, it may be a little incongruous to record the existence of a lucrative and substantial market for extra-school tutoring, commonly referred to as 'private tuition'. The least understood aspect of this incongruity is that this market is, to a very great extent, patronised by young people already in full time attendance at school, in addition to ex-school students.

In Sri Lanka it has become a very common occurrence that a large number of school children of all age groups and form levels receive some measure of extra-school tutoring in subjects taught at schools either before or after a full day's

study at school or, as happens sometimes, both before and after. This extra input may be in respect of one or more subjects currently being studied at school and may be received in any one or more of the following ways:

- (i) Individually, on a one to one basis from a visiting tutor at home or at the tutor's residence.
- (ii) As a member of a group meeting with a visiting tutor at a group member's home or at the tutor's residence.
- (iii) As a member of class conducted by an individual tutor.
- (iv) As a student in attendance at a 'private tutoring' run by an academic or non-academic entrepreneur.

While the above are the more common forms of extra-school tutoring it is possible that other forms too exist.

Private tuition has become a fast growing and increasingly important phenomenon in Sri Lankan education. It is now considered more or less a necessity by both students and their parents, at the primary as well as at the secondary level. Three national examinations represent particular "pressure points" namely, the Year Five Scholarships Examination, the GCE Ordinary Level Examination and the GCE Advanced Level Examination. For students not already attending a school of repute, success at the Year Five Scholarships Examination will bring a place in a good secondary school with or without financial benefits

depending on the extent of need. Doing well at the GCE Ordinary Level Examination assures one of being placed in the Science or Commerce stream. Passing the Advanced Level examination with a respectable aggregate provides the passport to a good university education leading to much coveted professional qualifications.

With these possibilities in mind it is no doubt the aim of every parent in this age of competitive education to see that his child excels in his studies. This way arises the demand for private education in order to prepare students for the above public examinations. The private tuition industry in Sri Lanka has become widespread and powerful enough to be considered a "shadow" or "parallel" education system posing a confident challenge to the established education system.

The current status of private tuition in Sri Lanka is a reflection of the close connection between examination results on the one hand and both educational and occupational destinations on the other. Performance at important examinations determines whether students remain in the educational system qualifying for high paying and high status jobs or enter the workforce at lower income and status levels. Further examination scores are used by the University Grants Commission and other high institutions and employers alike in recruitment and placement decisions.

The most popularly perceived benefit of private tuition is the added strength for students to pass examinations obtaining good grades, leading to university admission or employment. Individual private tuition can help the weaker pupils by providing more attention in their



weak subjects. It enables remedial teaching to be undertaken according to individual need. Sometimes large gaps in students' learning are created due to a number of factors such as student and teacher absence, frequent closures of school, ineffective teaching and negligence on the part of the teacher. It is not every school that can boast of a full complement of specialist teachers in crucial areas like Mathematics, Science and English. Immature, inexperienced or unqualified teachers handling these subjects may not be able to lead the students to a proper understanding of the sections taught. Effective private tuition can help overcome these gaps or deficiencies in students' learning and build their confidence enabling them to compete with others and experience a happy and pleasant life.

As indicated above efficient extra-school academic support provided to students who are genuinely in need of it is capable of doing them a world of good. It can help them to overcome their weaknesses and perform in class at least as average students. If not above average students.

Having said that it should be immediately noted, however, that a tyrannical system of private tuition under which practically all students, both bright and weak, are indiscriminately made to feel that extra-school support is required for success at examinations has raised many fears and suspicions.

First and foremost it calls in question the effectiveness and usefulness of the formal school and affects the quality of public education. The backwash effects of this enormous parallel system on the work of the regular school have caused great concern among educationists. The demands on the time and energy of both students who obtain tuition (not necessarily from their own regular teachers) and teachers who provide tuition (not necessarily to one's own regular students) tend to weaken the teaching-learning process at school. Both students and teachers tend to take the teaching-learning process at school less seriously than they should and pay more attention to their respective tuition classes. Both teachers and students deeply involved in tuition register a presence at school only as a concession to respectability and formality. As far as the teachers are

concerned they have a vested interest in maintaining a formal connection with a reputed school producing good examination results because it is in that capacity that they can continue to remain in the industry. It is not uncommon to find students registered in schools in far off places where they can reap the benefit of the district quota system for university admission, attending tutorials in Colombo or suburbs as full time students.

The continuous teaching-learning process going on from morning until evening on week days and during weekends and school holidays denies both teachers and students sufficient rest and recreation, producing fatigue in both teachers and pupils, making them 'relax' at school.

Charges have often been made that teachers neglect their regular teaching and openly suggest to students and parents that they attend the private classes conducted by them. Such teachers are known to magnify even the occasional and infrequent mistakes, weaknesses and shortcomings of their regular students beyond all proportion just to make the students lose confidence in themselves and make these students attend their tuition classes. These teachers are also in a position to bestow favours on those students who attend their tuition classes, at examination time and at other crucial times. It is a welcome feature that many school teachers in the industry refrain from offering paid tuition to their regular students.

Students, on finding that tuition, with its emphasis on specific examination skills is more useful to them than schooling, tend to become irregular in school attendance. Teachers of regular schools sensing a loss of student interest in their lessons may try to ape the tutors and focus on quick answers and test-taking skills to the detriment of genuine teaching leading to comprehension and other desirable cognitive, affective and psycho-motor outcomes. Preparing students to pass examinations may sometimes mean dropping large sections of the prescribed syllabus and concentrating only on areas with 'examination value'. The devaluation of the reflective, aesthetic, ethical and recreational aspects of education is also laid at the door of private tuition which forces the school to

accept, adopt and pursue with this narrow orientation towards examinations.

Secondly, the strain on parental resources and the consequent erosion of the benefits of free education has surfaced as an important issue. Joining private tuition in the first place and selecting the kind of tuition to be obtained are decisions based largely on the ability to pay, although availability at a convenient location is also an important consideration. As private tuition has thus become a fee-paying shadow or parallel education "system" it appears to have hindered the underprivileged and disadvantaged groups reaping the full potential of education as a means of improving upward social mobility. In fact, private tuition has become such a critical factor in educational attainment that various social, educational and welfare organisations have begun to provide private tuition to underprivileged students on low or no-cost basis.

Those who are academically strong and able can also avail themselves of tuition facilities in order to ensure that they come out with flying colours. The rules of the game favour the rich whether they need tuition or not. Those who really need some form of extra help may not be receiving it thus leading to the perpetuation of educational inequality between the different social groups. This force disturbing equality can work indirectly too. Families in the higher socio-economic positions, very often urban based, tend to have a small number of children and a well-to-do small family is financially able to provide tuition to all their children. On the other hand the larger urban as well as rural families are very often from a poorer socio-economic background and tuition taking among their children tends to be less.

Thus a strong relationship between the socio-economic status of the parents and the incidence of private tuition is established leading to a widening of the educational gap between the different social groups. An educational situation such as this has implications for equality of educational opportunity and the restructuring of Sri Lankan society. In the case of economically advantaged families taking private tuition represents an additional insurance cover to their children's preparation for a comfortable future.



Tutors, like teachers in school, can differ in their teaching ability, effectiveness, motivation and dedication, leading to differences in the quality of tuition produced. It is generally assumed that those students receiving tuition from tutors of standing, either individually or in small groups, receive a higher quality of tuition than made available to large groups. It is seen that students from low socio-economic status groups have less access to quality individualised tuition. There emerges thus a two-tiered provision and availability of tuition, a high-quality tuition for the urban high SES groups with small families and a poorer quality tuition for the rest. Those from the high status and high income groups are able to avail themselves of the services of the best tutors in the industry. The poorer groups, on the other hand, have to settle for tutors whose services they can afford and who live near their homes, cutting down or eliminating altogether the expenditure on transport.

The disadvantages of lack of access to quality tuition are further entrenched through the shortness of the period during which tuition is available to these groups. Generally the urban wealthier social groups are in a sound position to provide tuition from an early age and on a continuing basis while the less privileged groups have access to tuition later in the school career and often only sporadically, generally prior to important examinations.

Thirdly, the possible adverse effects of high pressure tutoring on the physical, psychological, moral and social growth and development have attracted public attention and politicians, education officials and religious and civic leaders have voiced their concern. Children have to be away from home for most of the time affecting the close relations and the bond of affection between parents and children. They have to rush from one tuition class to another after school without proper food or rest. After tuition they return home rather late and tired and are thus denied the free time needed to explore their own personal interests. Very often they are left without any time for religious worship and observances. In fact religious leaders are demanding that tuition centres should close on Sunday morning to enable the students to attend Sunday School. The comparative freedom and the liberal atmosphere within which

some tutorials are conducted coupled with the opportunity to be away from home for long periods may promote undesirable involvements. Fears have also been expressed that this freedom could lead to indiscipline both at school and at home.

It is important, therefore, that the phenomenon of private tuition and its incidence and consequences be examined fully in order to generate information that will inform policy decisions.

The subject of extra-school tutoring has attracted comment from many in different places. However, published research in this area remains meagre. Pararajasingham in a study limited to the Jaffna Peninsula found a total of 39 private tutorials in the Peninsula, in 1980.<sup>1</sup> They were known by different names such as Institutes, Centres, Tutorial Colleges, Halls, Tutorials, Kalagams and Academies. Twenty three tutorials out of 27 visited by the Researcher had on their roll a larger number of school pupils than non-school going pupils. This established the fact that private tutorials were conducted parallel to the regular schools. These private tutorials functioned in addition to tuition classes conducted by individual tutors in their own homes and tuition services offered by tutors who visited homes.

A very high proportion of students studying in the Ordinary Level and Advanced Level classes in schools sought private tuition.

	GCE (OL)	GCE (AL)
Number in Sample	275	271
Number taking tuition	200	236
Percentage	72.7	87.1

There was no significant difference between the proportion of pupils from government schools and that from private schools obtaining tuition. All subjects taught in the regular schools were taught in the private tutorials too with many of them giving an important place to the teaching of Science and Mathematics. Practical work was not generally undertaken.

The methods of teaching adopted by the tutorials were examination-oriented. First, the tutors made an attempt to cover the syllabus in its entirety, stressing on those sections "important for the

examination". Once a section was completed all the questions relating to that section set at past examinations and other possible and probable questions were discussed in class. The pupils were then tested on that section and the marks reported to the parents. The answers written by the students were then discussed in class.

The special examination service "offered at the end of the course was perhaps unique". It was seen that "at the end of the course seminars are held and competent persons from the University, Chief Examiners in various subjects and authors of popular textbooks are called in to deliver lectures on 'how to answer examinations' and to discuss important issues." Practising teachers, undergraduates, unemployed graduates and retired teachers (specially those who had retired prematurely and those who were available soon after retirement), in this order of preference, were selected by the Directors of Tutorials as teachers of their institutes, a special effort being made to recruit people who were upto date with their work and who could be popular with students.

Although these private tutorials were already well known they still advertised through a number of different media: newspapers, radio, posters, cinema slides etc. In addition to attractive advertisements the tutorials adopted other means too to win publicity and to keep themselves constantly in the public eye, some of them being -

- (i) Celebrating religious festivals within their premises.
- (ii) Arranging talks by persons distinguished in various walks of life.
- (iii) Organising sports meets, plays and other occasions for people to get together.

The owners or directors of tutorials preferred to establish their institutions in close proximity to schools so that it would be very convenient for school children to attend them. However, it was not every owner or director who succeeded in obtaining premises as desired.

The parents expressed great confidence in private tuition. They said that tuition was essential to obtain good results at public examinations. Tuition was a must if one wanted to enter University



today. Their children would not be able to pass their examinations well without the aid of private tutors.

Students spent a considerable time receiving tuition. An Ordinary Level student spent 11.38 hours per week on tuition, while the average time spent by an Advanced Level student, per week, in obtaining tuition was 13.24 hours. A number of students, more AL students than OL students admitted that they attended more than one private tutor for instruction. The reason given was that good tutors were found distributed among various tuitions and therefore they attended more than one tutor so as to receive instruction in the same subject from different tutors. Generally students attended private tuition classes throughout the year. It was found that 13 out of the 548 parents sampled (2.35%) could not afford to send their children for private tuition due to financial difficulties.

Hemachandra studied the perceived needs of students seeking tuition class support and the latent social factors in the city of Colombo and the district of Kegalle.<sup>2</sup> He found that a greater percentage of students in the Colombo city attended tuition classes than in the Kegalle District and in both areas the percentage attending tuition classes was higher among GCE (AL) students than among GCE (OL) students.

Colombo City	GCE (OL)	GCE (AL)
Percentage attending	50	84
Percentage not attending	40	16
Kegalle District		
Percentage attending	47	61
Percentage not attending	53	39

It was thought that two factors were responsible for the highest percentage of tuition takers being among the GCE (AL) students in Colombo city.

- On account of the district quota system the students in Colombo had to score very high marks if they were to gain admission to University.
- A greater number of students in Colombo City pursued an education in Science where the need to score very high marks was even more acute than was generally the case.

Table 1

Number Attending Tuition Classes					
	Arts	Commerce	Physical Science	Biological Science	Total
<b>Colombo City</b>					
Percentage attending	92	69	98	96	81
Percentage not attending	08	31	01	04	19
<b>Kegalle District</b>					
Percentage attending	59	45	85	69	61
Percentage not attending	47	55	15	32	39

Table 2

Number of hours spent on Tuition per week by Year 5 Students						
Subject	1-3 hours		3-5 hours		more than 5 hours	
	No.	%	No.	%	No.	%
Shibala	68	68	30	30	2	02.0
Mathematics	77	73.1	25	24.4	3	02.5
English	90	92.8	8	7.1	-	--

This argument could be supported by the number attending tuition classes classified by the stream. (See Table 1)

There was no significant difference between scholarship holders and non-scholarship holders in attending tuition classes, although it could be hypothesized that Scholarship holders were less in need of attending tuition classes on account of the better mental fibre shown by them in winning scholarships at competitive examinations.

In Colombo City both OL and AL students spent approximately 9 to 10 hours per week on tuition classes while in Kegalle the time spent on tuition ranged from about 8 hours to 9.5 hours per week. Both OL and AL students in Colombo City, on the average, spent about 8 to 8.5 hours, and at times even 6 hours per week on travelling to and from tuition classes. In Kegalle, the time spent on travelling ranged from 1.5 hours to 5.5 hours. Those students who took tuition in a number of subjects at different tuitions or from different tutors had of necessity, to spend much more time in travelling.

The tuition fees paid varied according to the location, institution/tutor and stream. In both Colombo City and Kegalle District the cost of tuition in Biological

Sciences and Physical Sciences was higher than in Arts and Commerce. The disparity in tuition fees paid by students attending schools of different categories in Colombo City suggested that students attending the more prestigious schools patronized the more expensive tuition classes.

There appeared to be a strong relationship between family income and attendance at tuition. The data showed a significant rise in the percentage attending tuition classes as one moved up the income brackets. A strong connection was also indicated between social class and attendance at tuition. The middle and upper classes were seen making a strong bid to retain their class positions and ensure this by means of education. These tendencies were further confirmed in an examination of the outlay on children's tuition by parents of middle class occupational groups. Expensive private tuition was seen to act as a class mechanism restricting access to education, particularly Science education to members of the well to do classes.

The Report entitled *Education and Training in Sri Lanka* sponsored by the Asian Development Bank has recorded that excessive emphasis on external examinations has resulted in the promotion of inequality as "well to do parents



# THE EMERGENCE OF PRIVATE TUITION IN SRI LANKA

Professor Chandra Gunawardena

*Chandra Gunawardena is the Professor of Education at the Open University of Sri Lanka. Earlier she was a Senior Lecturer in the Faculty of Education, University of Colombo. Her research interests are in higher education, social influences on education and gender and education.*

Private tuition in Sri Lanka has rapidly spread in all directions - into all geographical areas of the country, to embrace all levels of the formal education system and all subjects of the curriculum so that it is often referred to as an alternative system of education, which parallels the instruction imparted in the formal school. Even though this phenomenon is not specific to our country, it is more common in the developing world where issues of opportunities for higher education, employment and social mobility have assumed volatile proportions.

## 1.0 The Changing Educational Scene since Independence

The introduction of free education from kindergarten to university level, the change in the medium of instruction from English to mother tongue, and the expansion of the school system, notably of Central Schools (Madhya Maha Vidyalayas) and Maha Vidyalayas with scholarships supporting the able but needy children, gradually enabled the policy makers to realize their objective of expanding primary and secondary education in Sri Lanka. This led to "a revolution in rising expectations" as in many a developing country. The school census figures for the census years from 1953 to 1970 reveal the phenomenal expansion that took place (Table 1).

It was clear that more children were enrolling in school, participating in formal education for longer periods, and

obtaining educational qualifications. These figures may not indicate the percentage of the age groups who never enrol in school, who drop out of school early and who leave school having failed to get any qualifications. Yet when taken in isolation, the table records the phenomenal expansion of educational opportunity in the country.

## 2.0 Educational Expansion in a Socio-economic Context

The motivation to obtain an education comes from the perception of possibilities for social and economic advancement that the educational qualifications will ultimately lead to. In a situation where opportunities for employment are available for all who obtain educational qualifications at different levels, individual satisfaction and a smooth transition from education to the labour market will be the outcome. If the converse is true, however, if unemployment of the educated were to occur, the response to education and its perceived outcomes is bound to undergo change.

During the 1960s, Sri Lanka faced a virtual economic stagnation. External borrowings were used to bridge the growing foreign exchange gap and by 1970, more than 65 percent of the borrowings was required for servicing and repayment of debts (Ministry of Planning and Employment, (Sri Lanka), 1970). The country continued to maintain welfare measures, (in spite of the grim economic situation) which became more burden-

some with the rapid growth in population.

The stagnant economy could not absorb the overwhelming number of job seekers entering the labour market estimated at 120,000 per annum. (Ministry of Finance, 1971). During the period from 1963 to 1971, one million entrants had joined the work force. The fact that the characteristics of the new entrants to the labour force in respect of their educational qualifications had undergone a drastic change introduced a new dimension to the problem of unemployment, (Table 2)

Unemployment was not only a problem of youth, it was fast becoming a problem of educated youth. Despite this foreboding situation, increasing education had led to a rise in occupational aspirations, so that increasing numbers of school leavers aspired for white-collar jobs, away from unrewarding manual occupations. The Seers Report reported that the majority of university students preferred public sector employment and gave as their reasons the security, the pensions, the freedom and special fringe benefits (ILO, 1971)

Contrary to these expectations, what awaited the educated youth was not a secure job in the public sector, with prospects of social mobility and economic advancement, but longer periods of unemployment, leading to hopelessness and powerlessness, compelling them in the end to settle for jobs with lower remuneration and social prestige. The situation was further compounded by the keen competition for restricted university places (even though the number of universities and the intake had increased) which led to a decline in the percentage of A.L. qualified applicants



gaining admission to university from 24.1 percent in 1953 to 11.6 percent in 1968 and 5.9 percent in 1977.

One obvious reaction from youthful students would have been a sense of disillusionment with education. This may be happening to a certain extent at present. A more common response is a greater striving for qualifications, higher levels of achievement to keep pace with the escalation of marks and educational levels imposed by higher education authorities and employers in admitting to universities and recruiting for jobs.

### 3.0 Reasons for the Emergence of Private Tuition

The above analysis of contextual factors indicate a direct link between the recent phenomenon of private tuition with a realistic appraisal of the restricted opportunities for higher education and employment in Sri Lanka by those who are participating in education. It is possible to identify several critical points in a child's education career that are closely related to these opportunities.

Higher education and employment are the culminating points of an individual's educational career. While the ultimate destination is employment, many who do not have the capability would still wish to gain a higher education, considered as the preserve of the elite. Gaining admission to a school, performance at the Grade 5 Scholarship Examination, performance at public examinations such as the G.C.E. (O.L.) and (A.L.) and entry to a job are the critical points that stand out in a child's educational career. These critical points operate in the reverse order as pressure at the top exerts its influence on the tiers lower down.

#### 3.1 Escalation of Entry Requirements for Jobs

A direct outcome of the limited employment opportunities in the stagnant Sri Lankan economy, which could not absorb the large output from educational institutions was an escalation of entry requirements. The paradox here was that even though thousands of graduates languished for want of employment, the demand for university education continued unabated. Analysis of information contained in Career Guidance Infor-

Table 1

Grades	Enrolment in schools (1953 - 1970)		
	1953	1963	1970
1 - 5	1,237,191	1,750,239	1,680,245
6 - 8	240,768	430,313	587,060
9 - 10	81,840	245,457	310,216
11 - 12	5,870	34,678	45,812

Source: Annual school census, Ministry of Education

Schedule 1

Reason	Percentages		
	Year 12/ Arts	12/ Sci	12/ Com
1. I want to obtain higher marks	82.4	90.6	87.3
2. In tuition classes, I learn how to answer examination questions	90.6	84.5	89.2
3. Subjects we are not covered in school	89.5	72.1	74.9
4. I can't keep up pace when the teacher starts a new topic	87.4	86.6	85.0
5. I can use my free time profitably because of tuition	85.0	87.8	78.5
6. All students who learnt from my tutor have passed well	77.3	49.8	78.9
7. The amount of subject matter taught at school is not sufficient to pass the examination	73.4	55.7	71.4
Highest Non-Response Rate	21.6	5.5	1.9

mation Systems published by the Ministry of Youth Affairs and Employment on 13 selected industries revealed that even though the majority of those entering these industries appear to have either an incomplete or complete secondary education, and even though only about one-third of the jobs had additional professional qualifications or practical skills, a large majority of the job entrants seemed to be trained for the jobs that they join through an apprenticeship scheme or on-the-job training.

At present, the mood of the employers especially in recruiting for junior executive level seems to be focussed on general transferable skills and social skills in addition to or in lieu of educational qualifications (Gunawardena et al, 1991). It is unlikely, however, that

meritocratic criteria will be superseded to a large extent by such new emphases.

#### 3.2 Admission to Universities

One direct route to qualify to compete in the labour market is through a university education. Despite the criticism levelled at the poor quality of university education, the successful entrants into the prestigious occupations in medicine, law, dentistry and engineering are produced by universities.

As competition for limited university places grow, the authorities were compelled to impose higher cut-off points for entry into different courses. Thus in 1991, a total of 122,869 candidates sat the G.C.E. (A.L.) Examination. Of these, 37,374 candidates or 30 percent obtained



the minimum qualifications for entry into universities. The eligible candidates had either passed in all four subjects or passed in three subjects obtaining not less than 25 marks in the 4th subject. In the case of both these categories, the aggregate mark had to be more than 180. The total number admitted was 8970.

The cut-off marks for admission into different university faculties given below are indicative of the very keen competition prevailing at this level.

W. A. de Silva and associates (1991) in their comprehensive study of private tuition in Sri Lanka asked their sample of students what made them take to private tuition. The reasons given by the G.C.E. (A.L.) (Year 13) students are shown in Schedule I.

The above responses depict two facets of the private tuition phenomenon. One, voiced by higher percentages of students was the belief that tuition prepares the students better for examination and to obtain higher marks. Second refers to the complementary role played by tuition in assisting students to cover syllabuses. A high percentage interpreted the profitable use of free time as devoting such time for studies.

Faculty	Cut-off mark (Colombo District)
Medicine	266
Bio-Science	241
Physical Science	242
Engineering I	286
Engineering II	276
Veterinary Science	269
Dentistry	262
Agriculture	249
Architecture	213
Arts	243
Management	291
Law	281
Commerce	273
Quantity surveying	270

### 3.3 G.C.E. (A.L.) Examination

If a student aspires for a university education due to perceived benefits from higher education and/or in relation to subsequent employment, G.C.E. (O.L.) Examination assumes importance be-

Table 2

Age	Unemployment by Educational Level				
	Educational Level				
	No schooling	Primary	Middle	O.L.	A.L. +
15 - 19	6.5	31.8	48.5	11.5	1.7
20 - 24	3.0	13.5	45.1	34.8	3.6
All Total	5.5	22.5	44.6	24.1	3.3

Source: Socio-economic survey, 1969/70, Dept. of Census and Statistics, Colombo.

Schedule II

Reason	Number
1. To pass the Scholarships Examination	63
2. To improve knowledge	21
3. To study well	10
4. My parents send me for tuition	8
5. To get additional help in studies	5
6. Because I am weak in my studies	4
7. To study in a good school	3
8. Interest	2

cause the entry into the G.C.E. (A/L) course, especially to particular curricular streams, is determined by his performance at the O.L. examination. Normally, a place in a prestigious course in a prestigious school can be obtained only if a student obtains distinctions in all subjects. In addition, a pass at G.C.E. (O.L.) has now become the minimum qualification for entry to white collar jobs in both the public and private sectors and for admission to trade courses in government technical colleges etc. The desire is not, therefore, simply to obtain a pass certificate but to pass the examination with as many "distinctions" or "credits" in the individual subjects as possible.

In the study referred to above (de Silva et al., 1991) it is noteworthy, thus, that of the seven reasons given by Year 13 students as impelling them to take to tuition, 5 were repeated by Year 11 students also. The only deviations were in the 6th reason - "all students who learnt from my tutor have passed well" - and the 7th - "the amount of subject matter taught in school is not sufficient to pass the Examination". Only 1.4 percent of the responding Year 11 students had given the 6th reason, but 56.1 percent agreed with the 7th.

The above responses clearly show that students take tuition on account of the crucial importance of passing G.C.E. (O.L.) examination at a level of high performance.

### 3.4 Scholarship Examination at Year 5

Over the years, the examination domination of education has trickled down further, even up to the level of Year 5. The Year 5 Scholarship Examination is not a compulsory or a qualifying examination, but the vast majority of children appear for it on account of the power it has in changing one's educational future. Success at this examination confers the following benefits on the student:

- (1) The chance to join a popular school in the metropolis, a provincial capital or any other important town. These popular schools provide a better economic environment and facilities than other schools.
- (2) Children whose parental income does not exceed Rs. 6000/- per annum are paid an allowance of Rs. 1000/- per annum towards food and lodgings and other expenses.
- (3) Successful students studying in private/assisted schools are offered the chance of joining a school in the state sector.

As a result, it is only a negligible minority of children in the entire country that do not sit this examination. In most schools, the teachers provide a substantial amount of additional instructions both during school hours and after hours in preparing students for this examination. There is a great demand for private tutoring, in the two subjects for this



# Impact of Private Tuition and the Educational Challenges of the 21st Century

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## 1. Introduction

**A**s we stand on the threshold of the 21st century, there is no doubt that education would be called upon to play an important role in moulding the younger generation, who will be the citizens of the next century, to live in harmony with the massive changes taking place around them fully reflecting the new realities of their environment.

The Australian Commission for the Future in the motto sums up the appropriate attitude one should adopt in preparing for the future:

"The future is not some place we are going to, but one we are creating. The paths to it are not found but made, and the making of these pathways changes both the maker and the destination."

Undoubtedly, education for the present generation has an important role to play in the making of these pathways and the impact of private tuition should be considered particularly from that perspective.

A paper written by Colin Ball for the OECD Centre for Educational Research

and Innovation (CERI) lists three educational "passports" as necessary for individual success in the present and future world. These three passports are:

- \* **an academic passport**, which is the traditional role of education, emphasizing the development of literacy and numeracy, and the acquisition of knowledge;
- \* **a vocational passport**, which focuses on education necessary for work, in a world of rapid technological change; and,
- \* **an enterprise passport**. Some of the skills needed to be enterprising areas follows: thinking, planning, co-operating, communicating, organizing, problem solving and monitoring. For living in the 21st century, one needs to envisage an education system which is a lifelong process in all these passport areas.

An attempt is made in this article to examine the impact of private tuition on the educational challenges of the 21st century in the context of Sri Lanka with special reference to the aims of general education, methods of teaching and learning, and examinations and evalua-

tion. Certain other aspects of the impact such as the psychological aspects and economic aspects which are dealt with in other contributions in this issue are not considered here.

## 2. Educational Aims and Objectives

The main function of the school is to provide a **general education** to all the nation's children. In this regard, school education should be primarily aimed at developing a set of **basic competencies**. The National Education Commission has identified five sets of **basic competencies** which are described as a precondition for the attainment of the educationally relevant national goals (The First Report of the National Education Commission, May 1993, pp 14-18):

- A. Competencies in Communication made up of three sub sets: literacy, numeracy and graphics.
- B. Competencies Relating to the Environment - Social, Biological and Physical environments.
- C. Competencies Relating to Ethics and Religion - Laden with values and attitudes.
- D. Competencies in Play and the use of Leisure - links up with pleasure, joy and such human motivation finding expression in play, sports, athletics and other leisure pursuits of many types.
- E. Competencies Relating to "Learn to Learn" - flowing directly from the nature of a rapidly changing, complex and crowded world.



In the Sri Lankan school system, it is expected that the above mentioned competencies are achieved through the school curriculum. More specifically, the school curriculum is designed to impart a general education giving comprehensive coverage to these competencies through the conventional school subjects such as languages, science, mathematics, social studies, health and physical education, aesthetics and life skills/technical/vocational subjects.

The objectives of the school curriculum can be examined systematically by using a taxonomy of educational objectives covering the three major domains: cognitive, psycho-motor and affective. In more general and non-technical terms, these three domains may be said to cover the learning that occurs in relation to acquisition of knowledge, development of skills and abilities, and inculcating values and attitudes respectively. Educational objectives provide an explicit formulation of the ways in which students are expected to be changed by the educative process, i.e. the ways in which they will change in their thinking, their actions and their feelings.

The taxonomy of educational objectives for the cognitive domain has been formulated by Bloom et al as follows:

1. Knowledge (Factual recall)
2. Comprehension (including translation, interpretation and extrapolation)
3. Application
4. Analysis
5. Synthesis
6. Evaluation

These objectives are not only the goals toward which the curriculum is shaped and toward which instruction is guided, but they serve also as criteria and specifications for evaluating learning. In this regard, the taxonomy of objectives is useful for evaluating the effectiveness of private tuition in the total educational system.

The aims and objectives of school education can also be examined from another perspective - that of functionality and relevance to everyday life. The status of the curriculum with reference to its functionality and relevance to various needs of the learner may be ascer-

Table 1

FIELD of APPLICATION (some examples only).	DOMAIN	Cognitive (knowledge)	Psycho-motor (Skills)	Affective (Attitudes)
Academic Passport (Exams)		1	2	3
Home and Family Life		4	5	6
Health and Sanitation		7	8	9
Employable skills/Abilities		10	11	12
Use of leisure/Cultural Activities/Sports		13	14	15
Citizenship		16	17	18
etc-etc		19	-	-

tained through an analysis such as in Table 1.

In this grid, cage 1, for example, represents the factual knowledge required for examination and certification purposes; cage 5 represents the skills/abilities needed for a good home and family life; cage 18 represents the attitudes that need to be developed for good citizenship.

A comprehensive and meaningful general education programme at school level would be expected to cover all the cages in the above grid, within the limits of the resources available for school learning. Hence, this type of analysis would serve as a powerful instrument for evaluating the effectiveness and impact of a general education programme including private tuition.

In the context of the concept and objectives of general education discussed above, it is worth, at this stage, to examine critically to what extent private tuition fulfils those objectives.

Students go for private tuition mainly to be coached for competitive public examinations to obtain the "academic passport" which is expected to provide access to the modern sector employment market and to a secure and comfortable life. Hence, the content of private tuition is not concerned with the broad curriculum designed for a comprehensive form of general education but is confined to the specific content which is examinable

with the present type of written examinations conducted externally. In their efforts to gain popularity among the students, tutors concentrate on those content areas which have a high probability of generating questions at public examinations and stress on 'probable questions' rather than on the entire syllabus. The content coverage is therefore limited to the examination oriented content areas popular among examiners.

Looking back at the competencies, educational aims and objectives and other characteristics of general education, one may conclude that private tuition does not fulfil the requirements of a broad general education because:

- (a) it does not attempt to impart the five basic competencies stated above.
- (b) it is limited to the cognitive domain and does not pay adequate attention to the psycho-motor and affective domains.
- (c) even in the cognitive domain, it is mainly confined to the lower levels such as factual recall of knowledge and comprehension without paying much attention to the higher levels - analysis, synthesis and evaluation.
- (d) it caters to a very limited field of application with the emphasis of cage 1 of the grid (i.e. knowledge needed for examinations) and very little is being done to cover the other cages in Table 1.



Hence it is clear from a content coverage point of view, that private tuition does not meet the criteria laid down by the aims and objectives of general education.

Let us next examine the impact of private tuition from a methodological angle to see its impact on the learning styles of learners, methods of teaching and creativity of students.

### 3. The Learning - Teaching Process

Learning should help the learner to develop and realize one's potentiality to the fullest extent. It is expected to play a crucial role in two ways:

- the **transmission** function of education, i.e. preservation of existing skills, knowledge, values and attitudes.
- the **transformation** function, i.e. promoting innovation, creativity, reform society, etc.

The learning process has to be geared to achieve these outcomes. It is worth examining the factors that affect learning in order to determine how the learning process could be more effective.

Learning is influenced by a variety of environmental factors with which the learner interacts, e.g. the physical and material environment (classroom, facilities, equipment); the personal environment (the teacher, teaching methodology; learning content (curriculum, instructional objectives; educational policy and planning (school) systems; administration); social and community environment; etc. Some of these factors influence learning more than others, e.g. teachers, teaching styles, learning styles, learning materials, etc. However, Learning is not a passive one-way process, it is a two-way dynamic process. This factor is of crucial importance in assessing the impact of private tuition. The learner is not simply passively affected by the environmental factors mentioned above. As a living and active organism, he is capable of interacting with the environment. Such interaction could expose the learner to rich and meaningful learning experiences which would promote critical thinking, creativity, ability to solve problems and make deci-

sions. Learning viewed from this perspective is a **dynamic interactive process** between the teacher, learner and other factors in the learning environment. To what extent does such a dynamic interaction and learner participation take place in a private tuition class?

The learning process becomes more and more effective as the learner's active and direct participation increases and he responds to learning stimuli with his psychological dispositions such as perception, interpretation, analysis, synthesis, evaluation as well as motivation, emotions, attitudes and value judgements. In the absence of such interaction and active participation on the part of the learner, he becomes just a passive recipient capable only of rote learning. Rote learning can only result in violating the higher aims and objectives of education and destroying such desirable characteristics as capacity for critical thinking, creativity, problem solving and self-learning.

There is another aspect of the learning-teaching process that has to be considered in relation to the impact of private tuition. In order to keep pace with rapid changes taking place in our present day society, learning needs to be increasingly learner initiated and learner driven. With the new developments in educational technology, self-learning and self-directed learning will gradually replace teacher (tutor) directed learning. Considering these developments, the need of the future would be to develop self-learning skills or "learning how to learn" and the enhancement of **educability**. The concept of educability includes "basic learning skills, the ability to make use of different modes of learning and the ability to organize one's own learning experiences through identification of needs, planning and carrying out learning activities, and evaluating one's own accomplishments". Private tuition, as it exists today, with emphasis on memorization as a mode of learning and concentration on the answer rather than on the process by which the answer is obtained, destroys the capacity of the education system to promote the above mentioned desirable trends such as the development of learning to learn, educability and self-learning.

### 4. Assessment and Examinations

Promoting children's learning is a principal aim of any teaching-learning endeavour, whether it takes place in a school classroom or in a private tuition class. The dynamic nature of the teaching-learning process implies that participant pupils are constantly developing. In order to facilitate learning teachers should be aware of the levels reached by pupils and their rates of development. This requirement can only be achieved through the process of assessment, which is an integral part of any teaching-learning process. Assessment can take many forms. It may be informal as a teacher looking over a pupil's shoulder or as formal as a written test administered under strict examination conditions. It is unlikely that effective teaching and learning can occur without systematic assessment of children's learning and progress.

A teacher can assess a pupil's learning at several points during the teaching-learning process. They can be broadly categorised as: prior to commencing of instruction (pre-test), during instruction (formative), and at the end of instruction (summative).

For instruction to be effective it should begin at the pupil's level. Assessments should be made before the commencement of instruction in order to determine the pupil's mastery of pre-requisite material and their knowledge of the material to be taught. If the pupils have mastered the necessary skills the teacher can proceed with instruction. Remedial instruction should be provided to those who have not reached mastery.

Formative assessments play a vital role in the teaching-learning process, and the information gathered through them can be used to modify and direct the teaching and learning. Through formative assessments pupils can find out how their learning is progressing. Information on errors is particularly useful because the errors point out their misconceptions. Unless such misconceptions are cleared they can drastically affect future learning. Formative assessment may involve one or more of a range of assessment activities from informal



observations to oral, practical or written procedures. Sometimes it may not be possible for the teacher to select appropriate learning activities for a particular pupil without collecting specific and detailed information. This deliberate gathering of information for teaching is termed 'diagnostic assessment'. Usually, diagnostic assessment will not be necessary for all students, at all times; but will be needed when more general formative assessments fail to indicate activities from which pupils can learn.

By studying what type of errors individual pupils commit and the patterns of errors the teacher will be able to diagnose their misconceptions or learning problems, and prescribe appropriate remedial measures.

Usually, summative assessments are carried out to determine the extent to which the pupils have mastered the material taught.

Through the preceding discussion an attempt has been made to make it clear that several information on the teaching-learning process has to be gathered, at various points, in different ways in order to progress effectively, and to determine the extent to which learning takes place. To be fully effective there must be a feedback mechanism to tell the pupil, teacher, and parents what has and has not been learned and why. Also, the best feedback systems should include suggestions for remedial and enrichment activities.

Let us now consider to what extent do such feedback mechanisms based on sound assessment procedures exist in a private tuition class. There is evidence that systematic evaluation and monitoring of progress of pupil learning is minimal in private tuition classes.

Thus, it seems fair to state that private tuition classes without systematic assessment mechanisms can be beneficial to only a small proportion of talented pupils attending them. Such classes fail to identify learning difficulties and misconceptions of the majority of pupils and pay little or no attention to remedy them. Hence it is difficult to conceive how private tuition could provide an effective learning environment to students having learning difficulties.

As Glaser (1986) points out, today's and the next century's challenge is to teach successfully all the diverse children and youth who have become the active concern of our education system. Dropping the reluctant or difficult learners will not be a viable alternative. We must assure that our most talented and most difficult students optimize their learning.

An increasing demand is evident for private tuition at all levels of general education. A study on secondary level children attending private tuition classes (Manchanayaka and Nanayakkara, 1986) has revealed percentage of pupil's seeking tuition is more among children preparing for public examinations, the percentages being around 75% for Years 11, 12 and 13. Challenges offered by the public examinations can be seen as one determinant favouring private tuition in Sri Lanka.

It has been pointed out that the general education programme is expected to promote development in not only knowledge (cognitive domain), but also skills (psycho-motor domain) and attitudes (affective domain). However, the majority of our evaluations in public examinations is confined to the written mode only. As written examinations are not capable of evaluating skills and attitudes satisfactorily the emphasis received for the evaluation of these aspects is very low in our public examinations. This gives rise to several issues. On the one hand as evaluation is narrowed down to one aspect only, it cannot be considered as valid. On the other hand such evaluation practices leave room for private tutors to coach children to score high marks at the examinations by providing correct answers to standard or known type of items despite the lack of basic understanding of concepts and principles. Although short-term success is possible, effects caused by special coaching or teaching for the test can have long term undesirable effects among children.

## 5. Conclusions

In the light of above discussion on the aims and objectives of general education, learning-teaching process, examinations and evaluation, let us consider the effect of private tuition on the total education system.

It was mentioned earlier in section 3 above that the **content** of private tuition does not meet the criteria of general education. In fact, it vitiates the aims and objectives of general education in all three domains-cognitive, psycho-motor and effective and is limited to rote learning geared to examination requirements.

The examinations themselves are designed to test only a limited set of objectives, mainly confined to the first level of the cognitive domain-knowledge, while not giving due recognition to the higher levels such as application, analysis, synthesis and evaluation. In any event, externally conducted written examinations cannot test psycho-motor skills, attitudes and values. Hence, private tuition and examinations support each other, while undermining the aims of education.

Private tuition causes another type of problem in classroom teaching. It has a negative influence on classroom discipline and attentiveness. Students will not pay adequate attention to the classroom lesson conducted by the teacher either because he has already covered that topic in the tuition class or because he expects the tutor to teach it more effectively. The study conducted by the Ministry of Education referred to earlier shows that the majority of students, particularly in the higher grades state that the quality of instruction in the tuition class is superior to that in the school. This has a negative influence on the respect they have for and confidence in the classroom teacher and his teaching. Such an unsatisfactory state of affairs in the teacher-pupil interaction leads to a further deterioration of classroom teaching resulting in a **vicious circle** where negative student behaviour and non-participation in the teaching-learning process leads to poor quality teaching, poor quality teaching leads to private tuition and private tuition leads to negative student behaviour in the class which in turn leads to further deterioration of classroom teaching and so on.

The most devastating effect of private tuition is its effect on the **learning styles** and **study habits** of students. The "spoon-feeding" approach adopted in most private tuition classes destroys all initiatives on the part of the learner to grapple with problems and develop his



# Some Psychological Aspects of the Private Tuition System

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**E**xtra-school instruction or 'private tuition' has become an inescapable part of childhood in Sri Lanka. Children of all ages, toddler through adolescent, are caught up in a vice and thrown to private tuition like moth to flame. They flock in their thousands for tuition not only after school and during weekends but before school hours and during school hours as well. Some travel the length and breadth of the island, seeking tuition of the prestigious or more exclusive varieties; toddlers get carried in the arms of fond parents, for a headstart in the 3E's, in 'elocution' or in whatever else is supposed to equip them better for the rat race. The weak, the mediocre and the bright, the willing and the unwilling, all get compulsorily schooled in this second system. The year five scholarship examination, the GCE O/L and G.C.E. A/L examinations are fast becoming the exclusive territory of the second system. So much so that even prior to enrolment in formal school (the first system), places are being secured by parents for their offspring in 'scholarship' tuition classes. Long before the Secondary schools gear themselves to streaming, housing and teaching their next batch of A.L. students, the second system streams, houses and teaches them all with nonchalance. The expertise and specialisations offered by the second system are unmatched; some A.L. students feel compelled to seek out the 'experts' for various sections or topics within a single subject, to the extent that even four or more tutors per subject no longer raises eyebrows.

John Holt, a child advocate par excellence contends that most people who believe in the institution of childhood as we know it see it as a kind of walled garden in which children, being small

and weak are protected from the harshness of the world outside until they become strong and clever enough to cope with it. However, he argues that most young people, and at earlier ages, begin to experience childhood not as a garden but as a prison. The walled garden, then, turns out much of the time for many children in it, to be not better than the big world outside, but worse—even more competitive, contemptuous and cruel. Holt's concern for the child pales, when the plight of the child in contemporary Sri Lanka is considered. While the concept of a walled prison may be the more appropriate analogy for childhood in Sri Lanka, one may even argue that childhood is a birthright that is being denied the nation's children.

When an entire nation's children are at risk, drastic measures are called for. What has brought the child in this predicament is an issue that needs to be studied in its totality, analysed objectively and critically. Private tuition would then be seen as a composite of a multifaceted, complex web of factors predisposing individuals (and not merely the children) and placing them at risk for developing psychopathology. Private tuition is certainly not an isolated phenomenon, but a part of an all pervading systemic malaise, its genesis, numerous and complex facets, and implications must be appraised systematically, if the malaise is to be arrested. Meanwhile, what is at stake is not merely the education of the nation's children. The psychological well being, mental health, and, to put it more bluntly, the very sanity of the child is in jeopardy. Some of these psychological aspects therefore merit further analysis.

All humans start as children and it is

human to have a long childhood. It would be worth our while to consider why humans are programmed to proceed through a slowly evolving period of childhood. It is only through a painstaking, committed and sustained process of nurturance in a child-friendly, relaxed and supportive environment that the biological and psycho-social development of the human child reaches its fruition. Childhood is defined by stages of development and characteristics particular to each stage of development. For balanced physical, mental, emotional and social development during each stage, the conditions facilitative of such development must be provided.

This point can be illustrated, drawing on the concept of developmental task, as expounded by Havighurst (1972). He defines a developmental task as 'a task which arises at or about a certain period in the life of the individual, successful achievement of which leads to his happiness and to success with later tasks, while failure leads to unhappiness, in the individual, disapproval by the society, and difficulty with later tasks'. The developmental tasks of middle childhood (approximating the age range of the primary school child in Sri Lanka, i.e. 5-10 years) are as follows: learning physical skills necessary for ordinary games; building wholesome attitudes towards oneself as a growing organism; learning to get along with peers; developing basic skills in reading, writing and calculating; developing concepts necessary for everyday living; developing conscience, morality and a scale of values; achieving personal independence; developing attitudes towards social groups and institutions.



Consider the chances afforded the Sri Lanka child in his middle childhood, of achieving these developmental tasks. Parental obsession with the Scholarship examination, the inordinately high levels of achievement required to make the grade, and in particular, to secure a place in the coveted school invariably results in the child being initiated to tuition at a very young age. Immediately after school the child is rushed to tuition class after a hasty snack. At tuition, his skills and abilities are relentlessly pitted against those of his age mates, for competition is the name of the game and the prowess of the tutor rests on the results he produces. The age appropriate developmental tasks such as building wholesome attitudes towards oneself, learning to get along with peers, developing conscience, morality and a scale of values stand a very poor chance in this climate of cruel competition. However, balanced personality development and psychological well-being during these formative years is crucial, for adult personality and behaviour patterns are in the making, during childhood.

A central characteristic of human development involves coping with physical, psychological and social stress. Mastery of stress promotes healthy development; the inability to cope successfully has the opposite effect. Children must acquire the basic sense of self-confidence and self-esteem that comes from the successive mastery of the stresses and challenges that life poses at successive age periods. On the other hand, excessive stress which the youngster may not be able to master with his own resources alone, may also have serious developmental consequences. In such situations, it is the responsibility of the caregivers and community institutions and agencies to recognize the problem and give the child the necessary support and additional resources he may need to cope successfully with such excessive stress. The resources available to cope with stress and the manner in which individuals actually cope may be important factors influencing patterns of positive growth and development as opposed to the onset of a host of psychological and somatic problems.

Lazarus and Folkman (1984) define coping as "constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands

that are appraised as taxing or exceeding the resources of the person" (p. 141). They point out that managing stress includes accepting, tolerating, avoiding or minimizing the stressor as well as the more traditional view of coping as mastery over the environment. Coping is not limited to successful effort but includes all purposeful attempts to manage stress regardless of their effectiveness. It is in this sense, of providing a purposeful means of managing stress that the tuition system becomes supportive to the student.

However, there is considerable variation in styles of coping that characterize an individual's responses and the specific coping efforts displayed in a particular stressful context. The child's coping efforts will be constrained by his or her psychological and biological preparedness to respond to stress. Therefore, the consequences of 'coping with the help of the private tuition' may be potentially harmful, in the case of certain categories of children.

Let us consider Type A behaviour in children and adolescents; children's type A behaviour has been conceptualized as 'a distinctive style of coping with potentially uncontrollable events'. Emphasis is placed on the three major behavioural components of Pattern A - Competitive achievement striving, a sense of time urgency and impatience, and aggressive-hostility. Viewed from a developmental perspective these patterns in childhood and adolescence are seen as precursors of coronary heart disease in adulthood. Descriptions of the antecedents of the Type A coronary prone behaviour pattern have been focussed on personality styles or traits as determinants of coping behaviour. The Type A behaviour pattern observed in children closely parallels the style observed in adults, especially in situations in which individuals feel threatened by a loss of control. Type A children make more efforts to control, when threatened by a loss of control. High levels of Type A behaviour are inversely related to empathy level in children suggesting that the competitive, impatient and hostile feelings associated with Type A behaviour distract the individual from concern about another's welfare.

Parents, teachers and peers often voice their concern for the health and

well-being of just this kind of child and adolescent, categorized here as Type A. For the type A adolescent in A.L. classes, for example, threatened by loss of control in a deadly competitive, all-pervading examination fixation, the high-pressured tuition system offers a tempting bait. We are familiar with the high-achievement oriented, intensely competitive A.L. student obsessed with seeking out the 'best' tutors for each subject. As mentioned earlier, he may feel compelled to be tutored by even four or more tutors per subject; The strain thus imposed on the growing adolescent, both physically and mentally can be potentially harmful, in the short and long term. Physical and mental burn-out is very likely. The strain imposed on the adolescent's information processing system by this information overload may very likely throw the system out of gear. The adolescent becomes an automaton distanced from the realities of social-emotional inter-dependence, empathy and other pro-social tendencies so vital for balanced personality development. And all the while, his candidature for coronary heart disease is being strengthened!

What toll does private tuition take, of other vital aspects in a child's development, like leisure-time pursuits, peer-interaction and other social relations? On the average, a majority of the student respondents in the research study cited earlier, agreed that because of private tuition the time for TV, radio or video and other hobbies is limited; also that time to spend with friends and neighbours, to go on trips with the members of family is limited. However, in the psycho-social development of the childhood and adolescent years, leisure-time pursuits like play, exercise, hobbies and other recreational activities, and, intra and interpersonal relationship experiences in varied contexts are vital.

Man, as we have long been told, does not live by bread alone, nor can a growing child be denied the psychological vitamins of sheer enjoyment and delight in play without compromising his capacity for living. A wise man said once, 'play is the child's response to life' and this remains profoundly true. Play is not only the child's response to life, it is his life if he is to be a vital, growing, creative individual. The child who plays is engaged upon what to him is most important and his play should be encouraged and above all, respected.



Evidence of how tuition takes its toll on the child's time for play is all around us. Till late evening you see children moving to and fro, armed with their books and writing equipment - and the scene is the same, be it the streets in the suburb or the backwoods of rural Sri Lanka. A little boy whose mother had spared no pains in getting her son the best tuition for the scholarship examination and had relentlessly kept him tied to his home work thereafter had come home after the examination and thrown these words at his mother: 'mother, your examination is finally over. Now can I play?' The most natural, self-healing measure childhood affords, that of 'playing it out' had been denied this youngster when he most needed it! Apart from its therapeutic value, play serves the growing child in many fundamental ways. Play is the way the child learns what no one else can teach him. It is the way he explores and orients himself to the actual world of space and time, of things, animals, structures and people. Through play he learns to live in our symbolic world of meanings and values, of progressive striving for deferred goals, at the same time exploring and experimenting and learning in his own individualized way. Through play the child practices and rehearses endlessly the complicated and subtle patterns of human living and communication which he must master if he is to become a participating adult in our social life. Play is also a function of the ego, an attempt to synchronize the bodily and the social processes with the self. Denying the child his legitimate right to play is therefore to deny him a most vital aspect of his childhood.

For the teenager, leisure time pursuits take on added meaning. He is called

upon to adjust himself to life in a variety of ways. He is asked to be physically fit, intellectually alert, socially congenial, emotionally mature. Although play is no panacea, it can be of immeasurable value in meeting every one of these needs. Teenagers are acutely aware of their bodies; a full program of sports and games will keep them in good condition. A good many slight defects such as poor posture and bad coordination, which teenagers worry about, can be improved by a sensible program of athletics. The skills they develop in sports are the kind that are readily recognized and applauded by others. This will add to their poise and confidence. A body that is alive and alert will help them withstand the strains of life. The 'exercise habit' will enable them to relieve pent-up feelings and keep them on a more even keel. Teenagers are, if anything, even more concerned about their social life than their physical well being. Typically they wonder if they will make the grade with others and they worry about the right thing to say and do. A full recreational life will give them the chance they need for testing themselves out and discovering the social roles that are most congenial to themselves and most acceptable to others.

Physically, the pre-adolescent and adolescent years (approximately, age 10-16) is the top age for health, activity, endurance and vitality. Life is an adventure and the youngster is eager to explore all kinds of activities and interests. The Sri Lankan teenager's life, as it is being lived out, goes totally against the grain of these normal developmental urges. Any school principal, teacher or student in charge of sports and other recreational activities will vouch to the fact that keeping students in school for

these activities, after school, has become a well nigh impossible task, for tuition claims priority on their after-school time.

The denial of childhood and 'the mutilation visible everywhere - mutilation of spontaneity, of joy in learning or pleasure in creating or sense of self' certainly cannot be blamed on private tuition alone. What was attempted here was an analysis of how the private tuition system contributes to and aggravates a malaise that is systematic and pervasive. The remedies have to be sought at the level of root causes; for, as long as the root causes remain, their appendages like the private tuition system will continue to flourish.

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#### Cont. from page 14

self-learning abilities. Students become passive listeners and note-takers and their study is limited to the cramming of notes dispensed in the tuition classes. They are therefore drawn away from good study habits such as learning to search for knowledge from textbooks and other sources, use of libraries, inter-learning through group work and discussions with peers, etc. They are kept busy most of the time, going from school

to tuition class leaving them no time for self-study, review and reflection of what has been gathered in the classes and hence not being able to analyse, synthesize and internalize the knowledge that is spoon-fed from various sources. The learning styles and study habits promoted and nourished by tuition destroys initiative, creativity, self-learning and self-evaluating ability and 'learning-to-learn' ability of the present day student generation and produces a set of passive listeners, note-takers and note-crammers enslaved only to their notes and model answers to examination questions.

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# Child Stress in Competitive Examinations

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A Scholarship examination, designed for grade five level school children is conducted annually in Sri Lanka to select the most intelligent children to be admitted to so-called "Super-Class" schools. Parents and teachers take an immense interest in training their children for this examination as this is the gateway to higher education. For a child of 10 years, it is a tough, difficult and stressful experience. Children have to prepare for this competitive examination, from the beginning of their primary education, following a tight time schedule enforced either by parents or by teachers for training after school hours. Unless children are well tutored, it is believed that it would be extremely difficult for a large majority of them to get the desired marks. Imagine the difficulties a child of seven years has to face when he is more or less forced to attend afterschool classes.

It has been observed that many school children of this age group seek medical attention for various symptoms. On careful questioning, it has been revealed that most of those symptoms are functional and definitely related to stress during preparation for this exam. This stress is mainly related to pressure of work, inability to fulfil the expectations of parents, teachers and other associates. It is essential to identify the stress factors of such children in order to diagnose a functional disorder.

It was decided to conduct a case study to assess the stress factors of such children in relation to their exams. To fulfil this purpose, children brought to Paediatric Clinics of Base Hospital at Chilaw were interviewed during a period of 3 months. Interviews were conducted in the form of informal discussions but a

pre-designed simple questionnaire was used. It was extremely difficult to get to the point straight-away, as these children were often unable to reveal their misery in the presence of their parents. Even in the absence of their parents, they often denied their fear and anxiety. In order to overcome this problem we made them to understand that this discussion has nothing to do with their illness, but was related only to their studies and examination. We deliberately omitted any discussion of symptoms, as our main objective was to identify the stress factors.

The study found 18 children with functional symptoms or some symptoms in relation to the exam. The majority of them complained of headaches, fainting attacks or blurring of vision. Some of them had more than one symptom as explained in Table No. 1.

Table 1

Symptoms Analysis	
Symptom	No. of Children
Headache	10
Blurring of Vision	5
Excessive tearing	3
Vertigo/Dizziness	3
Chronic abdominal pain	4
Joint pains	1
Muscle pain	1
Fainting attacks/Fits	5
Exacerbation of wheezing	2
Insomnia	4

Out of the 18 children with symptoms in relation to their exam, 7 were males, while the balance 11 children were females. This indicates that com-

pared to males, female children were more prone to stress.

When the parental occupations were examined, a large majority of the parents of these children were engaged in middle class and lower middle class occupations. (See Table 2)

A fact revealed by analysing the parent's occupational pattern is that out of these 18 children, in the case of 15 children (83%) either the father or mother or both parents were teachers. With this data it is observed that while the middle class children were mostly affected by this problem, within this social class, teachers' children were more seriously affected.

The observation that comparatively middle class children are highly affected by the problem, is supported by the pattern of income distribution of these childrens' families too. For instance out of these affected 18 children, 16 (89%) belong to the families where monthly incomes range from Rs 2000/- to Rs. 5000/-.

The majority of these 18 children with symptoms in relation to the exam had good performances in their school work. For instance all of them except one were within the 1st ten in class. Five of them were 1st in the class.

Most of their parents had very high expectations from the Scholarship examination. Parents of 10 children wanted them to get very high marks at the exam. Of these 4 parents expected their children to be within the first 10 in the district. Not only the parents, but a large majority of the teachers of these children (15 out of 18) expected them to do well at



the exam. Though the parents had very high aspirations on their children's success, the majority of the parents (12) did not force their children to work hard.

Though the majority of the parents did not force the children to study, all the

Table 2

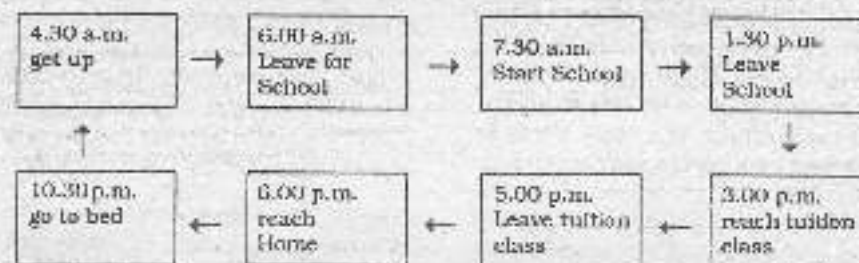
Parental Occupation							Total
Occupation	Professional	Clerical	Skilled Worker	Unskilled Worker	Self Emp.	Unemployed	
Parent							
Father	8	3	6		1		18
Mother	11	1				6	18

children admitted that they had very high pressure of work in relation to their exam. Apparently that pressure had been created among the children due to their awareness of aspirations of parents and teachers and also due to the competitive environment the children were placed in.

Table 3

Teachers' Children			
Parent	Father	Mother	Both
No. of children	6	9	5

Daily Routine of Children



All the 18 children went for after school [tuition] classes to prepare for the exam. During the period of preparation for the exam, the daily routine of all such children is heavy and unbearable. Generally these children get up at about 4.30 a.m. and after attending to their homework, leave for school at about 6.30 a.m. After school they attend tuition classes and come home at about 6 p.m. [After school, some children attend the tuition class straight from school without even going home]. They engage in their homework till about 10.30 p.m. and then go to bed. They have only about 6 hours of sleep though a child of that age requires 8 to 10 hours sleep.

During this period these children do not have any leisure at all to engage in extra activities or in recreation. They are

Suicides by Children Due to Failure to Pass Examinations		
Age Group	Number of Children	
	1990	1991
8 years and under 18 years	2	6
18 years and under 20 years	18	18
20 years and under 25 years	12	15
Total	32	39

Table 4

Monthly Family Income	Monthly Family Income			Total
	Over Rs 5000	Rs 2000 to Rs 5000	Less than Rs 2000	
No. of children	1	16	1	18

denied their "childhood" since they are fully devoted to the exam. For instance although all 18 children expressed their willingness to watch television, out of them 15 children did not watch television at all during that period, since their parents did not allow them to do so, because of school work. Three children who watched television also limited it only to a popular teledrama. Out of the 18 children, 15 had participated in some kind of sports earlier. But 13 of them had totally given up their participation in sports during the period of preparation for the exam.

Though the children fully devoted themselves to the exam and did their best, the majority of them were still mentally unprepared as they felt that what they had done was insufficient to achieve their expectations. All the 18 children stated that they worried about the exam. They worried mainly about getting through the exam (5 children), scoring high marks (7 children) and achieving parental expectations (4 children).

In this study there were all the criteria to establish the investigation of a functional disorder. All these children did well once they had finished the examination. Many of them were relieved once the parental stress was removed.

Basically analysing all the findings, there are two clear cut features in this syndrome.

- (1) Most of these children are bright, intelligent children.
- (2) Essentially a middle class and lower middle class syndrome.

I strongly feel that some steps should be taken to abolish the present system of examinations in the primary education in Sri Lanka, if we are to produce a physically and psychologically fit and stable future generation.



engage private tutors on payment basis for preparing their wards for examinations. The poor parents' children suffer for they do not have the means to pay exorbitant fees to private tutors."

In 1990-1991 a major study on extra-school instruction in Sri Lanka was undertaken with IDRC support by a team of researchers comprising in the main of members of the Faculty of Education, University of Colombo.<sup>3</sup>

A summary of some of the important findings of this study has been incorporated in what follows:

### The organization of tuition

The study classified the alternate approaches to tuition by parents' income, for different subjects. When individual subjects were concerned the majority of the students stated that they attended private tutorials for their tuition. It may be that the tutorials were manned by expert tutors who had made a name for themselves in their individual subjects or the students were attracted by the lower fees charged, than for individual or group classes. A consistent pattern of higher percentages of students from lower income groups attending tutorials was evident overall. Even an all pervasive phenomenon like private tuition was seen to take different forms to conform to stratifications in the socio-economic environment. The well-to-do parents were able to secure individual or small group tuition for their children.

### The class/year in which tuitioning commenced

The proportion that commenced tuition at the primary level was rather low. The highest percentage, 30.4% had started tuition in year 10 which was the initial year of the 2-year G.C.E. O-Level course. These students must have been propelled towards private tuition by the belief that additional coaching was essential to prepare them for the first public examination they were to face. In contrast only 6.8% of the total sample had commenced private tuition in year 12, the initial year of the 2-year G.C.E. A' level course. This may be due to the fact that the vast majority had already commenced tuition by this time. Only 4.2% of the total sample had commenced tuition in the primary level.

Table 3

Average Tuition Expenses per Month by Year Level			
Year	Total number of students obtaining tuition	Total amount paid per month	Average amount per month
Year 11	547	Rs. 67,996	Rs. 124.31
13/Arts	220	Rs. 17,085	Rs. 77.56
13/Commerce	202	Rs. 24,599	Rs. 121.78
13/Science	267	Rs. 76,969	Rs. 288.27

Table 4

Total Amount of fees paid by Students by Socio-Economic Status					
Socio-Economic Status	Less than Rs. 250		More than Rs. 250		Total
	No.	%	No.	%	
Upper class	28	41.8	39	58.2	67
Upper Middle class	185	77.4	54	22.6	239
Lower Middle class	357	89.0	44	11.0	401
Lower class	451	96.4	17	3.6	468

### The background and qualifications of tutors

The restricted sample of tutors in the study precluded the possibility of making any generalizations on the basis of their characteristics. Yet it was seen that among the ten tutors six were science graduates and two were arts graduates. The qualifications of a tutor would be examined by students and parents only in relation to the grade level in which a student was studying. All tutors engaged by AL students would be preponderantly university graduates, if not totally. The fact that the prevalence of tuition was found to be greatest in the 12 Science stream, most probably points to an over representation of B.Sc. graduates in the tutor population.

### The selection of tutors

The following evidence from the parents as to how they selected a tutor for their children was available :

	No.	Percentage
Newspaper advertisement	23	8.3
Posters, hand bills etc.	70	25.4
Friend's advice	54	19.6
Tutors' direct offer of services	59	21.4
Friends' children	70	25.4

### Perceptions of tutor's teaching in general and in relation to the teaching of the teachers in regular school

The researchers undertook a very detailed enquiry, calling for the students' responses in respect of each subject. Out of the 21 subjects under scrutiny at the A.L. and O.L. only in three subjects did a proportion of over 50% say that the tutor taught better than the teacher at school.

Logic	(year 13)	74%
Commerce	(year 13)	54%
Economics	(year 13)	54%

Moderate proportions of between 40% and 50% have stated that the tutor taught better than the teacher at school in the following areas:

English	(year 11)	43.0%
Commerce	(year 11)	44.0%
Zoology	(year 11)	44.0%

What is even more significant is that very low percentages of students perceived the teaching of their teachers at school to be better, never exceeding 18 percent, and that a considerably high proportion, more than 40 percent (except in Logic and Economics) had stated that they did not see any difference. A



possible factor which may have affected the students' response to this item was the need to respond to the questionnaire in class under the teacher's eye.

What is apparent from the study is that there is no overwhelming acceptance that the tutors' teaching is better than that of the regular teachers at school.

### The scope of tuition and the school subjects most commonly involved

It was seen that when the different subjects were ranked in descending order according to the percentage receiving private tuition in them it was seen that the first six positions fell within the science stream, as follows:

Pure Mathematics	13/Sc	100.0%
Applied Mathematics	13/Sc	100.0%
Chemistry	13/Sc	84.4%
Physics	13/Sc	63.5%
Mathematics	Year 11	74.3%
Mathematics	Year 6	69.5%

The next four positions went as follows:

Sinhala	Year 11	66.5%
Sinhala	Year 5	67.7%
Accounts	13/Com	67.3%
Science	Year 11	66.6%

The other Arts-based subjects, on the other hand, were seen to have the lowest percentages of participation.

### Time spent on tuition

The students were asked how long they normally devoted to private tuition in different subjects. Using the information offered by the students it was possible to calculate the average number of hours spent weekly by a student in a particular grade in receiving private tuition.

Grade	Mean hours spent on tuition
Year 11	8.6
Year 13/Arts	4.3
Year 13/Commerce	6.1
Year 13/Science	11.5
Total:	9.1

It was seen that the students in the sample spent an average of 9.1 hours per week on tutoring but this average varied by grade and stream. In year 13, the

Science stream imposed the greatest pressure on the students. Almost twice the amount of time spent by a Commerce student and even three times the time spent by an Arts student was spent by a Science student on tuition.

In the case of Year 5 students the information received regarding the number of hours spent on tuition per week is shown in Table 2.

### Distance from home to tuition class: time spent on travelling

Often students are called upon to travel some distance from home to the venue of the tuition class, except in the case of the fortunate few who can afford to be tutored at home.

The large majority of Year 11 students, more than 77% in each subject stated that their tuition classes were located in close proximity to their homes, less than five miles away.

In the case of Year 13 students the corresponding proportions of students were considerably lower, ranging from 43% for Accounts to 67% for Buddhist Civilization. This would indicate that even though varying proportions of students could be travelling more than ten miles from home for tuition it may not be inflicting much hardship on the majority of the students.

### Methods of Tutoring

The students were presented with the following seven tutoring strategies and asked to indicate those used by their tutors in teaching the different subject:

1. Drills and exercises
2. Provides examination questions and model answers
3. Devotes time to questioning and responding to questions
4. Provides printed notes and special supplementary teaching materials
5. Explains through lectures
6. Gives homework and marks them
7. Uses audio-visual aids and other teaching aids

The method of teaching appearing as the most popular among tutors, as perceived by students, differs from stream to stream and within each stream from

subject to subject. Yet it was significant that across the six subjects in 13/Science the strategy emerging as the most popular appeared to be the provision of examination questions and model answers. Only in the teaching of Physics did devotion of time to questions and responding to questions surface as the most popular method used pushing the provision of examination questions and model answers into second place. In both 13/Commerce and Year 11, 'drills and exercises' was seen as the method most often used, the only exceptions being Commerce and Political Science in the former and Mathematics in the latter. In 13/Arts the situation seemed more diffused, but still, in three subjects, Sinhala, History and Political Science provision of examination questions and model answers appeared to be the most prevalent. On the whole the two methods above mentioned were shown as the methods favoured by tutors while in 13/Commerce explaining using the lecture method was also popular with the tutors. The least used method in respect of all subjects and all streams was the use of audio-visual and other aids. Thus the data clearly pinpoints private tuition to be an industry wholly directed towards success at examinations.

The tutors affirmed that three methods were most commonly used:

- Oral explanations
- Getting students to answer past examination papers
- Selling exercises/assignments and marking them

Only two tutors stated that they were using audio-visual aids, confirming the evidence of the students that this was a method very sparingly used. The tutors' responses indicated a situation where teaching was carried out with oral explanations well-spaced with exercises/assignments, closely geared to the preparation of students for examinations.

### The financial aspect of private tuition

The Year 5 students paid rather low tuition fees, 74% less than Rs. 50.00 per month and 26% between Rs. 50.00 and Rs. 100.00 per month. Students in the 13/Science stream tended to pay higher fees than the others. Thus 14% of 13/Science students had stated that they



were paying between Rs. 200 and Rs. 250 per month and 18% had stated that they paid more than Rs. 250 per month for private tuition. This may be due to the perceived difficulty of Science subjects at Year 13 level and/or the relative scarcity of graduate tutors competent to provide private tuition in Science subjects at Year 13 level. Table 3 shows the average tuition expenses per month by Year level.

The examination of the level of expenditure for tuition by individual subjects too showed that tuition at Year 13/ Science was relatively more expensive.

The quantum of fees that a parent would be prepared to pay for a child's tuition could be a function of socio-economic status also. Table 4 gives the cross-tabulation of the total amount of fees paid by students according to their socio-economic status, family income being one of the components incorporated in the index of socio-economic status. In this table the amount of fees is classified under two broad groups, namely, as being less than Rs. 250 month and more than Rs. 250 per month.

The above table indicates a direct relationship between the total amount of fees paid and the socio-economic status of students. Thus as percentages of students paying high fees had steadily increased as their socio-economic status rose the converse has been true for those paying relatively lower tuition fees.

#### Perception of tuition by students

The responses indicated that an overwhelming majority of students in both the grades and all streams viewed tuition positively. They found it an important activity for which attention had to be given. It helped them to improve their methods of study and was thus helpful in their studies. An interesting paradox appeared in the case of 13/Science with 65.0 percent of the students stating that they did not like taking tuition. When juxtaposed with the high percentage (88.0) of the same group who agreed that taking tuition was important to them it brings to light that at least in the 13/ Science stream the majority of students considered tuition to be a necessary evil.

#### Parents' views on private tuition

It was noteworthy that only 27% of the parents thought that tuition was

necessary to pass examinations. One third of the parents did not think so while the rest were not sure. When asked whether tuition classes provided a better education 46.7% was not sure and 12.3% disagreed. Only 41.0% agreed. Similarly when asked whether if they were able to afford it they would send all their children for tuition the large majority (65.7%) disagreed and 11.9% remained non-committal. Only 22.3% agreed, indicating that tuition was not looked upon by the majority of the parents as an invaluable experience which all children should be exposed to.

The majority of the parents, however, were opposed to the suggestion that tuition should be banned. Taken as a whole parental opinion did not indicate a servile dependence on private tuition but an acceptance based on a practical assessment of benefits.

#### Teachers' views on private tuition

The predominant majority of teachers sampled did not agree that tuition was extremely necessary. A majority were willing to accept the need for tuition with certain reservations: only the weak children should be subjected to tuition administered by qualified tutors.

#### The effects of private tuition: students' view

The responding students appeared to be championing the cause of private tuition, for high percentages ranging from 69 to 93 have stated that private tuition had enabled them to obtain higher marks, raised their educational aspirations, allowed them to acquire more knowledge, to do the class work better and to engage in studies with confidence. This was confirmed by the very low percentages stating that they found the subject matter even more complicated due to private tuition.

A moderately high proportion of 13/ Arts students (43%) and a majority of 13/Science students (55%) admitted that tuition left little time for studies and school work. Did the high estimation of private tuition lead to a lowering of the level of appreciation of the teachers' work? The students were united in rejecting such a notion. In all sub-groups, with the sole exception of 13/Science, the majority of the students disagreed with

this suggestion. Even in 13/Science, 80% of the students maintained that they still paid attention to the teacher, even though the topics had already been covered by the tutor, and 49% disagreed that learning received from the school had become less valuable.

In the perception of the students tuition did not lead to a significant loss of control by family members, making of friends with persons of the opposite sex or observing of 'fashions and styles'. A high percentage of students in all groups affirmed that the opportunities for spending any time with friends and neighbours, to attend to personal chores or to go on trips with family members were limited due to private tuition.

Only in 13/Arts did a majority of students feel that they had time to read for relaxation and appreciation. In the other groups considerable high proportions of students admitted that their reading was restricted due to private tuition. Similarly a high percentage of students in all groups maintained that opportunities for making use of radio, TV and video were limited due to private tuition.

Except 13/Science, all other groups did not find the extra burden of private tuition on top of normal school work to be exhausting or unbearable. The highest proportion in every group indicated that private tuition helped to lessen the frustration resulting from competition. In 13/Science a moderately high percentage (42%) stated that they were under pressure because of too much work but in the case of other groups the majority denied that they were under any pressure. This is probably indicative of the fact that among the different streams at year 13 the heaviest competition is felt and the difficulty level of the subjects of study is perceived to be very high in the 13/Science stream.

Apart from the direct effects of taking tuition on top of the normal school work students had also to contend with the possible 'angry' reactions of their parents if the students failed to obtain the expected results. A moderately high percentage of students (46.0%, 44.0%, 43.0%, 46.0%) in all the sub-groups were worried that the parents would turn angry if they did not obtain good results in spite of private tuition pro-



vided at high cost. At the same time relatively smaller proportions indicated their worry that they might fail the examination in spite of receiving private tuition thus incurring the wrath of the parents. The majority indicated, however, that these psychological effects had not been converted into physiological ailments even in the form of frequent headaches.

The most significant effect of private tuition appeared to be raising of the examination scores. Yet, in pursuit of this objective, other valuable aspects of socialization, development of personal qualities and enhancement of potential in diverse areas tended to be neglected. In pursuit of a narrow conception of "education" students had been compelled to forgo valuable opportunities for personal growth, a widening of their horizons and the utilization of available opportunities for enhancement of aesthetic capabilities.

#### **The effects of private tuition: Parents' views**

The parents agreed that the children appeared to be more self confident as a result of being tutored successfully. They did not agree that the attitude of children towards school teachers had undergone any change due to participation in private tuition. They did not discern any such change of attitude.

In the eyes of the parents the children appeared to have developed social relationships better as a result of taking tuition. The majority of the parents vehemently rejected the idea that the children had been influenced towards undesirable behaviour frowned upon by society, breaking of rules etc., as a result of going for tuition.

The parents were not quite sure as to whether the time available for sports activities and for classes such as music, swimming and elocution had been restricted as a result of tuition. However, activities such as watching TV, listening to the radio, associating with friends in the neighbourhood, going on trips with the family etc., were seen by a high percentage of parents, though not the majority, as having been restricted due to tuition.

The parents were divided in their opinion as to whether children experienced exhaustion due to tuition.

On the whole the views of parents appeared to be quite different from the responses of the students. Could it be because the parents being the very people who encouraged their children to follow tuition classes were reluctant to acknowledge what was already evident? Or was it that the parents had simply not been observant of the effects which the majority of the students painfully and regretfully experienced?

#### **Summary and Conclusions**

The findings of the foregoing studies have substantiated the common knowledge that in Sri Lanka the private tuition industry was flourishing to such an extent that it had become a shadow of the regular school system. It was found that the vast majority of students perceived extra-school tutoring as a crucial determinant of academic success. In fact all these groups appear to be strongly convinced that private tuition can give that competitive edge to emerge as "Winners" in a system of education which places a high premium on good grades. The Sri Lankan parent is slightly less convinced but he will stoutly resist any move to ban tuition.

With this picture in the background it should not be a matter of surprise if the incidence of private tuition is higher at specific pressure points, namely, the nation-wide examinations at school level. At these points, participation in private tuition appears to be widespread and the desire for getting out of school help seems intense. Thus private tuition in Sri Lanka is flourishing and is the direct result of examination pressure.

Another significant finding and one which has important political, social and economic implications is the fact that private tuition in Sri Lanka, although not perceived as a luxury for the affluent, was largely dependent on the ability to pay. There appeared to be large social class differences. On the one hand we had parents, especially those from high income groups who were willing to pay and who did pay a substantial sum of money in order that their children obtained the best possible extra help outside school hours. These lucky children met prestigious tutors singly or in small groups either at their home or at the tutor's home. On the other hand there were the parents of lesser means who

could only afford to send their children to large tuition groups where fees were much lower, and those who could not afford even those low fees. Such partial or total deprivation will hinder the government's efforts to use education as a means of improving the upward social mobility of disadvantaged groups. Private tuition appears to have heightened and not in any way diminished social class differentials in educational opportunity.

#### **Effects of private tuition**

Parents and students contended that there were no negative effects of private tuition. Parents and students would like to maintain that private tuition did not limit their time for recreational activities. These claims, should, however be viewed with a certain amount of skepticism. There was some admission that those who took tuition often got tired, were unable to have sufficient rest and at times did not get enough sleep.

#### **Parental and student support for tuition**

Even parents of students who did not take tuition for various reasons did not totally agree that tuition should be banned. It was widely accepted that tuition performs a useful role and had taken root. Despite viewing tutors very positively students did not view their regular classroom teachers in an unfavourable manner.

#### **Recommendations**

Private tuition even when administered by the full time teachers in the formal school has not been considered an illegal activity. This research too has not produced strong evidence against this practice. Hence it would be unwise to suggest that private tuition be banned. What can be recommended is that a thorough examination be undertaken to diagnose the factors in the current system of education that create a need for extra-school intervention in the form of private tuition and once diagnosed, effective steps be taken to eliminate these factors. Such measures, if successful, will eventually result in strengthening the formal education system with the school at the centre leading to parents and students being convinced that the formal school alone was in a position to satisfy all their educational requirements.



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examination, the mother tongue and mathematics, so much so that all the other subjects in the curriculum are totally neglected.

In our survey (de Silva et al, 1991) Year 6 students responded to the open-ended question "what makes pupils take to private tuition?" by giving 8 reasons. They are ranked in Schedule II according to frequencies.

The above responses sharply bring out the prime cause of private tuition. Even at the tender age of ten, the students are aware of the keen competition that awaits him.

#### 4.0 Concluding Note

As mentioned above, a significant finding of the study was that more than 90 percent of the students in each subgroup (i.e. Year 6, Year 11, Year 13/Science, 13/Arts and 13/Commerce) had stated that the desire to obtain high marks at examinations pushes them towards private tuition. What was especially appreciated by the students was the fact that they could learn how to answer examination questions from private tuition classes. Both these reasons reveal the excessive preoccupation with

succeeding at examinations in all sub-groups. The students rejected the notion that non-academic outcomes of private tuition or deficiencies in the teaching of school teachers had motivated them to obtain tuition. On the other hand, the minority who did not obtain tuition stated that poor financial situation, the availability of help in studies at home and the belief that tuition will not make a difference had prevented them from participating in private tuition. The responses of the parents closely resembled that of their offspring. They sought to provide private tuition for the children to help them achieve success at examinations. The reasons given by the parents of those who do not take tuition varied. Financial considerations, high ability of some of children, help from family members with studies had made them decide not to send their children for tuition.

The study revealed private tuition, academic achievement and aspirations for future success to be closely linked to each other. It was also clear that in accordance with the high value placed on higher education as a means of securing an economically stable future with a prestigious job, students and parents tend to perceive private tuition as the avenue leading to higher education. The fact that opportunities remain limited

while education has expanded has made individuals search for other strategies that will enable some to outshine others in academic competition.

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Broadly speaking, it is envisaged that the majority of the ameliorative measures required will fall within the following categories:

1. Significant improvements in educational provision leading to qualitative improvement within the context of quantitative expansion of schools resulting in a reduction in social inequalities.
2. Provision of free or low-cost tuition services by the school itself to all who may be in need of such extra academic support.

3. Introducing a degree of flexibility in the choice of subjects of study at school enabling students to pursue the study of subjects they have the aptitude and inclination for thus reducing the need to compete and the extent of private tuition desired.

4. Reforms in the examination system giving priority to creative and reasoning skills over the recall of factual information.

5. Changes in conditions of service of teachers creating a contented corps of teachers with all necessary facilities to teach their classes efficiently.

6. Changes in the system of recruitment for jobs and selection for higher education so that in addition to grades obtained at written examinations

other valid measures of a person's suitability are also considered.

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# Necessity of Tuition Classes in the Existing Educational System

Bandula Gunawardena

*Mr. Bandula Gunawardena has helped a large number of students with his tuition classes and in this article he discusses the issue especially in relation to O.C.E. (A Level) students.*

**I**t was in the 70's and the 80's that the phenomenal increase in tuition classes occurred. With the changes that took place in the field of education, including the commencement of free education in 1947 and the national languages becoming the medium of instruction in 1950s, more and more boys and girls from rural areas sought education. The demand for education increased very rapidly in the 60s, 70s, 80s and 90s. The system of tuition classes that prevails was not there in the early days of swabasha education, there was a good reason for it. It was that at that early stage, demand had not kept pace with the supply in education. Consequently, students could with minimal marks (with simple passes in their subjects) enter Universities.

However, after the 50s, although there was a big increase in the demand for education, there was no improvement in the quality of education. There was a sharp growth in the number of students but there was no commensurate growth in the number of trained teachers, in library facilities and changes in the content of their teaching in accordance with those in the subjects. At the beginning of the switch over to the national languages as the medium of instruction the question papers were very simple. With the increasing competition for admission to Universities the question papers in all subjects became more complex. The syllabuses for the GCE Advanced Level have become too vast to be completed in 2 years. Due to the expansion of the syllabuses and their increasing depth, there has been an inadequacy in the education imparted by the schools. The main reason for the emergence of a system of private tuition classes is the fail-

ure of the schools to give the students a complete education that would suit the existing pattern of examination. This is due to several factors.

1. There is a dearth of teachers especially in remote areas. Although there are graduate teachers for advanced level classes in these schools, it is doubtful whether there are graduates with classes in different subjects. The graduates with a class in their subjects are not ready to become school teachers. The teaching profession is left with ordinary graduates only. There are schools without even graduates with ordinary degrees.

2. There is no scheme to improve the teachers' knowledge of the subject. Sometimes his knowledge is outdated. For instance, if he had graduated in 1900s his knowledge of some parts of the present syllabus has to be refreshed. Apart from the marking scheme which the teachers in charge of advanced level classes get when they come to mark the answer scripts, they get no opportunity to raise the level of their knowledge of the subjects. Because the teachers are not being trained, they have limited access to new knowledge.

For instance, due to changes in the economy that have been effected after 1977, many changes are taking place in trade and commerce regularly. The legislative acts relating to them are amended almost every month. The examination papers expect a knowledge of those changes from the students. However, the teachers in remote areas rarely get the opportunity to gain the knowledge necessary for preparing the students. Those in remote villages do not receive even the reports of the Central Bank of Sri Lanka.

3. In the past, students went in search of knowledge. The students of today do not have the kind of broad thinking necessary for seeking knowledge. They do not seek information about current affairs, they are more inclined to interest themselves in old and superficial matters. Although the schools must have more library facilities the funds allocated for them are extremely small. Consequently school libraries seem emaciated at present. The habit of using libraries has declined among students now. Knowledge has to be packeted and served to them. The reason for many students to fail at examinations is that the prevailing system of education trains them not to think, but merely to commit to memory the facts that they will have to present at examinations.

4. In the two years of schooling at A level the students have to spend their time on extra-curricular activities too. In addition to the school holidays, they also have to devote some time for sports meets and various other festivals and celebrations. These reduce the time available for studies.

5. Very often there is no way in Sri Lanka in which a single teacher can systematically and without interruption teach an advanced level subject from beginning to end. This is due to the system of teachers transfers. To overcome the shortcomings resulting from these factors the students are drawn to tuition classes.

It is important to know what classes are represented by the main groups who object to the system of tuition classes which are widespread at present. Today



there is a great crisis in relation to International Schools which exist outside the educational set up of this country and which had not existed here before. I would classify schools in this country into two groups:

1. International Schools, 2. National schools. International Schools are an institution over which the Government has no control at all. However, there is an International School under the Government too. It is the Colombo International School (C.I.S.) on Gregorys Road, Colombo, which was taken over by the Government under the Ministry of Plan Implementation. This school belongs to the Government. Its Principal is a foreigner. The teachers are paid monthly salaries ranging from Rs 7,000 to Rs 20,000. These teachers are exempt from paying income tax. The admission fee for a student is something between Rs 70,000 and Rs 90,000. The tuition fee per term is Rs 25,000. Children of Ministers, Chief Ministers and other Ministers, as well as children of Ministry Secretaries receive their education here.

That is to say, a section of super class children study in this school. According to the education policy of Sri Lanka children must be educated in their mother tongue, viz. Sinhala or Tamil. But in the International Schools the children are taught in the English medium from the Kindergarten onwards. The syllabuses are not Sri Lanka's syllabus but those of London O' Level and London A' Level. It is an admitted fact that the educational standard of both these examinations is lower than that of the Sri Lankan G.C.E. O'Level and A'Level held in Sinhala and Tamil. Thus what the International Schools impart in the English medium is a lesser knowledge of the subjects.

According to my personal estimate there are about 67 International Schools in Sri Lanka. There are about 20,000 children studying in them. They are children of upper middle class. This is an entirely private education. However, it surprises the nation why those who oppose widespread private tuition classes show no objection to this system of international schools. The private schools which are conducted under Government patronage and where the salaries are paid by the Government are the second category. There are a large number of such schools in Sri Lanka (St. Thomas's

College, St. Peter's College and St. Bridget's Convent are examples). Although the teachers in these institutions are paid by the Government, the students in A level classes have to pay a sum between Rs 600 and Rs 1000 each. There is no objection to these schools from anyone. The reason is that these schools represent a certain class. Although they impart education in the Sinhala medium they are clearly fee levying schools. In recent times another type of school, which is neither an international school nor a Government assisted private school, has emerged. An example is the Institute of Technological Education (ITS) which is conducted with the help of National Development Bank according to an advertisement which appeared in a newspaper on February 20, 1992. The fees levied are Rs 190,300/- for Grade 12, Rs 161,300/- for grade 11, Rs 136,700/- for grade 10, Rs 115,800/- for grade 9, Rs 98,200/- for grade 8, Rs 83,200/- for grade 7, Rs 70,500/- for grade 6, Rs 60,000/- for grade 5, and so on. Thus there are schools in Sri Lanka which levy Rupees hundreds of thousands in fees. However, there has been no objection to them too.

Some people declare in public that they do not send their children to any kind of tuition class. But those children are helped by what is called 'home tuition' whereby the parents send their car to collect the school teacher or some other teacher after school, to give their child an education in isolation from others. This is a practice that had always existed. When the teacher is brought home to teach one's child it is not seen by outsiders. Payments are made by the hour, at about Rs 200/- per hour on the average. No one objects, because this is considered to be a private matter of the persons concerned. There is also a system called 'group classes'. A group class is one which 30 or 40 children of middle class or upper middle class parents of similar social status attend. On an average a sum of Rs 500/- is levied from an Advanced Level student in those classes. A group class has only a limited number of students. There is no objection to this system of group classes meant for a small number of students of higher social status who can afford to pay a higher fee, either.

So, to what kind of class is the objection? It is to the widespread mass tuition classes. What is the reason? The reason

is that a large number of students from low income families attend these tuition classes. The Government does not pay the salaries of these teachers. It does not provide the buildings nor does it give any economic help. The capital invested is private capital of the teachers. The fees are maintained at a low level because large numbers attend the classes. The fee levied for an A level subject is not uniform. It varies from Rs 25/- to Rs 50. It is decided at the discretion of each teacher. However, there are instances which I know where very poor students attend such tuition classes after establishing the fact. When poor students attend these mass classes and capture a large number of the limited opportunities available for higher education, the students who get teachers to visit their homes and those who attend group classes have less chances. Hence the great objection of upper and middle classes to the mass tuition classes.

Those who acquired knowledge through free education sell that knowledge because they see no clear programme through which that knowledge can be used for the benefit of the country. For instance a majority of the doctors of the state sector, who had studied in Maha Vidyalayas and Madhya Maha Vidyalayas before joining and passing out of universities, later become private practitioners after duty hours. Their consultancy fee is about Rs 100/-. But because it is done in the capacity of a private medical practitioner, no questions are raised. A lawyer who has had free education charges about Rs 5000/- per case. However, no one questions, because he is a lawyer. An Accountant who had had the benefit of free education examines accounts, places his signature, and charges about Rs 25,000/-. No question arises because it is done by an accountant. There is no protest because all those are considered to be a private matter. But questions are raised when a teacher of a tuition class levies Rs 25/- or Rs 50/- a month from a student. Every one who objects to mass tuition classes before courses of action are adopted to create equal opportunities in education, knowingly or unknowingly, represents a super class.

These tuition classes do many things that Government classes cannot do. It is extremely difficult for a tuition class to attract students without producing very



# HOW FAR CAN TUITION HELP?

Premasiri Welivita

## Introduction

**T**he organized form of tuition classes and tutorials has become a very common feature in all parts of the country today. The chief target group of this activity is the large number of candidates sitting the competitive public examination, while those who have lined up for future examinations too are part of the target population. The total number of tutorials and tuition classes would perhaps be more than the total number of schools. It is common belief that these tuition classes are a source of extra help for those sitting competitive - public examinations. It is regarded as a friendly organization which is helping like a boat or a ferry which helps to cross a river which is otherwise impossible to cross. On the contrary there is also criticism levelled against this system of tuition classes to say that it is a form of a curse to every household, which should be eradicated because it causes an unbearable burden on the family and brings about anti-social results. In spite of whether it is good or bad, it is obvious that the tuition system has created a very big influence over all the pupils of schools, all schools and other educational institutions and all homes. It is important to discuss some factors related to rationale of existence of these tuition classes.

## The Need

It is pertinent to inquire as to why there is a need for tuition classes. There are several reasons indicated. Some of them are, the inadequacy of the teaching in schools: the tuition classes directly deal with the examination targets; they normally give an assurance over the results of the competitive examinations; inefficiency on the part of government school teachers; incapability of the parents and elders to help the students at home; in their studies; non-availability of sufficient text books, guides and supplementary readers in the relevant sub-

jects in the local languages; a means of building self confidence which is provided by the peers in the tuition class and not provided by the formal school; more friendly attitude of the teachers in the 'classes' towards children in comparison to the teachers in the schools; belief that for high academic achievements one should attend the classes of the accepted specialists on the subject; encouragement given by the school teachers to attend the private tuition classes; compulsion or encouragement by subject teachers of the school to attend their own private classes to be sure of a higher grade pass; investigating the students directly or indirectly to violate the examination rules and secure passes even by foul means by teachers and tutors who violate the regulations themselves and publicise that they are examiners or controllers of particular subjects (which is a confidential information); attention to private classes by adopting cheap methods like jokes, anecdotes, heroism and even role plays which though are not relevant to the subject are capable of sensitizing the adolescent and youthful minds; adopting a more practical approach by exercising on past papers, model answers and practice tests etc; teachers in private classes are more prompt and come prepared for the lesson, better than the regular school teacher and use modern teaching aids and equipment; more responsibility by the students to participate well in the private classes as they have to pay for the service while the regular class they get it free; there is wide publicity and propaganda for these classes, on a commercial basis, whereas the regular school propagates other activities. These are some of the factors attributed to be challenging the normal/formal school and made use of by the private tuition classes.

From another point of view it is also suggested that the private tuition system is a way of helping the teachers to engage in private practice, as it helps the teacher

to overcome some of the difficulties related to low-income in reaching a higher social status.

Most of the attributes mentioned above suggest that the private tuition classes provide a more friendly alternative to the examination candidates in particular and to the students in general. It was also mentioned earlier that there is a contrary view too. In this context it should be noted that the private tuition system has established itself well in the society as an intensive care unit for those are very close to the examination and subjected to the exam fever and a 'clinical service' inviting those others to be in constant consultation. There is also evidence to show how socially justifiable these classes are. Originally private tuition was a means of employing a single teacher to help a student at home, to cope up with the difficult subjects. To employ a private tutor, only those who could afford to pay well, could do so. The present system of brand-basing the clientele to groups, classes and large tutorials or institutes is supposed to be opening the door for many. By this approach, it is mentioned that the intention is to serve the poor at a reasonable price. There are also incidence of free scholarships awarded to attend these private classes.

## Service rendered to the target population

As mentioned earlier, the chief target group (although not the biggest group) of the private tuition classes, comprise the school candidates of the competitive public examination. Some child is often attending a number of private classes in the same subjects, as well as in different subjects. Hence the total number of clients enrolled in the private classes exceed the total number by many times.

With a very high level of participation in private tuition classes supported by



all the possible means in the schools, the performances at public examinations do not reveal any satisfactory picture. Taking into consideration the number of candidates sitting a particular examination, the number successful and its percentage, one can see only a frustrating picture. For those who are pushed out by the examination system, which is great majority, the private tuition classes have not been able to do anything useful. The private tuition classes, which could be regarded as a business in education, could have utilized this investment opportunity more economically. It should not be mistaken as an irresponsible business venture out for exploiting the innocent children. Are the private tuition institutions making business on failing their children at public examination? As it is the competitive examinations and the private tuition classes are seen as very close partners; though in effect they still are not healthy partners. It is not a very gentler approach to extract every thing from the innocent students at once, by hiding the reality behind the curtain of competitiveness of the examination. It is more desirable to open up the reality and work with him/her to provide a lime-light for liberating him/her from the situation. There is a great potential in number, in quality and in durability in such programmes. Only the attitude of instant and cheap exploitation has to be changed. Otherwise the feeling that the private tuition system is a 'cancer' or a parasite affecting education and children cannot be eliminated. It is not necessary to wait till it eats up the whole, and kills the system.

Taking year 5 scholarship examination as one of the bench marks of the private tuition path, an analysis of the marks in First Language (Sinhala) is given in Table 1.

In 1993 those who could not obtain at least 10 marks out of 100 is 17.2%. This number and the proportion has increased over the years. Can one say that the performance is so low, because all of them have not attended the private tuition classes? The number who scored over 50 have not increased over the years. There is also criticism that of those who passed well in this examination, the time spent in tuition classes has affected them adversely. The general knowledge in other subjects has been affected as they concentrated only on the

Table 1

Year 5 Scholarship Examination - Sinhala			
1. Year	1991	1992	1993
2. No. sat	203,597	182,260	184,220
3. No. obtaining marks below 09	38,383	19,952	31,679
4. Percentage thereof	10.85	10.95	17.2
5. No. obtaining marks below 19	86,443	42,550	69,187
6. Percentage thereof	42.44	23.35	37.56
7. No. obtaining marks below 39	149,150	106,404	124,617
8. Percentage thereof	73.26	58.38	67.65

Source: Dept. of Examinations

Table 2

Those who did not achieve high performance - 1992-93	
1. Passed A.L. and qualified for admission to University but not admitted	44,000
2. Sat A.L. but could not qualify as A.L. passed	100,000
3. Those who passed at O.L. but did not join the A.L. class	160,000
4. Did not qualify as O.L. passed	225,000
	<u>529,000</u>

Source: Ministry of Education, Examinations Department.

two examination subjects. In 1993, the number of candidates who could not get a single mark (at zero mark in mathematics) is 2593. It should also be noted that, with the special support given in the schools for Year 5 scholarship candidates, and with so many tuition classes helping them for nearly 3 years (from year 3 onwards) the total number sitting the examination is around 50 to 60% of the total student population in this class.

#### **Illusion of Private Tuition Class System**

All the publicity about private tuition classes show that the private tuition system is available for all classes, all subjects, all levels, all ages, all examinations and all competitions. The popular slogan of 'guaranteed results' is a great myth that is being highlighted by the

providers of this service, which is also the curse of those millions of children who follow them. Private tuition classes neither collectively nor individually could ever have succeeded in achieving this in a competitive examination. It is sheer impossible. The number of school candidates at GCE Ordinary Level has increased over the years. There is a parallel increase in the passes at each level. However, there is no significant change in the pattern of results over time.

Those who failed in all subjects at O.L. over the last ten years remained at 9 to 10%. Those who qualified for A.L. did not exceed 25%. The proportion of those who failed in the first language - Sinhala was 23.0% in 1992 and those who could not pass in Mathematics remained at 68.6%. The position with regard to Science is 70% failed. When 300,000 sit



# Marketing of Goats in Eastern Sri Lanka

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## Introduction

Goat population in eastern Sri Lanka, in the districts of Ampara, Batticaloa and Trincomalee, was estimated to be around 12,400; 41,600 and 21,800 respectively (Sri Lanka Livestock Statistics, 1988). It was found that in the eastern province in 1986/87 more than 98% of goats were reared on smallholdings (Ampara - 99.5%, Batticaloa - 99.1% & Trincomalee - 97.9%).

Marketing of livestock products is a problem in most parts of Sri Lanka due to the absence of an organized marketing system. Lack of marketing services may be limiting expansion of production or may negate the beneficial effects of an extension program to improve productivity.

A survey was conducted in two districts of the eastern province; Ampara and Batticaloa. A random sample of 187 goat farmers in both the districts veterinary ranges constituted the respondents (Ampara 81 & Batticaloa 86) selected for study. A structured questionnaire, after pre testing, was used to collect the relevant data respondents.

## Socio-economic Conditions

It was evident from the data that in Ampara a higher percentage of farmers studied (62.96%) were full-time employed in goat rearing as against a lesser figure in Batticaloa (44.1%). It was

also found in Ampara that the 6.2% of farmers practised '05' 'Flocking Contracts', which is absent in Batticaloa.

Even though the number of years of schooling of farmers did not differ very

while in Ampara it was lower (Rs. 14,257). But in contrast were the figures for average annual farm income levels from goat rearing, which was higher in Ampara (Rs. 7,575.00) and lower in Batticaloa (Rs. 3,168.00). Hence income

Table 1

Characteristic features	Ampara (n=81) Mean	Batticaloa (n=86) Mean
1. No. of members/household	6.54	5.81
2. Educational level (years)	6.00	6.80
3. Experience in goat rearing (years)	8.80	9.25
4. Average annual income/HH (Rs.)	14,257	15,608
5. Avg. annual goat income (Rs.)	7,516	3,168
6. Occupation-		
Full-time (%)	62.96	44.10
Part-time (%)	37.04	55.90

Table 2

Major Reasons Stated	Percent of Farmers Responding (Ampara (n=81))	Batticaloa (n=86)
1. Money/Cash income	51.85	56.80
2. To reduce losses by diseases & theft	10.17	4.60
3. Management problems & and above two reasons	34.17	31.40
4. Others-urgency to sell	3.71	6.00

much, an average of 8 years, it was found that the experience in goat farming varied, being higher in Batticaloa (9.25 years) and lesser in Ampara (8.6 years) district.

The average annual household income levels of farmers were found to be higher in Batticaloa (Rs. 15,608.00)

from sale of goats contributes to about 53% of total household income for goat farmers in Ampara district.

## Marketing of Goats: Channels and Problems

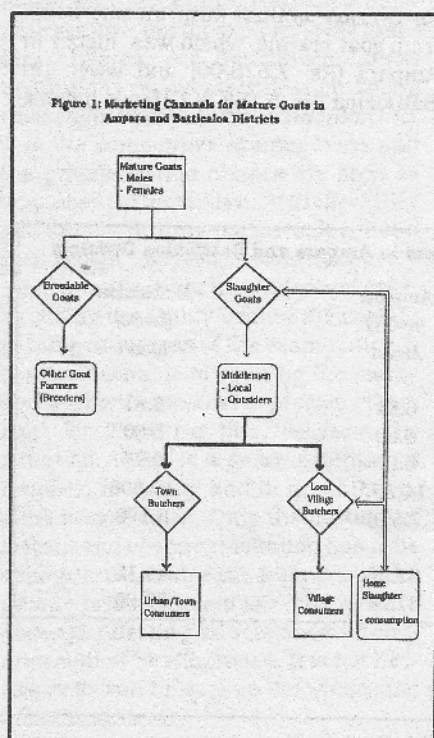
Farmers tend to sell their mature goats mainly for income purposes (more

1. Flocking Contracts: The 'Contract Flock' does not own the goats. At the end of each year out of the total sales value a share is given to the contractor, the rest to the owner. The annual being agreed as a % of the total sales value. The 'contract flocker' has to feed and look after the goats all the time of year.



than 50% of respondents), while it is also done to reduce losses due to disease occurrences and management difficulties (5-10%), especially with a large flock size. Some farmers also reported that urgent cash needs (4-7%) pushes them to sell at low prices to middlemen (Table 2).

The average age of goats sold did not vary very much for both districts, with a figure of 10-12 months for male goats and 60-65 months for female goats. But the weight of goats sold varied between



the districts, being lower in Batticaloa for both males and females. A similar feature was observed in terms of the price of a mature live-goat sold, which was lower for male and female goats in Batticaloa when compared to Ampara district (Table 3). But this difference could be explained by the weight of the goats sold being higher in Ampara district. Since mature goats, both for breeding and slaughter, are sold as single live-goats and not in terms of weight, it is difficult to compare unit prices here since variability would be large.

The marketing channels for goats are shown in Figure 1. Goats to be used for breeding purpose are sold directly to other goat farmers. While goats to be

Attributes	Ampara	Batticaloa
1. Age (mths):		
Male	11.9 (13.5) <sup>1</sup>	10.2 (28.4)
Female	64.6 (23.9)	60.4 (19.80)
2. Weight (kgm)		
Male	24.3 (8.64)	18.8 (13.2)
Female	28.8 (7.29)	23.0 (12.2)
3. Price (Rs.)		
Male	630.7 (4.2)	475 (18.0)
Female	729.0 (3.13)	489 (15.4)
Avg.	680.0	482
4. Nos. of Goats sold/yr.	12.86	8.45
5. % of farmers selling	93.8 (76) <sup>2</sup>	89.5 (55)

Note: 1 = CV values

2: = No. of farmers

Type of Problems	Ampara (n=81)	Batticaloa (n=86)
1. Lack of transport	24.69	37.20
2. Lack of price information/low prices	12.85	20.90
3. Both of the above	44.44	--
4. Others-religious/traditional beliefs	--	13.90

slaughtered are sold to middlemen, both from the village and urban/town areas, and also directly to local consumers. It is through the middlemen that urban/town butchers get their supply, whereas local village butchers also directly purchase from goat farmers. It was reported that breedable goats fetch higher prices than slaughter goats.

Almost more than 90% of goat farmers stated that they sold adult goats every year. The number of goats sold/year was higher in Ampara district, about 13 goats when compared to around 9 goats in Batticaloa (Table 3). The average price fetched by each goat in the market too was higher in Ampara district (Rs. 680/live animal) as against a figure of Rs. 482/live animal in Batticaloa district.

Various problems faced in marketing goats such as lack of transport and price information, cultural barriers etc., were reported by the responders (Table 4). Lack of transport facilities and price information has been reported by more than 44% of the farmers. This has led

to farmers being exploited by middlemen through low prices and absence of bargaining power at times of urgency to sell goats. Religious and traditional beliefs were reported by some farmers as obstacles in selling female adult goats.

### Conclusions and Policy Implications

The average annual household income levels among goat farmers in both districts did not differ significantly, but income from goat rearing was more than two times higher for Ampara farmers. This is attributed to the larger number of goats sold and the higher price fetched by them. The share of goat income to the total household income ranged from 14% to 22% in Batticaloa and 39% to 65% in Ampara district where most of the farmers are engaged fulltime.

Mature goats are mainly sold for cash income (>52%) in both districts, but some farmers also sell to ease management of the herd, while others sold them to avoid disease problems. The goats



# Comparative Performance of Tea

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**A**n important structural change in the agricultural sector effected in 1992 was the privatization of the management of tea, rubber and coconut plantations owned by the Government. Among 449 plantations handed over to 22 private companies, there were 358 tea estates consisting of 94,541 hectares tea.

After two consecutive years of setback in the agricultural sector 1993 showed a more improved situation due to healthy weather conditions in the country. Accordingly the contribution made by tea industry to the gross domestic product (1993 GDP constant Rs. 150,789 million) in 1993 was 1.98% (Rs. 2985 million) which recorded marginal increase compared to last year contribution of 1.83%.

The set back in overall agricultural production of the country was caused by prolonged drought in 1992 which pushed down tea production to a low level similar to the situation of 1982/83 where similar weather conditions were experienced. However, crops in 1993 were not remarkable as they were only a little above the average crop of the past two decades i.e. 200 million kgs.

Tea production which had dropped in 1992 to the lowest level recorded for the last 15 years recovered to a peak level of 231.9 Million Kilo Grams in 1993. This was the third highest production level recorded in this period. The highest production level of 240.6 Million Kilo Grams was in 1991 and the second highest was 233.2 Million Kilo Grams in 1991. Accordingly the production of tea in 1993 registered an increase of 29.6% compared to 178.9 Million Kilo Grams of tea produced in 1992. This was still 3.6% below the level of highest production

registered in 1991. Table 1 gives the tea production from 1990 to 1993 with their elevatory break down namely high grown, medium grown & low grown.

grown category which mainly consisted of small holding tea estates in the low country.

Table 1

Year	Total	% increase over previous Year	High Grown	Medium Grown	Low Grown
1990	233.2	-	76.1	51.0	106.2
1991	240.6	7.4	73.2	51.3	115.9
1992	178.9	25.8	53.7	37.9	87.3
1993	231.9	29.6	72.6	47.2	112.1

Table 2

	Jan./Dec. 1993 Kg. 1000	Approximate F.O.B. Rs. Mn.	Jan./Dec. 1992 Kg. 1000	Approximate F.O.B. Rs. Mn.
Bulk Tea .. Packered	129,003	10,612.6	117,809	8,971.4
Tea	74,394	6,668.8	55,033	4,434.1
Tea Bags .. Instant	5,136	1,210.1	4,541	949.4
Tea	734	313.6	414	146.6
Green Tea ..	1,171	109.6	400	27.4
Other ..	23	4.4	129	7.5
Total ..	219,452	19,149.1	178,215	14,596.4
Tea				
Imp. No. Exp.	7,226	730.4	3,461	357.0
Grand Total:	218,176	10,879.5	181,676	14,893.4

Source: Forbes & Walker Limited - Feb. 1994 tea statistics

Among the three elevation categories the highest growth of 15.2% of production was recorded in the high grown category, which mostly consists of large scale tea estate handed over to the private companies by the Janatha Estate Development Board and Sri Lanka State Plantation Corporation. The second highest growth of 28.4% was recorded in low

## Exports

In 1993, Sri Lanka was able to export a total of 218.4 Million Kilo Grams of tea including 7.7 Million Kilo Grams of tea which was imported and subsequently re-exported. Accordingly the net export of Sri Lankan tea in 1993 amounted to 210.5 Mn. Kgs. compared to 178.2 Mn.



Kgs. exported in 1992 recording an increase of 32.3 Mn. Kgs. or 18.1% over 1992.

Of this export 129 Mn. Kgs. and 117.7Mn. Kgs. or 61% and 66.2% consisted of bulk tea in 1993 and 1992 respectively. The decrease in export of bulk tea and increase in export of other varieties of tea is a favourable sign in tea exports as it shows the shifting of tea exports from its traditional pattern of more bulk tea to a pattern which includes other value added items. The break up of tea exported by Sri Lanka in 1993 and 1992 is given in Table 2.

In value term Sri Lankan tea exports were Rs. 19,149.1 Million in 1993 against FOB Rs. 14,536.4 Million in 1992 recording a growth of 31.7%. With the increase of quantitative exports during the year the average price per kilo earned by bulk tea also increased from approximately Rs. 67.00 in 1992 to approximately Rs. 84.00 in 1993. This recorded 25.4% increase in the price per kilo gram received. Packeted tea could earn Rs. 90.00 per kilo gram in 1993 against Rs. 80 per kilo gram earned in 1992. As a result no doubt the value addition widened the gap between the bulk and other form of tea exports.

Rather than remaining as a traditional orthodox tea manufacturer the time has come to diversify the tea industry with the inclusion of varieties with more value additions. The manufacture of "Cut Tear Curl" (CTC) tea can be identified as one variety. It is claimed that CTC gives three to four cups of tea per kilo gram, more than orthodox teas. Most Indian teas, except those of high flavour, coming from the North are CTC type. As there is a growing demand from the countries like Pakistan, Egypt and the Middle East for this tea Sri Lanka will be able to regain the lost demand experienced during the recent past for our teas from those countries.

The production of CTC teas in Sri Lanka which is produced in small quantities should be increased. The proposed CTC manufacturing centre to be opened in the south of the island would be helpful in this task. This would further be beneficial to small holders in obtaining a good price for their teas.

Table 3

Countrywise tea exports - first ten Countries				
Name of country	1993		1992	
	Quantity (Mn. Kgs.)	Position	Quantity (Mn. Kgs.)	Position
CIS	27.7	1	4.9	10
Jordan	27.1	2	21.8	2
Syria	17.8	3	4.8	below 10
UAE	17.7	4	4.8	below 10
UK	13.6	5	10.6	6
Egypt	13.0	6	18.6	3
Iran	8.5	7	24.5	1
Pakistan	8.2	8	5.2	9
Libya	8.0	9	6.3	7
S. Arabia	7.3	10	11.3	5

Source: Forbes Lanka Ltd.

Table 4

Value of Tea Export			
Year	Value in Rs. Mn.	SDR equivalent per rupee	Value in SDR Mn.
1990	19823.3	364.3	54.42
1991	17866.8	315.6	56.61
1992	14893.4	241.2	61.75
1993	19911.1	295.5	67.39

Source: Central Bank Annual Report

## The Market

The shifting of the tea market to other countries in 1993 as compared with 1992 was an important factor for Sri Lanka tea trade. The Table 3 illustrates the data regarding the destination of tea exports.

There was a major change in the purchase of Sri Lankan tea in 1993 as compared with 1992. The Commonwealth of Independent States (CIS) which were in 10th place in 1992 became the dominant buyer in 1993. They increased their purchasing over five-fold from 4.9 million kgs. in 1992 to 27.7 million kgs. in 1993. Meanwhile, Iran which was the dominant buyer in 1992 reduced their purchasing from 24.5 million kgs. in 1992 to 8.5 million kgs. in 1993 and stepped down to 7th place among the buyers. Jordan, however, continued to be in the second place in both years by increasing their purchasing from 21.8Mn. Kgs. in 1992 to 27.1 Mn. Kgs in 1993 which was very close to the purchasing made by CIS.

While Syria and the UAE which were below the 10th place rose up to third and fourth places by increasing their purchasing tremendously. Another important incident that took place in the trade was the heavy reduction made by the first three largest buyers of Sri Lanka tea in Middle East namely, Iran, Egypt and Saudi Arabia, although CIS appeared to take their place. Together with Iran's stepping down to the 7th place from 1st place as mentioned above, Egypt and Saudi Arabia which were in the third and fifth place in 1992 also stepped down to the 6th and 10th places.

As a result of the high cropping pattern which prevailed in 1993 in all planting districts, tea plantations began to indicate a potential for increased crops. Favourable weather conditions during 1993 not only helped to restore normalcy to the drought affected tea estates but also helped to boost crops in low grown areas in an unprecedented manner, particularly during the latter part of



the year. The crop harvested from low grown areas during December was an all time record.

#### Situation in 1994

Similarly, the first quarter of 1994 was once again a very favourable period for tea crops. Although the January crop was not exceptionally high, the February and March take turned out to be outstanding and helped to establish two further records. Total intake for February was 35% more than what was harvested during the same month in 1993. Correspondingly March recorded an excess of 21% over the same month of the previous year.

At the conclusion of the first quarter of 1994 Sri Lanka achieved an all time high figure of 60 million kgs which is an improvement of 15% over last year's yield. The weather is still very promising and if no radical change takes place in the coming months, Sri Lanka is assured of reaching the 1991 level of over 240 million kgs.

All three categories of tea have contributed towards this excess but low grown seem to be forging ahead in a manner unseen earlier. In 1993 48% of Sri Lanka's total production came from low grown areas, whilst a decade ago the contribution was 35%. Low grown has contributed 40% of the total for the first quarter of 1994. A surge in low grown production originated in the early 70's which coincided with the oil boom. The economic prosperity that resulted after this even made most Middle East countries potential buyers of Sri Lanka tea. Their preference for Low Grown tea brought about radical changes locally.

The important position held by high and medium growth less as the most sought after varieties began to fade and for the first time in 1975 the total gross sales average for low grown recorded a marginal increase of cents 10 over high grown and a comfortable lead of Rs. 1.17 over medium grown. Low grown enjoyed the price advantage of Rs. 3.14 over high grown and Rs. 7.91 over mediums for 1993.

This position has now changed and the current situation is that low grown prices have plunged and the total gross sale average for March has been about 6% lower than high grown. Low grown started off very satisfactorily this year but tended to slip back from the beginning of March. The total gross sales average declined to Rs 69.62 from about 76.13 recorded at the end of February. Since then the average has suffered marginally.

At present tea prices in Colombo indicate a downward trend. The immediate future for tea this year seems bleak. As prices are expected to slip down further during the rest of the year although a high production of tea could be expected.

The change in economic policy to protect foreign exchange in the CIS has compelled these buyers to buy cheap tea and as a result the future of the CIS market for Sri Lankan tea is in jeopardy. Egypt which enjoyed the luxury of high quality teas from Sri Lanka up to recent times has also been forced to look for Kenya teas. Certain grades of Kenya tea offered are very cheap and Sri Lanka cannot compete as the prices offered do not cover the local cost of production.

Competitiveness and price war in the current market as well as manipulations in the market by bogus licenses also account considerably for this drop in tea prices.

#### Devaluation Effect

The benefit of the splendid recovery made by the tea harvest cannot be enjoyed fully by Sri Lanka due to a part of it being eroded as a result of the continuous depreciation of Sri Lanka Rupees against major foreign currencies. This could be assessed by looking at the drop in rupee value against SDR.

The conversion rate of Sri Lanka rupee for one SDR was Rs 64.12 approximately in January 1993. This increased to Rs. 68.19 approximately at the end of 1993, registering a depreciation of the Sri Lanka rupee by 6.39%. If this depreciation is calculated as a percentage increase, the real gain received by increased tea exports is low. Table 4 gives the value of tea exported by Sri Lanka during the last 4 years in SDR terms.

(C.1.1010)

Accordingly although the increase of tea income in 1993 against 1992 tea income recorded a 33.78% increase in Sri Lanka rupee terms the increase recorded in SDR terms was only a 9.1%. Similarly the increase of 11.5% per kilo gram in Sri Lanka rupee terms in the same period was recorded as a mere 1.5% increase in SDR terms. Hence, the whole benefit of the high crop of tea in the country has been concealed by the depreciation of the rupee value.

*Cont. from page 30*

are sold as live animals on a price per head basis through middlemen/traders or directly to consumers.

There are no formal markets for selling goats and the subjective judgement based on age, sex and appearance being used to fix prices of live-goats. The lack of transport and price information and low prices were stated by farmers as marketing problems that emerged due to the existence of poor road network and transport facilities.

Subjective assessment of goats to fix prices tend to leave sellers at the

exploitatory hands of the middlemen and traders. The higher price of goats in Ampara district could be attributed to the older age and weight attributes involved, thus bringing in a higher income. Also it could be implied that in Ampara district, higher price for goats could be the attraction and incentive for farmers to be occupied full time.

The need for organizing a proper marketing system is essential if goat farmers are to continue production. This is also vital to help extension services introduce modern production and management practices into goat production systems. Thus it becomes necessary for establishing goat farmers associations

to help in marketing (reducing exploitation by middlemen) and acquiring modern technology for production. The government too can help in this regard by organizing marketing channels or provide incentives to the private sector to get involved in marketing of goat products. This is crucial if persons involved in goat rearing as a full-time occupation are to survive and to help increase the country's mutton production in the long run.

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## EXTERNAL TRADE

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In recent times there is a marked progress in the export sector of the foreign trade of Sri Lanka. Especially during the five years since 1988 the annual rate of development kept at the high level of 11%. However, the widening gap in the balance of trade due to the rising costs of imports has become problematical. The trade deficit which in 1984 was S.D.R. 380 Millions rose upto S.D.R. 806 Millions in 1991. By September 1993 this trade deficit fell to S.D.R. 528 Millions.

### Exports

By 1992 the foreign export earnings were developed to a level as high as S.D.R. 1741 Millions (Rs. 107,509 Millions) from the total export earnings of 1983 of S.D.R. 1001 Millions (Rs. 25,183 Millions). It was the earnings of the industrial products that contributed to this broad expansion of the export earnings. The industrial products earnings which were at 35% in 1983 reached a high level of 69% in 1992.

Among industrial products the contribution of foreign exchange earnings out of textile and garments played a major contributory role. Foreign exchange earnings out of textile and garments were 19% in 1983, 48% in 1992 and in September 1993 it was about 49%. In addition, the foreign exchange earnings of petroleum products contributed considerably towards this expansion.

After 1984 the foreign exchange earnings of the traditional agricultural products fell (considerably) to distressingly low levels. The earnings of the agricultural sector which were S.D.R. 865.6 Millions in 1984, were S.D.R. 427 Millions in 1992. Especially after 1984, earnings out of tea fell. The earnings in 1984 were at a high level as S.D.R. 604.5 Millions. But by 1992 it fell as low as

S.D.R. 241 Millions. The adverse output of tea production contributed to this situation. Yet by 1993 a slight upward trend in the output of tea is noted.

There seems to be a gradual fall in the production and export of Rubber after 1984. In 1984, 26.2 Million kg. of rubber were exported earning S.D.R. 126.6 Million (Rs. 3,301 Million). In 1992, 786 Million kg. with earnings S.D.R. 48 million (Rs. 2960 Million). But by September 1993 an improvement in the export earnings over the previous year is recorded.

due to the improvement in the coconut crops, exports expanded and in 1992 was able to record a satisfactory S.D.R. of 60 Million. But it failed to achieve the record earnings of S.D.R. 111 Millions of 1985.

According to the published data, upto September 1993 export earnings out of coconut products has fallen by 37%. The unsatisfactory coconut crop of this year has affected these export targets. During this period coconut production fell by 15%.

Table 1

Foreign Trade Value in S.D.R. Million (Rs. Million in brackets)			
Year	Exports	Imports	Trade Deficit
1987	1,048 (39,801)	1,568 (59,750)	522 (19,889)
1992	1,741 (107,509)	2,425 (149,780)	685 (42,272)
1993*	1,465 (98,045)	1,993 (133,409)	528 (32,412)

\*From January to September

Table 2

Export Prices F.O.B.			
Year	1988	1990	1993*
Cocoa products	55.97	39.56	--
Pepper	108.26	90.03	48.06
Cadamoms	112.25	102.62	38.94

\*Upto August 1993

Due to the failure of coconut crops in 1988 exports fell and export earnings recorded a level as low as S.D.R. 36 Millions (Rs. 895.0 Millions). But later

An overall consideration of the minor export products reveals an expansion of these products for export. Cinnamon accounts for about 38% of these minor

Cont. on page. 60



# THE NEW ENVIRONMENTAL ORDER

**L**awrence Summers, who is the World Bank's Chief Economist and is responsible for this year's World Development Report which is devoted to the economics of the environment, has actually suggested that it makes economic sense to shift polluting industries to the Third World countries.

## Exporting Pollution

In a memo dated 12 December 1991 to senior World Bank staff, the Chief Economist wrote, "Just between you and me, shouldn't the World Bank be encouraging more migration of the dirty industries to the LDCs (less developed countries)?"

Summers has justified his economic logic of increasing pollution in the Third World on these grounds:

Firstly, since wages are low in the Third World, economic costs of pollution arising from increased illness and death are least in the poorest countries. Mr. Summers thinks "that the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable and we should face up to that."

Secondly, since in large parts of the Third World, pollution is still low, it makes economic sense to Mr. Summers to introduce pollution. "I've always thought," he says, "that under-populated countries in Africa are vastly under-polluted; their air quality is probably vastly inefficiently low compared to Los Angeles or Mexico City."

Finally, since the poor are poor, they cannot possibly worry about environmental problems. "The concern over an agent that causes a one in a million change in the odds of prostate cancer is obviously going to be much higher in a country where people survive to get prostate cancer than in a country where under-5 mortality is 200 per thousand."

The World Bank apologized for Mr. Summers's Memo. But that does not alter the fact that the World Bank has,

by Vandana Shiva  
Courtesy: Christian Worker

in fact, been financing the relocation of pollution intensive industry to the Third World. As steel plants close in the North, the Bank helps the expansion of steel manufacture in India. It has financed the displacement of millions of Indians to build the Chandli and Ichha dams of the Suvrnarekha project to support the expansion of the Tata's Steel Plant at Jamshedpur.

It continues to finance super-thermal power plants to facilitate the relocation of energy intensive industry to the Third World. When fertilizer surpluses grew in America, the World Bank gave credit to push chemical fertilizers on India.

The World Bank's practice shows that Summers's Memo is not an aberration but is consistent with the vision of an environmental apartheid, a separate development, for the North and South.

The North benefits in four ways from this arrangement of apartheid.

Firstly, Northern businesses are able to sell through so-called "transfer of technology" financed by loans and debts, obsolete production systems and products which they would otherwise have to dump because of stricter environmental problems at home.

Secondly, Northern banks, including the multilateral development banks like the World Bank, are able to make interests on loans and credits given for the transfer of environmentally unsound technology.

Thirdly, the resultant financial debts give the North more political and economic control over the Third World through IMF conditionalities and structural adjustment loans, which push the Third World further into borrowing and debts.

Finally, the increased pollution and environmental degradation in the Third World is also used as a new reason for control through green "conditionalities."

The Third World is thus pushed inexorably into deeper debts, deeper poverty, deeper environmental degradation, and a deeper erosion of its sovereignty and democratic structures. The malaise that allows these processes to grow is not limited to one economist called Summers or to one agency like the World Bank.

## Apartheid

Apartheid seems to have become the way of thinking of all dominant powers of the North. Apartheid is, in the final analysis, a racist world view which moralizes injustice on grounds of the false assumption of the superior status of the white race and the inferiority of the rest of us. We can be polluted and poisoned because we are lesser beings in the eyes and minds of those who want to rule the world. A brown or black child does not deserve the same protection from health and environmental hazards because he or she is not white.

This apartheid philosophy is fast emerging as the ruling philosophy in the North. It finds its echo in Dr. Maurice King's paper in the *Lancet*, in which he recommends that health care should be removed from the children in the Third World and they should be allowed to die because Third World populations are a burden on the planet. Apartheid is also the underlying philosophy of the recently released report from GATT on Trade and the Environment.

On the face of it, GATT's recently released report is against environmental imperialism. It refers to the recent GATT ruling against US ban on imports of Mexican Yellowfin tuna because fishing methods led to the killing of dolphins that swim about the tuna shoals. The GATT ruling says that "A country may not restrict imports of a product solely because it originates in a country whose environmental policies are different."



GATT's report on Trade and the Environment appears to be against protectionism in the North, but is, in reality, the recipe for an environmental apartheid. When it comes to issues of environmental protection, GATT says that "countries are not clones of each other. They have a sovereign right to declare different environmental priorities and policies."

However, when it comes to intellectual property rights (IPRs) and patents, GATT insists on a uniform law globally. IPRs are in effect instruments of control over biological resources and bio-diversity which is concentrated in the Third World. When applied to living resources and life forms they are ultimately laws about the environment.

Environmental laws are thus given a different status in GATT. They are treated uniformly and as "global" when they relate to controlling the resources of the Third World. All countries are treated as clones of each other in the case of patents on life forms. On the other hand when environmental laws relate to pollution and hazards, the Third World is treated differently. "National Sovereignty" is used to justify the localization of pollution in the Third World but "National Sovereignty is sacrificed to justify the globalization of access to the biological wealth of the Third World.

The environmental "bads" inherited from the North are thus made the South's exclusive legacy. Environmental "goods" like bio-diversity which have been the South's heritage are transformed into a "global heritage of mankind"

Some Third World elites and governments will be happy with this arrangement of apartheid because it allows them to participate in the robbery of people's resources, and it frees them of social responsibility to protect their fellow citizens from pollution and other environmental hazards. The resource that they hand over to global powers have been taken over by them from local communities. The pollution they invite will not be theirs to suffer. A part of the South will thus be jubilant with this face-saving device of "National Sovereignty" being used for "free" export of resources from South to North and "free" import of pollution from North to South.

### Double-speak, double standards

The words "freedom" and "protection" have been robbed of their humane meaning and are being absorbed into the double-speak of corporate jargon. With double-speak are associated double standards, one for citizens and one for corporations, one for corporate responsibility and one for corporate profits, one for the North and one for the South.

The US is the most sophisticated in the practice of double standards and the destruction of people's rights to health and safety in the Third World. On the one hand it aims at keeping regulation for safeguards restricted to its own geographical boundaries, while on the other hand through Super 301 it aims at destroying the Indian Patents Act of 1970 and replacing it with a strong US-style system of patent protection which is heavily biased in favour of the industrially developed countries.

The World Bank and GATT consider the transnationals' lack of patent protection as unfair trading practice. It does not consider the destruction of regulation for public safety and environmental protection as unethical and unfair for the citizens of the Third World. The Northern agencies want to limit and localize laws for the protection of people and universalize laws for the protection of profits. The people of India want the reverse a universalisation of the safety regulations protecting people's right to life and livelihoods and a localization of laws relating to intellectual property and private profits.



All life is precious. It is equally precious to the rich and the poor, the white and the black, to men and women. Universalization of the protection of life is an ethical imperative. On the other hand, private property and private profits are culturally and socio-economically legitimized constructs holding only for some groups. They do not hold for all societies and all cultures. Laws for the protection of private property rights, especially as related to life forms, cannot and should not be imposed globally. They need to be restrained.

Double standards also exist in the shift from private gain to social responsibility for environmental costs. When the patenting of life is at issue, arguments from "novelty" are used. Novelty requires that the subject matter of a patent be new, that it be the result of an inventive step, and not something existing in nature. On the other hand, when it comes to legislative safeguards, the argument shifts to "similarity", to establishing that bio-technology products and genetically engineered organisms differ little from patent organisms.

To have one law for environmental responsibility and another for proprietary rights and profits is an expression of double standards. Double standards are ethically unjustified and illegitimate, especially when they deal with life itself.

However, double standards are consistent with and necessary for the defence of private property rights. It is these double standards which allow the life and livelihoods of the people and the planet to be sacrificed for the protection of profits.

And it is these double standards which support the emergence of an environmental apartheid in which the last resources of the poor are taken over by the rich, and the poor are pushed into "pollution reservations" to live with waste, because they themselves are treated as waste, to be dispensed with either through poisoning and pollution as Lawrence Summers has suggested or through pollution control and denial of health care to children as Maurice King has suggested.

An environmental order which is full of contempt for the poor of the Third World and tries to even rob them of their right to life cannot be the basis of our common future.



## THE SOFTENING OF SOFTWARE

**B**eset by falling prices and cut-throat competition, software companies face a turbulent 1994. Can they find new ways to make money?

It HAD to happen. After two years in which the cost of personal computers has fallen by more than half, the price of the applications software used in those PCs—spreadsheets, word processors, databases and the like—is being dragged down too. In 1993 alone the price of applications software probably fell by around a quarter in America and by more than a third in Europe. Such software accounts for some \$20 billion of the world's \$60 billion off-the-shelf software market, and remains, in unit sales, the fastest-growing part of the industry. Now an all-out price war looks inevitable.

In software, market share is everything. The rising cost of developing complex new products—Microsoft's Access database set it back some \$80m—can be offset only by selling them in huge volumes, and then by offering customers "upgrades" of their software over several years. Software firms are increasingly dependent on upgrades: partly because there are no new "killer applications" (such as the Lotus 1-2-3 spreadsheet or WordPerfect word-processing program) on the horizon, and partly because the industry's heartland, the business-PC market, is starting to look saturated. Bill Gates, Microsoft's newly married chairman, reckons three quarters of his company's software revenues will eventually be generated by upgrades, compared with only a quarter during 1993.

Building a large customer base from which to sell upgrades means stealing market share from rivals. In an ever more commoditised business—one spreadsheet is much like any other—that means undercutting their prices. To challenge the leadership of Lotus in the spreadsheet market, Borland has cut the price of its rival program from \$495 to \$50 since 1992. To break Borland's stronghold on databases, Microsoft

launched its new Access database for \$99—a fraction of its \$495 "list" price. And to take on Novell in the market for PC-networking software, Microsoft recently cut its prices to big corporate customers by up to 66%. Such "special offers" tend to turn into permanent low prices.

Sales and marketing costs, which in the late 1980s were little more than research-and-development expenses, have soared. According to DataMonitor, an industry consultancy, expenditure on sales and marketing has now risen to about 40% of big software companies' annual revenues, while R&D has languished at around 14%—not enough, according to some insiders, to support the industry's ambitious long-term product plans. Spending on sales and marketing may hit 50% of revenues at some software firms in 1994.

Falling prices and soaring costs are starting to bite. In the quarter to September 1993, Borland's net profit margin shrank to 2.6% of sales, down from 4.2% a year earlier; at Lotus the figure dipped to 7.6% from 14.6% a year earlier; even Microsoft's margins slipped a little, from 25.6% to 24.3%. In the long run, Mr. Gates reckons his firm's net margin will fall to around 15%—mostly because of collapsing profits from applications software, which now accounts for two-thirds of Microsoft's annual revenue.

These flagging profits explain the hunt for new markets. Nearly two years after PC makers such as Compaq, Packard Bell and Gateway 2000 started trying to sell to domestic rather than business-computer users, the software industry is doing the same. A quarter of American households already have a PC; many are used for business, but industry seers reckon that the next wave of domestic PC sales (an estimated 5m in 1994 alone) will primarily be put to non-business uses, such as games, education and personal finance.

Microsoft took the plunge into this

enticing new market late last year with the launch of its Home brand of PC software, as did WordPerfect with its Main Street software. Microsoft expects to release around 100 Home products over the next year or so, ranging from multimedia games to what it describes as "personal productivity" software. In December Microsoft launches Creative Writer, the first writing and desktop-publishing package aimed at children; early in 1994 it will release Fine Artist, a children's art program.

To sell its new products, the industry needs new sales channels: few families are willing to spend their weekends in specialist computer shops. Microsoft is already selling software in some Wal-Mart and Costco shops in America; in France it organises weekend software demonstrations in supermarkets. Microsoft Home will also be sold by mail-order and at school events. Pete Higgins, head of desktop applications at Microsoft, reckons that CD-ROMs, which are now fitted to many "domestic" PCs, will also be a powerful distribution tool. Consumers receive a CD-ROM disk with access to demonstration software; they can then dial a toll-free number to pay for and "unlock" the program for permanent use.

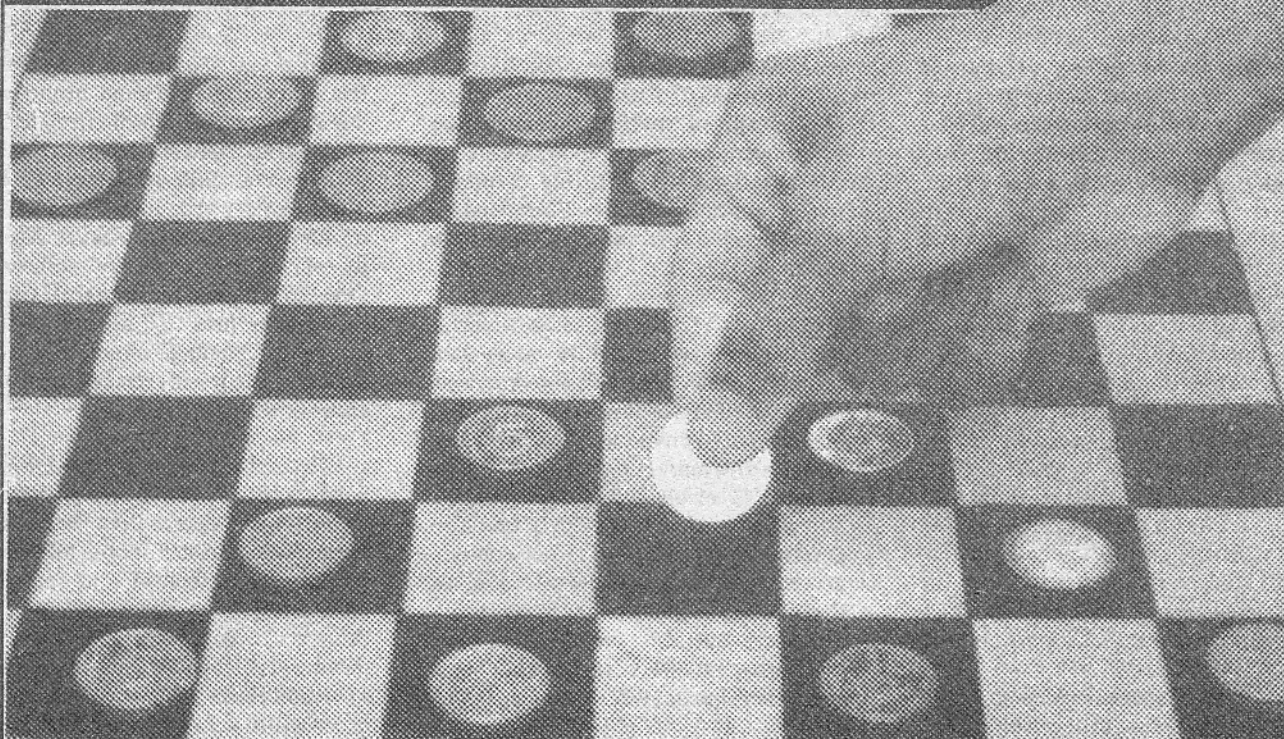
Many software firms think that the mail-order route is the one to take. When Computer Associates, a company better known for its big-computer software, decided to target domestic PC users, it opted to build market share by giving its products away by mail-order. For a postage and handling charge of \$7-10, consumers receive a free copy of one of Computer Associates' two personal-finance software packages, Simply Money and Simply Tax. The firm now has a mailing list of 2m names to which it can sell upgrades and new products.

Computer Associate's home-software products share basic software "modules" (which makes them cheap to develop and easy to use). The firm is now considering launching no-frills word-processing software: "Home users don't

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# Child Prostitution or Poverty? : Findings from a Survey of School-Going Children in a Selected Area in the Western Province

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The field research was conducted by the author, Dr. A. J. Weeramunda, in 1994. He was then a Senior Lecturer at the University of Colombo. The research was funded by the University of Colombo. The author is grateful to the University of Colombo for providing him with the facilities and resources necessary for the research. The author is also grateful to the University of Colombo for providing him with the facilities and resources necessary for the research. The author is also grateful to the University of Colombo for providing him with the facilities and resources necessary for the research.

## 1. Introduction

This paper presents findings from a survey conducted among a sample of 87 school children who have engaged in commercial sex with tourists. The children were non-randomly selected from all children attending 3 state-run schools in a selected coastal area in Sri Lanka's Western Province. The study was undertaken against a backdrop of concern over the incidence of child prostitution and the lack of empirical data about the nature and extent of the phenomenon. One of the chief objectives of the study was to provide as accurate a picture of child prostitution as possible. Consequently, the study was limited to a relatively small geographical area (about 1 kilometre in length) situated close to tourist activities since it was assumed that child prostitution and tourism were closely related.

The study was also concerned with the extent of which economic factors contributed to child prostitution. A commonplace assumption is that economic marginalisation of the household is a factor pushing children to engage in

such activity particularly since children under normal circumstances neither engage in commercial sex nor in any type of sex whatsoever.

## 2. Methodology

Several methodological difficulties had to be faced in locating the study population. Preliminary interviews with knowledgeable persons at the community level indicated that a standard household survey would have more disadvantages than advantages. Informants were of the view that children would not feel free to talk of their sexual experiences in the household context, an opinion which has proved sensible in view of the survey finding that many children have engaged in such activity without the knowledge of parents. There was also speculation whether parents or other adults would feel resentful if queries were asked about sexual involvements since, among some families they were consenting tacitly or otherwise to such activities. This observation also proved to be accurate in the course of the survey.

The school context seemed the obvious choice particularly since principals

of 3 schools within the selected area agreed to cooperate and provide facilities for interviewing. This method of sampling has some limitations too. It depended on information given by children and school authorities with no way of cross-checking it with people in the child's home. For example, a few children could not answer questions about the educational level of income of their parents. Household conditions including living conditions, diet and sanitation could not be observed although they had relevance to the problem.

Although not a perfect research strategy, interviewing of children during and inside school was the most feasible method and yielded maximum results. Also, a standard random sample survey of households would not have enabled us to cover an adequate proportion from the target group within the financial and time limits of the study.

Principals of three Maha Vidyalayas in the selected coastal area undertook to provide lists of children whom they or their staff thought had relationships with tourists. Visible signs of contact such as new school books, bags, pencils, clothes, ability to speak a foreign language, lack of interest in studies, and family disorganisation were taken note of in making such lists and to cover all grades in each school.

A field interviewer was assigned the task of talking with each child privately, building rapport, and establishing whether contact with tourists included



sexual relations as well. Once this was known, the interview proper began for each child.

### 3. Sampling

A target of 100 children was set for all 3 schools. Data on the numbers of school children, how many were submitted for screening, and how many were interviewed are presented in the table which follows. Out of a target of 100 children, 87 interviews were completed to meet the deadline set for the study.

It needs to be noted that not all the children who may have been involved were interviewed since the number of students to be interviewed was dependent on the overall target of 100 and the time constraints on the study. Also, given more time, school authorities could have furnished lists larger than what they were able to. Although the number detected using the above procedure is about 2 per cent of school children, in actual fact this proportion could be quite elastic and would depend on the size of the sample. An estimate of the real numbers involved would require a much larger sample from each coastal school to be supplemented with data on non-schoolgoers through local Grama Niladharies.

The communities in which the children live have large proportions of economically marginalised families. Several factors have contributed to this situation. About 2 decades ago, a large majority had steady employment as fishermen or as workers in mills processing coconut fibre; many also made coir rope as a cottage industry. With the closure of the mills, fibre is now bought at the open market and at higher prices than before, making the production of coir rope not as profitable. The opening up of hotels along the beach has also resulted in loss of coconut trees, the source of food and fibre. Fishing, a traditional form of employment continues among some families. For example, according to the Grama Niladhari of one community, out of 400 households in his division, only 2 per cent are government employees with steady incomes. The remainder have to depend on casual or seasonal employment. Thus, 15 per cent of families are engaged in fishing or related activities such as sale of fish and mending of nets. Another 10 per cent tap toddy, another traditional form of employment. The remainder (73%) are casual wage labourers.

Nearly 70 per cent of families are below the poverty line, and as a consequence, have resorted to the manufac-

titation, intrafamily fights, and doing anything for a quick buck are standard life patterns. These patterns are replicated in the other 2 communities as well. All three communities belong to the same ethnic group (Sinhalese) although two are Buddhist while the other is Roman Catholic indicating that religion has been immaterial. However, it is noteworthy that children from the Muslim ethnic group which is also found in coastal Beruwala do not seem to be involved in prostitution probably due to rigid community control of individual behaviour particularly through the mosques.

### 5. Survey Findings

Responses were elicited from the selected children using a semistructured interview schedule having 3 main components, namely (1) socioeconomic conditions including family composition, housing, facilities for study at home, other educational activities, pastimes, and friendship patterns (2) sexual contacts and experiences including means used to meet tourists, types of meeting places, means of payment, amounts paid, type of sex act, age and sex of partners and attitudes of parents to such encounters, and (3) whether relations have continued or stopped, if so for what reasons, if not, for what reasons, and child's aspirations.

#### The findings are as follows:

#### 5.1 Demographic Features

Nearly two-thirds of the sample (63.22%) are males with the remainder (36.78%) being females, indicating that both sexes are involved with a tendency for males to predominate.

Present age structure of the sample shows that nearly all ages from 11 to 17 years are represented with a tendency for proportions to be higher at ages 14 and 15 (47%). This observation also holds when present age structures of males and females are compared.

All children presently attend school from grade 6 onwards with 50 per cent attending grades 9 and 10. Again, this condition is shared by both males and females.

School	*Range of Children Attending School	No. Screened	No. Interviewed	Per Cent of Student Total
1	Upto 1000	80	19	2.32
2	1000 to 1500	130	30	2.81
3	More than 1500	240	38	1.58

\*The exact number of children attending a particular school has not been given to preserve the anonymity of the schools concerned.

### 4. Community Background

Areas in which the three selected schools are located have relatively high population density; one community is located within an Urban Council area with a density of over 4500 persons. One unwanted outcome of high density has been the growth of shanty houses made from boards or coconut thatch situated along the no man's land of the beach and between tourist hotels. Child prostitution may be one outcome of this type of unplanned overcrowding as will be seen.

ture of illicit liquor, for which there is a steady clientele from town. In this context, it is not surprising that families see tourism as a quick way of making money. Selling of craft items, dresses, and fruit to tourists, and working as tour guides are related activities. There are also 3 or 4 informal sector cafes to which tourists come for cheap meals and liquor. Annual flooding of shanties along the railway line also contributes to an atmosphere of a culture of poverty.

Most children live in an environment where drunkenness, verbal abuse, pros-



All children except 2 live in the immediate vicinity of school and do not commute from long distances.

## 5.2 Household Conditions

It was surprising to find that a large proportion (70.11%) lived with both parents, thus dispelling the idea that they have taken to deviant behaviour due to the loss or absence of one or both parents. However, a sizeable proportion (20.69%) live only within single parent households (20.69% with mother and 5.75% with the father). Loss of a parent has been due to sickness, fatal accidents and in a few cases due to marital separation. A large proportion of children appear to come from stable families. A moot question is why children have not been restrained from deviant behaviour if many lived with both parents?

With regard to housing conditions, nearly half (45.98%) lived in permanent structures although an equal number lived in semi-permanent or temporary housing (35.63% and 18.39% respectively). Type of housing also determines facilities for study at home. A large proportion (67.82%) said they had facilities for study at home although a third stated otherwise saying that the situation of their homes near the beach (noise of the ocean) and lack of electricity prevented them from engaging in study. When type of housing and facilities for home study are taken together, there appears to be no strong evidence to suggest that living in a permanent structure with electricity and space for study would dissuade children from delinquent behaviour.

## 5.3 Household Composition

A large majority of children do not come from extremely large families either. The average family size is 4.64 persons with 34.48 per cent coming from families having 5 members while another 27.59% are from families with 6 members. Some form of family planning appears to be practised among a large majority of families. This was supported by interviews with community level health workers in the area who stated they had no difficulty in promoting planned parenthood among the population.

Nearly 60 per cent of children do not have an older brother (57.47%) or an

older sister (58.62%) who could have acted as a restraining or disciplining factor if parents could not perform this function. On the contrary, among the large proportion who do have an older male or female sibling, the latter have induced the younger brother or sister to engage in commercial sex with tourists or acted as brokers.

In terms of age structure, a large proportion of parents are in the economically and socially active age group: most fathers (57.35%) are between 30 and 50 years and most mothers between 30 and 45 years (70.73%).

It is also surprising that a very high proportion of fathers (68.12%) and mothers (61.44%) have completed or gone beyond a primary education (grade 5). By no means could they be treated as socially incompetent or illiterate.

## 5.4 Economic Structure

However, it is in the economic sphere, particularly in the modes of employment for both sexes that the crux of the problem appears to lie. For, in the case of a large majority of fathers (89.89%), the available forms of employment are in semi-skilled types of labour as toddy tappers, masons, carpenters, fishermen, guides, traders or casual (unskilled) labourers. In the case of mothers, a large majority (63.85%) are unemployed except as housewives while 25.61 per cent work in a cottage industry such as production of coir rope or sewing. However, there is a fair proportion of fathers employed in white and blue collar jobs (5.8% and 8.7% respectively). It will be seen, therefore, that the employment structure of parents does not deviate significantly from that of the community as a whole. And, it is difficult to categorise all these children as belonging to a subculture of poverty as many may assume.

In terms of incomes of fathers alone, nearly half the children come from homes with a gross monthly income less than 1500 rupees while the remainder come from homes with incomes ranging from 1500 and 2500 per month. Of the mothers, 32.95% are employed but earn less than 1500 rupees. Usually, this income supplements the low income of a father or is the only form of income for the family if the father is absent or dead or if

no one else works. There are however adult brothers or sisters who are employed in single parent homes. Taking all incomes together, it is seen that the average monthly income is 2828 rupees, which is over the poverty line, although it may not be considered high. Total monthly incomes range from a low of 1000 rupees to a high of 8500 rupees, the latter found among a few families where 2 or 3 members are employed particularly in informal sector trade or working as tourist guides. (In the case of guides, the income is only during season or about 8 months of the year).

## 5.5 Society of Children

Just as parents are representative of adult society as a whole, children who are involved in prostitution are in most respects like normal children. They are active, vibrant and busy and do not appear to be morose or withdrawn. Many associate with neighbours, other children, school friends, and friends in the village. Their encounters with sex are certainly not an expression of some pathological condition. When asked about their pastimes a large proportion said games (45.98), followed by reading (13.70%), singing or dancing (10.34%), playing on the beach (8.05%), with the remainder being mainly interested in watching tv, films, drama, travel, tottering, while only 3 children (3.45%) had no special pastime. Only one child in the sample did a part-time job while attending school. It is noteworthy in this regard that they do not consider taking part in sex even for money as a form of employment or child labour although it may appear so to an objective outsider. Do they regard sex as a pastime? In many respects, and for a large number, it appears to be so although they are ashamed to talk about it at first.

About a fourth of children (25.28%) are engaged in studies outside school hours in a history to receive coaching in one or two difficult subjects such as science, maths and English. The large majority do not have the resources to spend for such extra education. Extra hours spent on education do not appear to have prevented them from engaging in sex with tourists.

It is noteworthy that a very high proportion attend school regularly (86.21) although according to school authori-



ties the remaining 13.49% have shown a poor attendance record. If engaging sex should interfere with attendance or lead to early school leaving, then it has not done so for a large majority.

With the exception of 2 children who have won awards for sports and art, none of the others have earned any special awards or prizes at school. In other words, the typical child involved in sex is not a whiz kid either. He is your average type of boy or girl with average intelligence and skill.

However, with the exception of 3 children, all others were able to identify an area of skill or special interest with high proportions going for fine arts (25.29%) followed by games (24.14%), literature (17.24%), foreign language (12.64%), science and maths (10.34%), and the remainder distributed for crafts, elocution, and agriculture. It is quite likely that if these interests and skills were channeled in the right direction, these children may in fact stay away from "trouble".

## 5.6 Local Children and Foreign Adults

Excepting one male child of 16 years, all other children have had their first and subsequent sexual experience with a foreign male or female. The starting age in the sample is 10 years (12.64%) and ending age is 15 years (8.05%). The highest concentrations are at the ages of 12 (35.63%), 13 (20.9%) and 14 (13.79%). The distribution is the same when viewed in terms of male and female children.

The above picture is certainly not a part of the community's normative pattern for sex since sexual relations are tabooed until a person has married. Loose sexual mores are not even found among a large majority of adults. If so, how do children get away with sexual encounters with foreigners? This question is to be answered at a subsequent stage of this paper. Suffice it to say for now that there has not been a single reported instance of children being forced to submit to sex or kept in some place as sex slaves. Instead, they appear to be willing partners once their initial fear has been overcome through socialising with foreigners.

Of the 55 male children, a large proportion (61.81%) have had sex with foreign males, 23.63% with females (all foreign excepting one who was local), and the remaining 14.54% with males and females in a group form of sex usually with a foreign couple. Of the 32 female children, a large proportion (56.26%) have had sex with a foreign male, 34.37% with females, and the remaining 9.37% with a male and female at the same time.

In terms of age structure of foreign partners, the largest proportions among male and female foreigners are between the ages of 25 and 35 years irrespective of the type of sexual act they engage in or their sexual preference. Among foreign males who have had sex with boys, 70.59% are in the above age bracket. In the same age category are foreign females who have had sex with girls (54.54%), foreign females who have had sex with boys (46.15%), and foreign males who had sex with girls (66.67%). In general, a younger foreign clientele appears to be dominant with many from northern European countries such as Germany and Sweden.

## 5.7 Sex Activity

A wide spectrum of sexual acts is shown with high proportions of children who have taken part in either active or passive oral sex (22.99%), those who have had passive anal sex (21.84%) being found only among males, who have had combinations of oral with anal sex (12.64%), being confined to boys, and of oral with intercrural sex (12.64%). In the case of female children, large proportions have had passive or active oral sex (28.12%), oral and intercrural sex (28.12%) found among girls who had foreign female partners, and intercrural sex only (21.88%) mostly among girls with either male or female partners. By contrast, incidence of genital sex is low for both boys and girls (6.90% and 9.38%, respectively). The balance proportions are distributed among those who engaged in masturbation and combinations of several types of sexual acts.

In general, foreign partners do not seem to have been cautious about the manner in which they had sex if one has HIV/AIDS in mind. For instance, all acts of intrusive sex such as genital, oral, and

anal intercourse, with one exception, were done without using condoms. Some foreign females who had intrusive genital sex with boys had first applied (an antibiotic?) cream on the latter's penis prior to intrusion.

Apart from the threat of AIDS, the effects of having premature sex or sex with a person much older than oneself should be damaging for children in spite of their natural resilience, and for that reason the practice cannot be condoned.

## 5.8 Range of Sex Partners

One of the saving qualities of most children is that many of them (69.09% of males and 53.12% of females) have had sex with only 1 partner. The highest number of partners for any one child has been 5 for male and 7 for female children. Children who have had more than one partner constitute a significant proportion and in all probability will repeat the experience with the same partner if he or she were to return or with others if they get an opportunity. In this sense, quite a large proportion of children, at least a fourth, could be moving from amateurish exploits to professional commercial sex other things being equal. In every local community, one finds at present a hard core of male and female professional prostitutes in their late teens (about 20 in each community). There is a reason to believe that recruits to this hard core were child prostitutes of yesteryear. In course of time and as long as there is a demand for their sexual favours from foreigners who are not looking for children as such but older sex partners, this core will expand gradually to meet the demand.

## 5.9 Methods of Meeting

A wide variety of methods for meeting foreigners is observed among children. A large proportion (41.38%) have met their sexual partners on the beach or some other public place such as a road on the way from school (9.20%), or in town (4.60%). Some children initiate the encounter by addressing foreigners in German or English and building a short friendship. Large proportions of children have also met tourists at home (22.99%) when the latter would casually drop by, or come home because they



knew another older member of the family beforehand either as regular buyers of dress or other items made at home or through older male siblings who worked as tour guides. In one instance, the foreign couple were renting a room where the child lived.

A large proportion of those who met foreigners at home were girls (46.88%) indicating that not even the privacy of homes has been spared. Another 11.49 per cent of children came to know them through other persons who took them to a guest house or hotel or to the beach. In the category of other persons are parents, siblings or other close kin who had other business with tourists and took the child along. Or, there were peers who were already involved sexually and who acted as purveyors. These patterns are found in near equal proportions among males and females except where home was used by more female than male children.

## 5.10 Payment

Modes of payment for sexual favours are mostly in cash and in kind for a large majority (about 88%) while the remainder have only received payment in kind in the form of food parcels, candy, clothes, and materials needed at school. Amounts paid appear to depend on the number of times sex was performed (an average rate is about 200 rupees per act) and on the sex of the child with a tendency for female children to be paid more than male children. Of children who have been paid up to a total of 1000 rupees, 48.19 per cent are males while only 15.03 per cent are females. The converse is true of children who have received more than 1000 rupees.

## 5.11 Future Afterwards

Although a large proportion of children (82.75%) stated they had stopped having sex with tourists, the reasons given appear to suggest that many will grab at the first opportunity of doing it again. A large majority (72.22%) stated that the reason for stopping is because the foreigner has gone abroad while only 12.5 per cent said that they were not interested any more or disliked the experience. For others external factors appears to have had a strong influence such as fear of police arrest (5.56%), advice of parents (6.94%), advice by

older (male) sibling (1.39%) and fear of facing the situation again (1.39%). More girls than boys have been affected by fear of police arrest (10.71% versus 2.27%) and by parental advice (10.71% versus 4.55%) indicating that the former respond more to external forms of social control.

## 5.12 Social Control

It appears that lack of social control within the family or community context has been a major contributory factor in allowing these activities to take place. Absolute poverty does not exist in the community on any significant scale and economic factors appear to be the least involved. When asked about the reactions and attitudes of parents, a large majority of children (85.84%) said their parents did not know of their activities and they were careful about hiding the way they spent money received.

Another 32.19% said that parents or adults in the family did not care about what they did anyway since they (i.e. the former) were too busy or were regularly drunk and had fights at home or were away at work and came home late or irregularly. In the category of absentee parents are those who did white collar jobs such as clerks in town or in far away towns. However, a small number (4.59%) were against it when they found out about it and put pressure on the child to stop. A sizeable proportion (37.24%) of adults did know about the goings on and did not oppose since they valued the material advantages of these sexual relationships in the form of regular cash contributions to the family and promises made by foreign partners to take the children abroad one day or marry them.

The claim made by certain social scientists that Sinhalese social organisation (like Burmese and Thai) is loosely structured gains credence in the light of the above, i.e. the lack or absence of rigid rules and expectations regarding how to face life situations is marked in the context of sex with foreigners. By contrast Muslim communities located close to tourist areas of the same district have been relatively uninvolved with the sexual aspect of tourism, and least in child prostitution. This could be due to rigid social norms enforced by

religious institutions in such communities.

## 5.13 Aspirations

A large proportion of children seem to have definite ideas of what they want to be when they grow up. This is a further indication that their ties with normal society are still strong and that the experience with tourists has not yet led to severe impairment of their psyche. Large proportions have opted for higher education (26.44%), and a similar proportion for some type of skilled work such as driving, fishing, or working with machines. Of those choosing higher education, two girls wish to be doctors, and two others aspire to be schoolteachers. Those who see their future in tourism (4.60%) are all males. It is noteworthy that 14.94% wish to go abroad. These last two categories are most likely to include children who are unable to extricate themselves from their present involvement with tourists and see it as their way out of economic marginalisation. Those who wish to go into self employment (21.84%) include males (18.36%) and females (31.25%).

## 6. Conclusions

The salient findings from this study could be presented as follows:

### 6.1 Child Prostitution as a Mainstream Phenomenon:

A majority of children involved in prostitution for tourists are not the product of an underclass or a subculture of poverty as might be assumed, but are rather a part of the social mainstream from every conceivable standpoint. They come from all socio-economic levels of their community. They go to school regularly, have normal levels of personality development, and exhibit normal interests, hobbies and desires as do other children. It would be unfair to regard or treat them as social deviants or as suffering from pathological condition. The implication is that if they were rudely subjected to the processes of law enforcement, they would in fact become criminalized and their deviant tendencies would be reinforced further by the wrong kind of treatment or approach.



## 6.2 Push and Pull Factors:

A number of inter-related factors are seen as contributing to the phenomenon of child prostitution. For some children, inadequate facilities for study at home, substandard housing, lack of supervision from an older sibling, indifference on the part of parents, guardians and community leaders, poverty, the relative freedom of movement children enjoy, impetus given by older siblings or parents who are themselves involved in some aspect of tourism are strong push factors. Amongst these factors, a significant role is played by lack of parental care and supervision of children's activities which allows the latter to place themselves at the risk of being enticed into prostitution. Children with these limitations fall an easy prey to the deception of foreigners who are looking for this particular type of sexual gratification. Attractions such as candy, clothes, pens, food parcels, money, and even the prospect of going abroad are strong pull factors enabling children to enter into an illusory world of success and a good time.

## 6.3 From Amateur to Professional :

A large majority of children are certainly not in dire straits so that prostitution is a necessary evil for them. Weaning them away from this quagmire should not be difficult at the early stages. The problems will begin when and if, after they have completed secondary school, they are left in the lurch as to what to do with their lives as young adults. Local employment avenues are limited. Unless economic and educational opportunities are available for them to realise their individual aspirations, it is likely that some amongst them will join the ranks of professional prostitutes as could be evidenced even now in the communities studied. The few sexual exposures in childhood may in fact serve as a form of initiation into the profession, and once it becomes a way of life it will be well nigh impossible to retrace their steps to normal society. In the sample studied, there are indications that a few are already on the way to being professionals. These are children who do not wish to or are unable to stop their sexual activities, who join peers or village friends who also engage in similar activities, who think of going abroad or doing some work related to

tourism when they grow up, and who have begun to believe that the adult men and women who come as tourists are their saviours and who will deliver them from the sorry economic or social conditions they have become heirs to.

## 6.4 The Ill Effects:

Apart from the negative image which child prostitution has earned for Sri Lanka, the damaging effects of premature sex and sex with adults on the psyche of individual children remains to be assessed. Although they go through the motions of attending school regularly, almost all of them have not excelled in the educational sphere, a fact which may have some relation to their extra curricular activities. In addition, many expose themselves to the risk of infection by HIV/AIDS and sexually transmitted diseases due to the fact that intrusive sex for nearly all children is unprotected.

## 6.5 The Question of Scale:

It is hardly possible to arrive at the question of numbers involved in child prostitution from this study which has been limited by the small geographical scale and the time limits within which it had to be carried out. It is highly likely that if the sample size is increased, numbers involved would turn out to be much higher than what this study has established (i.e. more than 2 per cent to the schoolgoing population). Taking into account all children attending school in the tourist belt even this 2 per cent would tally up to a considerable number of children.

## 7. Recommendations

A crucial role can be played by the school and school authorities in developing and applying solutions to the problem. As it is, school authorities not only are concerned about the problem but are also acutely aware of it due to the close contact they have with the children and their families. Schools are limited, however, by lack of trained staff and material resources to handle a social problem of this nature. The specific recommendations put forward here have the school as the locus of preventive action.

(a) It is suggested that, in the high risk

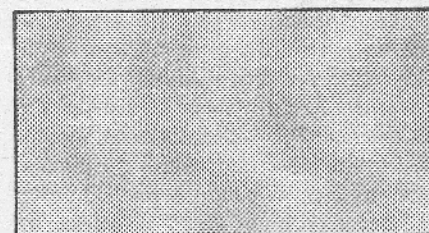
areas at least, each school be equipped with at least 2 trained case workers who could counsel, guide and care for children who have got involved or have a high likelihood of getting involved in prostitution. The case workers could also get to know the families concerned, their economic or other problems and arrange counselling and awareness programmes for adults. Small support groups could be formed among needy families to encourage saving, management of family income, health care and sanitation, improvement of housing conditions, caring for children, and spiritual development.

(b) Additional classes in vocational and other training could be conducted in school after regular school hours for children in the target group. Funds could be mobilised from concerned NGOs for paying teachers and obtaining equipment and training materials. This would take the minds of the children from tourists and tourism which they see as their only salvation.

(c) Recreational facilities available in schools at present could be expanded by increasing playing space, equipment and hiring part-time instructors for games, athletics, and other related activities.

(d) School can be a venue for organising small income-generating projects for target groups, i.e. children who are from economically disadvantaged families. Projects could utilise talents and abilities of children (e.g. art, dance, music, crafts, and science) in the target group; the survey has brought out the above types of fields.

(e) School authorities can also use School Development Associations to increase awareness among adults and develop a Community Watch programme to discourage children from loitering on the leaches and bring to book those who try to induce them into prostitution.





# Will the SAARC Preferential Trading Arrangement Expand Mutual Trade in South Asia?

Dr. J. B. Kelegama

**I**n the last nine years of its existence, SAARC has made little progress in sub regional economic cooperation, and it is as a positive step towards such cooperation that the SAARC Preferential Trading Arrangement was recently signed. A preferential trading arrangement has long been considered as a useful collective mechanism to promote mutual trade, particularly after the dramatic success of the European Community, and most developing countries in Africa, South America, Asia and the Middle East have established many such arrangements in recent years to expand their mutual trade. Although they were established with high hopes, most of them have contributed little to expand mutual trade and have disappointed their members. It is important therefore to take a closer look at the SAARC Preferential Trading Arrangement to find out whether it will be an effective instrument to achieve the declared objectives.

The main purpose of a preferential trading arrangement is to grant preferences or concessions in both tariffs and non-tariff restrictions for imports from other members of the scheme in the belief that such preferences will lead to an increase in such imports, promote mutual trade and contribute to trade and economic development of the countries concerned. The underlying assumption of the scheme is that the member countries produce or have the potential to produce and sell the goods demanded by others and that tariffs and non-tariff barriers are the major factors obstructing this trade. Is this assumption valid in the case of South Asia?

Perhaps the most striking feature of mutual trade or intra-trade in South Asia is that it is relatively small and

insignificant - less than 3 per cent of her world trade. This indicates that the trade complementarities in South Asia are limited and it constitutes only a small market for the area's products. In ASEAN, in contrast, trade complementarities are greater as intra-trade forms about 15 per cent of her world trade. Further, the fact that South Asia's intra-trade has declined as a share of her world trade from 3.2 per cent in 1980 to 2.7 per cent in 1990 shows that the importance of the sub-regional market has actually declined in the last decade.

Trade complementarities in SAARC are limited partly because most of the countries have similar structures of production - mainly producing the same commodities which compete with one another. Most of them are basically agricultural economies with a small industrial sector manufacturing a narrow range of products. Trade complementarities have grown in other regions mainly on the basis of manufacturing but this has not taken place in SAARC owing to the smallness of the manufacturing sector and the restricted range of products. The little intra-trade that is taking place, is based largely on agricultural products which are produced in some countries and not others, or which are imported to meet domestic shortfalls as shown in Table 2.

Machinery forms only a small fraction of intra-trade while bleached cotton fabrics and grey woven cotton fabrics are the major manufactured items. The cotton fabrics are exported by India and Pakistan while machinery and parts are exported only by India. Raw cotton and rice are the principal commodities of intra-trade - both exported by Pakistan. Tea is exported by Bangladesh, India and Sri Lanka - all the three - while

jute and jute products are mainly from Bangladesh.

India had the largest volume of intra-trade in 1990 followed by Pakistan, Bangladesh, Sri Lanka and Nepal as shown in Table 1. India's main exports to SAARC include grey woven cotton, bleached cotton fabric, machinery and parts, motor vehicles and parts, iron ore, synthetic organic dyestuffs, tea, spinning and reeling machinery and pepper. Pakistan's major exports to the sub-region consist of raw cotton, rice, bleached cotton fabric, dried fish, dates, spices and leather. Nepal's trade is mainly with India and range from dyeing extracts to jute weaves, leguminous vegetables, rice, natural gums and resins, jute bags, oil cake, vegetables, maize and ginger. Sri Lanka's exports are mainly tea, coconut oil and spices while Bangladesh's include jute, jute bags and tea.

Trade between India and Bangladesh is the largest among the intra-trade flows between countries in the region while that between India and Nepal is the second largest as shown in Table 3.

Sri Lanka's main export to SAARC is tea, mainly to Pakistan; the second largest is coconut oil, mainly to Bangladesh. The rest include sesame seed (to Pakistan) and pepper (to India). Major imports are dried fish and rice (from Pakistan), bleached cotton fabric and raw cotton (from both India and Pakistan), allaceous vegetables, fresh (from both India and Pakistan), motor vehicles and parts (from India), medicines (mainly from India), leguminous vegetables (mainly from Nepal), oil cake, sugar and machinery parts (from India), grey woven cotton and grey cotton gauze (mainly from India) and ammunition (from Pakistan).



Pakistan is Sri Lanka's largest sub-regional export market followed by India while India is the largest sub-regional source of imports, followed by Pakistan as shown in Table 4.

Sri Lanka's trade with South Asia accounts for 5.6 per cent of her total trade with the world. This share has fallen from 6.7 per cent in 1980, mainly because of the decline in her share of exports to the sub-region from 7.1 per cent to 3.7 per cent, reflecting the declining importance of South Asia as an export market. In fact her exports to South Asia in 1990 amounting to \$ 70 million were even lower than in 1980 when they were \$74 million!

Nepal has the highest share of trade with South Asia - 24.6 per cent - mainly across the border with India; Maldives has the second largest. The lowest share of trade with South Asia is India's - a mere 1.5 per cent - mainly because of her relatively small volume of imports from the sub-region. While her exports to South Asia formed 2.7 per cent of her total exports, her imports from the sub-region accounted for only 0.6 per cent of her total imports. While her exports to South Asia rose by 58 per cent between 1980 and 1990, her imports from there declined by 5 per cent - her imports in 1990 being actually lower than in 1980!

The decline of the share of intra-trade in SAARC relative to world trade during the past decade seems to indicate that the trade complementarities based on agricultural products and light manufactures have reached their limits. Perhaps the main explanation for this is that most of the countries are producing the very goods being traded and the intra-trade turnover falls in proportion to the degree of self-sufficiency achieved. For example the increase of the domestic production of rice, fish, vegetables, spices, sugar, and cotton textiles has tended to slow down the intra-trade in such products. Raw cotton exports of Pakistan and jute exports of Bangladesh are perhaps the only two commodities not produced by most of the countries, but the latter has lost a good part of its market to cheaper synthetic fibre products.

Another factor is that the goods produced in the sub-region do not appear to meet the consumer demands of the im-

porting countries. For example Pakistan not being a tea producer, provides a large market for the tea exports of Bangladesh, India and Sri Lanka, but a good part of her tea is being imported from outside the sub-region, in fact from as far as Kenya, because the CTC teas required by her are not produced in adequate quantities in the sub-region. India has a wide range of machinery and manufactured products, but most of them compare unfavourably with products of countries outside the sub-region. Consequently, India's exports of machinery and manufactured goods to SAARC are limited.

Thirdly, although the SAARC countries have diversified their exports in recent years by launching new export industries, they are geared to export markets outside the sub-region; they manufacture competing and not complementary trade goods. For example, garments now form the largest single export of Bangladesh, Sri Lanka and Nepal and major exports of India, Pakistan and Maldives; all of them compete in the world market. Similarly fresh fish and crustaceans form the leading export of Maldives and a major export of Bangladesh, India, Pakistan and Sri Lanka - all competing against one another in world market. Cut diamonds form the leading export of India and a Major export of Sri Lanka, but there is no market for them in the sub-region. All the export processing zones of these countries are producing goods to be sold outside the South Asian sub-region. There is little evidence that they will start industries geared to the sub-regional market. With the new export industries, South Asian countries are

Table 1

SAARC	SAARC Intra-Trade (US\$ million)					
	Total Trade with the world		Intra-trade in SAARC		Intra-trade as % of world trade	
	1980	1990	1980	1990	1980	1990
Bangladesh	3401	5328	165	310	4.9	5.8
India	23,263	41,504	476	620	1.9	1.5
Maldives	28	239	11	19	25.0	7.9
Nepal	282	800	175	197	45.7	24.6
Pakistan	7,968	12,970	240	344	3.6	2.7
Sri Lanka	3,068	4,529	170	254	6.7	5.6
Bhutan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Total</b>	<b>38,010</b>	<b>65,370</b>	<b>1,244</b>	<b>1,744</b>	<b>3.2</b>	<b>2.7</b>

(Trade figures here include both exports and imports)

Source : IMF

Table 2

Major Commodities in SAARC Intra-trade 1987-1988		Value \$M
1. Raw cotton		66.4
2. Rice		62.6
3. Bleached cotton fabrics		41.1
4. Tea		29.8
5. Jute and jute products		28.3
6. Grey woven cotton		23.7
7. Dried fish		13.5
8. Leguminous vegetables		12.2
9. Machinery parts		10.6
10. Dates		8.9

U.N. Statistics

finding greater trade complementarities with countries outside than those within the sub-region.

In this situation can a sub-regional preferential tariff contribute to an expansion of mutual trade? The assumption that tariff preferences are conducive to trade expansion is not supported by the experience of almost all the preferential tariff arrangements of developing countries. In Asia we have the preferential tariff arrangement of the Bangkok Agreement which has stagnated for 16 years with little impact on the mutual trade of the five member countries: Bangladesh, India, Sri Lanka, Laos and the Republic of Korea. In fact, the intra-trade of the Bangkok Agreement countries has actually declined as a share of their world trade in the decade 1980-1990. What is more significant is that the imports which had been given tariff preferences actually



declined in value between 1981 and 1986 - almost half of the concessional items having no record of import from member countries. In another preferential trade area - ASEAN - intra-trade has not made significant progress even when the trade items granted tariff preference rose from 71 in 1976 to over 20,000 in 1990. In fact, mutual trade of ASEAN countries declined as a share of their world trade between 1985 and 1990. In almost all the preferential trading groupings in Africa, Latin America and the Middle East, mutual trade has stagnated in recent years.

Trade preferences include both tariff preferences and non-tariff preferences. In other words, concessions in both import duties and import restrictions. Most preferential trading arrangements have established only tariff preferences on specified goods. This is the case with the Bangkok Agreement which has refused to negotiate concessions on non-tariff restrictions so far. Even ASEAN trade preferences are mainly tariff concessions; although there is a Memorandum of Understanding on Standstill and Rollback on Non-Tariff Barriers, member countries have exchanged lists of existing NTDs only recently and negotiations have not yet begun. In the Global System of Trade Preferences (GSTP) among Developing Countries, preferences are confined to tariffs on a few trade items. However large the tariff concession, no trade will take place if the import of the item concerned is severely restricted. In fact this may be one reason why mutual trade in preferential trading groupings has failed to expand; they have given each other tariff concessions with one hand while restricting their imports with the other.

The SAARC Preferential Trading Arrangement, it would be logical to expect, will begin by exchanging tariff preferences as in all other preferential trading groupings. It would be too optimistic to expect concessions on non-tariff restrictions at the inception. As mentioned earlier, Bangkok Agreement and the ASEAN, despite several years of operation, have yet to begin negotiations on non-tariff concessions. Even if at a later stage, tariff concessions are combined with non-tariff concessions, mutual trade can be facilitated only if the following conditions are met:

(a) trade preference should be given for actively traded goods and goods of high potential trade value - not for goods which do not figure much in mutual trade and which have no potential (as for example snow-ploughs which were given preference in ASEAN). In ASEAN, although over 20,000 items have been given tariff preferences, intra-trade has failed to expand significantly as countries have excluded their more actively traded goods from the lists of concessions.

(b) tariff cuts should be significant so as to make a marked impact on imported price.

(c) trade preferences should cover a large number of items of current and potential trade value in order to cover a reasonably large share of trade.

It is relevant to point out however that the trade liberalisation proposed by the creation of a SAARC Preferential Trading Arrangement is already being realised to some extent by the overall trade liberalisation policies being adopted by nearly all South Asian countries under the pressure of the IMF/World Bank and developed country aid donors. It is common knowledge that South Asian countries until recently had the highest import tariffs in Asia and the most restrictive import controls. With the adoption of IMF directed stabilisation policies, however, tariffs have been considerably reduced and import restrictions greatly relaxed. Sri Lanka had liberalised her trade regime in the early eighties before the others and India, Pakistan and Bangladesh have followed suit in recent years. India, for instance, has reduced the maximum level of tariff to 110 per cent and tariff on capital goods to 55 per cent. Only 5 per cent of the items outside the non-consumer goods sector now face import restrictions compared to 40 per cent earlier. In spite of this liberalisation however, import tariff still remain relatively high and import restrictions have not altogether been eliminated on most products. The process of trade liberalisation however is still going on and if on account of IMF pressure, trade regimes in all SAARC countries become

Table 3

Major Trade Flows between SAARC Countries - 1990	
Countries	Value of bilateral Trade in US\$M
1. India-Bangladesh	223
2. India-Nepal	174
3. India-Sri Lanka	148
4. Pakistan-Bangladesh	126
5. Pakistan-Sri Lanka	102
6. Pakistan India	71
7. Bangladesh-Sri Lanka	18

IMF Statistics

Table 4

Sri Lanka's trade with SAARC 1990 (\$M)		
Country	Sri Lanka's Exports to	Sri Lanka's Imports from
Bangladesh	10	9
India	20	118
Maldives	7	6
Nepal	-	-
Pakistan	33	51
Total	70	194

IMF Statistics

truly liberalised with low tariff and free imports, then trade preference become superfluous. Preferences from a low tariff regime are less meaningful than from a high tariff regime. For example, a 50% preference on a 60% tariff will bring down the preferential tariff to 30% whereas a 50% preference on a 12% tariff will reduce it to 6%; thus the effect on price of the latter is less than the former. Similarly if imports have few restrictions, the question of preferences does not arise in non-tariff barriers.

Preferential treatment of imports by way of lower tariffs and relaxed import controls however will not necessarily result in mutual trade expansion. Preferential treatment means that the exports of any member country of SAARC will receive tariff and non-tariff concessions in the importing countries of SAARC; exports of these countries will be allowed freely at a lower tariff. Easier access and lower tariff (which means lower import price) relative to third countries do not automatically result in exporters increasing their exports to other SAARC countries, for there are other factors which are necessary for the trade to take place: even if the price



is lower in view of lower tariffs, the goods should be available in adequate quantity and regularly in the supplying country and they should be of comparable quality and standard as those already being imported from third countries. These factors, in fact, are more important than trade preferences. The fact that imports of Bangkok Agreement and ASEAN countries from third countries (i.e. those outside their respective groupings) have increased more rapidly than from countries of their respective grouping despite higher tariffs, indicates the truth of this. In SAARC where existing trade complementarities are even less than in Bangkok Agreement and ASEAN, the prospects of mutual trade expansion through a preferential trading agreement alone do not appear to be very bright.

Take Sri Lanka for instance. Her main exports to South Asia, as shown earlier, are tea to Pakistan, coconut oil to Bangladesh and spices to India and Pakistan. It is doubtful whether trade preferences by the importing countries would result in an expansion of such exports as the real reasons for their poor performance lie elsewhere, for example, inadequate production of CTC teas and spices on the part of Sri Lanka and the limited quantities required by the importer on account of foreign exchange constraints or low market demand. Even if trade preferences will tend to increase the demand for these products, it is unlikely to be significant as the sub-regional market is limited and the demand for agricultural products is generally somewhat inelastic. Market limitation is also the major obstacle to Bangladesh's jute exports while the landlocked nature of Bhutan and Nepal will tend to gravitate the greater part of their trade towards India, which in addition is already extending them trade preferences bilaterally. In the case of India and Pakistan, it does not seem likely that trade preferences can overcome the political differences which restrict their bilateral trade.

Although limited at present, trade complementarities in SAARC may increase with the modernisation and restructuring that is taking place in several SAARC countries. For example, modernisation of machinery and equipment in Indian industries with the par-

ticipation of foreign capital and technology is likely to result in the production of quality goods acceptable to other SAARC countries, for instance motor vehicles and light machinery. Modernisation of the tea industry taking place in Sri Lanka should result in increased production of CTC teas acceptable to Pakistan, provided the prices are competitive. Modernisation of industry in all SAARC countries should therefore contribute to some expansion of mutual trade. A crucial factor in intra-SAARC trade, however, is the extent to which India will increase her imports from the sub-region. India is the largest country market in South Asia, but it is largely a self-sufficient economy and further her imports have been drastically restricted by rigid import controls. Consequently her imports from South Asia as mentioned earlier, are relatively small - \$134 million in 1990 which was even lower than Sri Lanka's imports from South Asia that year amounting to \$ 145 million. If the ongoing import liberalisation and restructuring fail to stimulate imports from her neighbours to India, there will be little mutual trade expansion in South Asia. Apart from general restructuring and modernisation which is necessary in any case, irrespective of SAARC, it is useful to examine whether there are direct ways and means of expanding mutual trade in South Asia.

There are three possibilities. One is to create joint-ventures with buy-back arrangements the joint venture should be owned and operated jointly by two SAARC countries, located in one country and its products purchased by the other joint owning country. SAARC countries have much experience in bilateral joint ventures; India in particular has about 32 joint ventures in South Asia -- 17 in Sri Lanka, 13 in Nepal and 2 in Bangladesh -- in diverse fields such as industrial products, hotels and tourism. They are, however, geared to the domestic market of the country they are located in and do not as a rule involve buy-back commitments by the investor. In other words, they are basically import substitution industries and generate little intra-trade. As there is scope for establishing joint ventures with buy-back arrangements in the region, SAARC needs to give greater emphasis to them than it has given them in the past.

Bilateral joint-ventures may be complemented by regional joint ventures -- as in ASEAN -- to promote greater intra-trade. Regional joint ventures may be owned by all the member countries as well as by outsiders (who are needed to provide the capital); a regional joint venture should be located in one country and other SAARC countries should undertake to buy its products in preference to goods from outside. Good examples are the urea fertiliser projects in Indonesia and Malaysia which supply the other ASEAN countries with fertiliser. It is important to point out however that reaching a consensus on the location of a regional joint venture requires considerable negotiations as each member country would present a case that it should be located in its territory and not in another's.

Another possibility is SAARC Industrial Complementarity Arrangements under which each SAARC country could specialise in the manufacture of a component of a unit to be sold to the other members. ASEAN has launched brand to brand complementation in the automotive industry -- Mitsubishi, Nissan, Volvo and Mercedes Benz. In the case of the Mitsubishi Motor Corporation, for instance, there are five schemes to produce passenger cars, light commercial vehicles and trucks with two or three countries - Malaysia, Philippines, Thailand - participating in each. As in the case of regional joint ventures here too, there will be protracted negotiations to decide which country specialises in which and of which brand. In any case both industrial complementarity arrangements and regional joint ventures require not only high degree of economic cooperation and mutual trust but also an external provider of funds on generous terms.

ASEAN is fortunate enough to have Japan as her fairy god mother. The following are some of the most notable results of ASEAN - Japan cooperation.

1. The Fukuda Fund of \$1 billion to assist in financing the ASEAN industrial projects; about 70 per cent of the cost of the regional fertiliser projects in Indonesia and Malaysia has been met by low interest loans from this fund;



2. The ASEAN Promotion Centre on Trade, Investment and Tourism established in Tokyo to promote ASEAN's exports, Japan's investment and Japanese tourism to ASEAN;
3. Endowment of \$5 billion yen by Japan to ASEAN Cultural Fund;
4. The Japan Scholarships for ASEAN Youth under which Japan provided \$1 million a year for 10 years 1980-1990;
5. The ASEAN Human Resources Development Project under which Japan provides resources valued at \$100 million for training specialists in ASEAN. The Five Year ASEAN Regional Students Promotion Programme was completed in 1987;
6. A contribution of 38 million yen by Japan for a Japan-ASEAN Cooperation Programme to further promote cooperation;
7. The ASEAN Poultry Disease Research and Training Centre in Malaysia;
8. The ASEAN-Japan Development Fund to encourage the development of the private sector in ASEAN countries;
9. Reduction of interest rates on Japan's Official Development Assistance;
10. Japanese foreign direct investment is also promoting ASEAN economic integration and mutual trade through industrial complementation under which different countries in ASEAN manufacture different Japanese auto parts to be exchanged among themselves to assemble Japanese automobiles.

Japan, it must be noted, imports substantial part of her oil and raw materials from ASEAN and has sizeable direct investments in the region, mainly in manufacturing industries related in ASEAN on account of high labour costs in Japan. Japan's trade with ASEAN is \$62 billion or about 12 per cent of her world trade and her direct investments in ASEAN amounted to about \$21 billion at the end of 1990.

Japan's stake in South Asia however is much lower. Her trade with South Asia is only \$6 billion or about one per cent of her world trade and her direct investments there amount to about half a billion dollars. Nevertheless there is much potential for Japanese direct investment and trade to grow with the economic liberalisation policies that are being pursued in SAARC countries. It is important, therefore, as decided by the recent SAARC meeting, to negotiate with Japan early to establish the South Asia Fund as well as a South Asia Centre as Japan's active participation is essential for SAARC countries to develop their economies and expand mutual trade.

It seems to be forgotten by many that the main purpose of a preferential trading arrangement is not diversion of trade but creation of trade. Selling goods which are exported to third countries and which have a world market in SAARC countries instead is only a diversion of trade; it does not result in increase in production or contribute to the country's economic development nor does it increase the country's foreign exchange earnings. From Sri Lanka's point of view it does not really matter whether her current production of tea is sold to the Middle East or Pakistan if there is no difference in the price fetched. The real contribution of a preferential trading arrangement has therefore to be measured in terms of new trade and consequently new production resulting from it. The crucial question is whether the SAARC Preferential Trading Arrangement will contribute to the expansion of production or more favourable prices of existing exports such as tea, coconut oil and spices or the creation of new exports. As shown earlier, however, the similarity of production structures and limited complementarities, the poverty of the sub-regional market (which includes at least developed countries), the pursuit of self-sufficiency policies on the basis of domestic compulsions and serious political differences, all seem to indicate that we should not be too optimistic that the SAARC Preferential Trading Arrangement will contribute much to the trade and development of its members in the present context and that there is much to be done to develop the trade potential of the region.

The most promising line of action in this situation is to give priority to measures to bring about closer cooperation of the private sector in the SAARC sub-region. Whatever the schemes formulated by state bureaucrats, the actual business of buying and selling, of exporting and importing and of identifying investment opportunities and negotiating with foreign collaborators for joint ventures, will be largely in the hands of the private sector in SAARC countries, particularly as state enterprises are being privatised. Closer contact among the sub-region's businessmen will enable them to become aware of the possibilities of trade for mutual benefit. Such contact leading to mutual trust and understanding is likely to be more conducive to mutual trade than all the ambitious schemes of governments, for such schemes will remain on paper if they do not reflect the views and wishes of the private sector.

Private sector cooperation, though crucial to the expansion of mutual trade, does not appear to have received sufficient recognition in the SAARC deliberations. The proposed institutional framework for private sector cooperation the SAARC Federation of Chambers of Commerce and Industry - the sub-regional apex of all national chambers of commerce and industry has just been established. Such an organisation, like the ASEAN Federation of Chambers of Commerce and Industry, would provide a suitable mechanism for private sector cooperation in trade and investment. While no preferential trading arrangement can succeed without the active participation of the private sector (for it is the private sector which decides whether to import the products given trade preferences, and whether to establish joint ventures), private sector cooperation can contribute to sub-regional trade expansion even without a preferential trading arrangement. It is therefore of crucial importance to concentrate all efforts to activate the SAARC Federation of Chambers of Commerce and Industry without delay and ensure its active participation in the decision-making processes in SAARC.



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# How near is Sri Lanka to NIC Status?

Professor A.D.V. de S. Indraratna

## Introduction

**B**efore we can say how near Sri Lanka is to NIC status, we must clearly have in our own minds what we mean by NIC. Many people who speak about or refer to NICs and even venture to prophesize that Sri Lanka will reach NIC status by the year 2000, do not seem to know what it really connotes, what problems have to be overcome and what preconditions must be created etc., to reach that status. The purpose of this talk is to address to some of these issues.

In my view, there is nothing so "magical" or "sacrosanct" about this concept of NIC. It is only a stage/level of development, a country has reached rapidly from a predominantly agricultural economy to an industrial one - with the manufacturing sector becoming the most important single sector, and with a level of development which can ensure its people a decent standard of living, significantly and noticeably higher than what it has been before. However, for the convenience of economic analysis, the World Bank has defined a NIC as follows:

"A country whose per capita real income (at 1982 prices) is greater than \$ 1100 per annum, and more than 20% of its GDP and total exports is contributed by manufacturing"

Several examples from all around the world can be given for NICs.

Argentina & Brazil from South America, Mexico from Latin America, Israel from West Asia, Greece, Portugal, Spain, Yugoslavia from Europe, Taiwan, Korea, Hong Kong and Singapore from East Asia are these.

The benchmark of \$ 1100 for NIC status was in real terms. At today's

prices it would be around \$2000 (the average annual rate of inflation of industrial countries being 4.5% and that of the world being 14.7%). This is on the basis of market exchange rates. On the basis of purchasing power parity or simply cost of living, Sri Lanka's (as well as those of similar countries) can be taken as equivalent to more than double its market exchange rate value, in comparison with NICs and other developed industrial countries. Sri Lanka's per capita income of \$ 500 in 1992 would be in the region of \$ 1000, on this basis. Doubling of this with rapid industrialization, with manufacturing contributing >20% of GDP could, therefore, be taken as almost reaching NIC status.

Thailand have recently qualified to join the group of NICs. Sri Lanka along with some other South & South East Asian countries are awaiting their turn. These acts of countries took varying times to industrialize. Periods during which the UK, the USA, Japan and Korea respectively took to double their per capita income are given below.

UK	1790-1838	58	years
USA	1820-1860	40	years
Japan	1885-1919	34	years
South Korea	1960-1977	17	years

Can Sri Lanka do this seven years 1993 - 1999 as some venture to prophesize? An answer to this must be

## POSITIVE FACTORS

- (1) Containment of inflation
- (2) Increase in productivity through advancement in technology
- (3) Prevention of rise of labour costs
- (4) Containment of population growth
- (5) Increase in Domestic Savings Ratio
- (6) Diversification of exports as well as their markets
- (7) Incentives to FDI with technology transfer
- (8) Political stability and absence of corruption

Resulting in  
increase in export  
competitiveness

## Sri Lanka's Present Position

There are some who boldly say that Sri Lanka will reach NIC status by the year 2000, i.e., in seven years. How many years did present day developed countries take to reach similar status? The United Kingdom was the first country to industrialise, doubling its GDP per capita, followed by USA and Japan. To day the three of them belong to the Group of 7 highly industrialised countries within the group of 24 OECD countries of high per capita income. NICs followed them as the second tier of countries to industrialize, in the first and second development decades. Malaysia

found in the context of recent changes in its economic policy?

## Open Economy Policy

Sri Lanka opened its economy in mid November, 1977 for export-led growth supported by expansion of manufacturing industry. The opening of the economy was expected to result in export growth, growth of the GDP, increase in employment and rise in the standard of living. Between 1978-1982, these expected results were, to a large extent, realized. The growth rate accelerated from 3% in 1976 to more than 6% with 1978 recording the highest rate of 8.2%. Exports began to



grow substantially with manufacturing accounting for the major part of total exports. Contribution from manufacturing substantially increased to nearly 15% of the GDP. If Sri Lanka was able to maintain this tempo of 1978-1982, it could have been much closer to NIC status than now.

This expectation, however, was defied by what happened between 1983-1989. Though exports began to increase, imports were increasing faster. The rising government expenditure, in particular, in infrastructure development, and consequently increasing budget deficits gave rise to double digit inflation annually, rising to a record level of 21.5% in 1990. Externally, there were rising deficits in the balance of trade, increasing external debt and debt service ratio with the current account balance becoming increasingly negative. Interest rates were rising with adverse impact on private investment. The growth slowed down to less than 3%, with 1987 recording the lowest at 1.5%, with unemployment rising to as high as 18%, despite the decline in population growth to less than 1.5% (except in 1986 when it was estimated to be at 1.8%) throughout the period. These factors which are enumerated below retarded the march towards NIC status.

With slightly better management, the economy began to recover from 1990 onwards with the growth rate rising to around 4 1/2 % in 1990-1992 and expected to increase by a further 1% point in 1993 and 1 1/2% in 1994. However, on the basis of Sri Lanka's record, in comparison with those of the Asian NICs, during the last 10-12 years, Sri Lanka is still far away from NIC status.

If we are serious about reaching NIC status within a reasonable period of time, the budget deficits and the current account deficits must be contained, domestic savings must be substantially raised while reducing the burden of the external debt, and the development of the manufacturing sector must be accelerated while ensuring the international competitiveness of our exports. An annual growth rate of around 8% should not be outside our reach, having already reached it once. The following positive factors must be in place towards this end.

TABLE 1

Some Positive Indicators					
	1990	1991	1992	1993	1994
GDP Growth Rate	6.2	4.8	4.6	5.6*	6.0*
Population		1.3	1.0	-	1.0
Budget deficits (in economic terms as % of GDP)	10.0	11.7	9.0	8.0**	6.8**
Inflation (CPI)	21.5	12.2	11.0	9.0* (12.0)**	8.7* (10.0)**
FDI as % of GDP	-	0.79	1.36	1.34f	n.a.

Notes: \* Estimated  
 \*\* From budget speech 1994  
 f Estimated on the basis of first 3 quarters  
 Population data from the Dept. of Census

Source: World Development Report 1993  
 Asian Development Outlook 1993  
 Annual Report - 1992, Central Bank

TABLE 2

Different Scenarios of Growth Path Towards NIC Status				
R & D Exp. % of GDP	Population Growth Rate	Required Investment % of GDP	GDP Growth Rate	No. of Years for Doubling GDP per Capita of \$ 500 of 1992
1. 0.17%	1.4	25.0%	4.3%	24 years
2. 1.0%	1.0	25.0%	6.0%	14 years
3. 1.0%	1.0	30.0%	7.5%	12 years
4. 1.0%	1.0	40.0% (approx.)	11.4%	7 years

#### APPENDIX

Labour Productivity Indexes at National Level, for 1990 (with 1985=100)	
Bangladesh	
China, Republic of	136.49
Fiji	110.66
Hong Kong	140.17
India	119.86
Indonesia	111.68
Japan	117.90
Korea	134.76
Malaysia	116.45
Pakistan	114.06
Philippines	110.28
Singapore	127.64
Sri Lanka	101.45
Thailand	137.09

Source: APO 1992

Some silver linings began to appear among the dark clouds since 1990. These positive signals of declining budget deficits, slowing-down inflation, contained population growth, upturn of the economy and the increasing FDI are shown in Table 1.

These are, however, not enough. Interest rates must substantially fall. Inflation rates must simultaneously come down. Real wages must be contained. Trade and current account balances must substantially improve. Debt Service Ratio must significantly fall, while the Domestic Savings Ratio must substantially rise. The R and D expenditure must rise to a respectable level with corresponding increase in productivity. The state must play a greater role in infrastructure and skill development, as discussed below.



TABLE 3

Indicators of Transformation from Agricultural to Industrial Economy (as % of GDP)															
1960 or 1961		1965		1965-1970		1975-1977 or 1975-1980		1982		1980-1986		1987-1992		1991 or 1992	
Agriculture	Manufacturing	Agriculture	Manufacturing	Agriculture	Manufacturing	Agriculture	Manufacturing	Agriculture	Manufacturing	Agriculture	Manufacturing	Agriculture	Manufacturing	Agriculture	Manufacturing
Hong Kong	04	25	02	24	-	-	01	24	-	-	21	-	-	00	17
Korea	-	-	38	18	-	-	20	25	-	15	30	-	-	06	28
Taiwan	-	22	-	-	-	-	38	-	-	-	44	-	-	-	-
Singapore	04	12	03	16	-	-	02	20	-	-	27	-	-	00	29
Sri Lanka	30.4	11.5	35.7	12.4	36.0	13.0	25.0	15.0	28.4	14.4	22.3	14.3	22.8	17.2	21.4

Source: World Development Report  
Asian Development Outlook  
Central Bank Annual Reports (for Sri Lanka only)

#### NEGATIVE FACTORS

Internal	(1) Higher Budget Deficits
	(2) Rising Interest Rates
	(3) Price Inflation
	(4) Rapid population growth
	(5) Low Domestic Savings ratio
External	(1) Increasing negative trade balance & Current Account Deficits
	(2) Increasing foreign debt
	(3) Increasing debt service ratio
Both	
Resulting in	(1) Slowing down of the economy
	(2) Increasing unemployment

The immensity of the problem of doubling Sri Lanka's 1992 per capita income by the year 2000, even in spite of all these positive factors in place, can be seen from the four scenarios indicated in Table 2. Even if we achieve an average annual growth rate of 8% in the future (in and after 1993) it will take 9 years to double our per capita income of 1992.

#### Role of the State

Nonetheless, in order to make this task less difficult, indiscriminate or unguided 'openness' must be avoided.

The state must assume an increasingly important role, not as a regulator or controller of the economy, as before 1978, but as a facilitator and guide to the private sector. The biggest constraint from which the economy has been suffering, as shown by the different scenarios in Table 2 is the country's very low productivity. This low productivity is the result of inadequate infrastructure, low level of skill development and negligible expenditure on research and development (R & D). The state has to come in in a big way, providing the necessary infrastructure (irrigation, power, highways and communications, and refashioning its tertiary and vocational education system to meet the skill requirements of the country. The state also has to implement the micro and macro-economic core to have in place the positive factors enumerated earlier.

The country also must not be carried away by the mere 'export illusion' - export for its own sake without regard to export's net foreign exchange earnings. The export-led industries must not be at the expense of traditional exports or domestic industries whose import content is relatively very low. There should not be any deceleration of productivity growth in the production of essential foods (agricultural productivity has decreased by 13.2%, whereas productivity at national level has increased by 13.8%.

between 1981 and 1990). These are necessary conditions to contain the real wages, keep the real effective exchange rate low, and the export competitiveness unimpaired. The state also must not, in its over-enthusiasm to reach NIC status, indiscriminately allow unplanned expansion of industries, in particular, those of tourism, fishing etc. which would cause damage to the environment, upset the ecological balance, and adverse impact on sustainability of development.

FDI also should not be indiscriminately welcome; it must be made to accompany technology transfer, providing a learning process to the local entrepreneurs.

All in all, the state must play an overall surveillance role planning and formulating policies and programmes to provide guidance to the private sector. There must be social policies as well in place, to promote social development and improve the socio-economic well-being of the people linked to the economic growth that is taking place. An educated, healthy and well-looking after nation is the biggest accelerator of a country's socio-economic advancement. This is what a government has, in the ultimate analysis, to ensure.



# REMOTE SENSING TECHNOLOGY AND ITS APPLICATION IN NATURAL RESOURCES ASSESSMENT

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## INTRODUCTION

**R**emote sensing is a comparatively new science. It is the measurement of objects and acquiring information from a distance without actually coming into physical contact with the objects. According to the manual of remote sensing it is defined very broadly to encompass techniques that obtain reliable information about the properties of surfaces and objects from a distance and this is accomplished by measuring electromagnetic radiation (EMR) emitted or reflected by the surface of the earth (Fig. 1). However, the field of remote sensing is generally referred to as the technique that employs electromagnetic radiation for recording and reproducing natural features. Based on the types of sensor carrying platforms (vehicles) it could be further classified as aerial and satellite remote sensing.

The scope of remote sensing is to obtain information quickly from large areas. It has a vast and wide range of uses and is successfully used in the fields of geological mapping, landform classification, land use, water management, watershed and catchment character studies, mineral resources assessment, forestry, soil survey, hydrological survey, coastal erosion, natural disaster monitoring, environmental pollution, slope study, disease monitoring for crops and plants, water quality study etc. The remote sensing technique could be used in many fields, perhaps the limit is the imagination of an individual.

The definition of remote sensing technology according to the Committee on Remote Sensing for Development, Board on Science and Technology for International Development Commission (USA) is: "The collection of data concerning the earth surface from a satellite". The technique of remote sensing has since developed most rapidly and this is a very powerful tool for identifying, surveying, classifying and monitoring all types of natural resources on the land and ocean.

## History of Remote Sensing

It is difficult to establish a specific time or event as marking the beginning of remote sensing. In the old days, people used to see and sense the objects from farther distance by climbing a tree or a hilltop. The concept of remote sensing was realized in the early part of the nineteenth century with the inventions of photography by Daguerre and Niepce and with the application of photographs in the field first by Col. Airinco Laussedat and it was then widely known as photogrammetry. During the First world war, the systematic aerial photographic coverage was possible, and it was aided by the development of the airplane and led to the development of aerial photographs, taken at designated intervals. During the World War II, specialised cameras for aerial surveying and reconnaissance had improved tremendously to the point where they were operationally reliable. The conventional use of aerial photographs was associated with World Wars for defence purposes, but later it has been used for the purpose of

compilation of topographic maps and surveys.

The first aerial photographs were taken from balloons using wetplates in France in 1853 and the United States in 1860. By 1900, through various innovative developments, the photographic process had become more reliable and the equipment more compact. The industrial revolution and the World Wars contributed much to the development of remote sensing. Advanced improvements in applied optics had led to the development of cameras with multiple lens elements. Satellite remote sensing began evolving rapidly since the middle part of the twentieth century with the launch of the Sputniks. The scientific and technological progress realized over the years in the subjects of sensors, airborne and spaceborne vehicles and data analysis contributed significantly to the present state of the art of remote sensing. Tremendous progress has been achieved so far in various components of remote sensing in sensors from pinhole camera to polaroid camera, TV camera, scanners and radar; on the remote platform side from bird, kite, balloon, aircraft to the orbiting spacecraft; in the area of energy recording, from glass, film (black/white, colour, infrared), to magnetic tape and in interpretation of data from manned to machine guided digital analysis.

During the 1960s and 1970s, the field of remote sensing changed in both content and organisation. Remote sensing especially non-photographic remote sensing, grew rapidly after the launch of



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	Agriculture	Manufacturing	Agriculture	Manufacturing	Agriculture	Manufacturing	Agriculture	Manufacturing	Agriculture	Manufacturing	Agriculture	Manufacturing	Agriculture	Manufacturing	Agriculture	Manufacturing
Hong Kong	04	25	02	24	-	-	01	24	-	-	-	21	-	-	00	17
Korea	-	-	36	14	-	-	20	25	-	-	15	30	-	-	08	28
Taiwan	-	22	-	-	-	-	-	34	-	-	-	44	-	-	-	-
Singapore	04	12	03	15	-	-	02	20	-	-	-	27	-	-	00	29
Sri Lanka	40.4	11.5	36.7	12.4	36.0	13.0	25.0	15.0	26.4	14.4	23.3	14.3	22.8	17.2	21.3	16.5

Source: World Development Report  
Asian Development Outlook  
Central Bank Annual Reports (for Sri Lanka only)

#### NEGATIVE FACTORS

Internal	(1) Higher Budget Deficits
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	(4) Rapid population growth
Both	(5) Low Domestic Savings ratio
	(1) Increasing negative trade balance & Current Account Deficits
Resulting in	(2) Increasing foreign debt
	(3) Increasing debt service rate
Both	(1) Slowing down of the economy
	(2) Increasing unemployment

The urgency of the problem of doubling Sri Lanka's 1992 per capita income by the year 2000, even in spite of all these positive factors in place, can be seen from the four scenarios indicated in Table 2. Even if we achieve an average annual growth rate of 8% in the future (in and after 1993) it will take 9 years to double our per capita income of 1992.

#### Role of the State

Nonetheless, in order to make this task less difficult, indiscriminate or unguided "openness" must be avoided.

The state must assume an increasingly important role, not as a regulator or controller of the economy, as before 1978, but as a facilitator and guide to the private sector. The biggest constraint from which the economy has been suffering, as shown by the different scenarios in Table 2 is the country's very low productivity. This low productivity is the result of inadequate infrastructure, low level of skill development and negligible expenditure on research and development (R & D). The state has to come in, in a big way, providing the necessary infrastructure of irrigation, power, high ways and communications, and refashioning its tertiary and vocational education system to meet the skill requirements of the country. The state also has to implement the micro and macro economic core to have in place the positive factors enumerated earlier.

The country also must not be carried away by the mere "export illusion" export for its own sake without regard to export's net foreign exchange earnings. The export-led industries must not be at the expense of traditional exports or domestic industries whose import-content is relatively very low. There should not be any deceleration of productivity growth in the production of essential foods (agricultural productivity has decreased by 13.2%, whereas productivity at national level has increased by 13.8%,

between 1981 and 1990). These are necessary conditions to contain the real wages, keep the real effective exchange rate low, and the export competitiveness unimpaired. The state also must not, in its over-enthusiasm to reach NIC status, indiscriminately allow unplanned expansion of industries, in particular, those of tourism, fishing etc. which would cause damage to the environment, upset the ecological balance, and adverse impact on sustainability of development.

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sensors stimulated much research and paved the way for the agricultural remote sensing (Lo, 1986). Satellite sensor data helps trying to plan agricultural expenditure and production over national boundaries. Remote sensing may be used to determine the effect of natural crop stress as a result of flooding, drought, frost, wind, disease, fire, pests and human induced crop stress as a result of pollution, mismanagement or warfare (Curren, 1985; Kondratyev et al 1986). In many parts of the world, the greatest benefit made by remote sensing to farmers is weather forecasting which plays an important part in short term agricultural planning (Barrett and Curtis, 1982).

India has developed a very sophisticated method of collecting and maintaining soil and land use information. In the 1980s, remote sensing techniques have been used to study the crop diseases and pests that affected coconut trees in coastal Kerala. In India, remote sensing has been used since 1970s to predict crop acreage and the yield of wheat, rice, groundnut and sorghum in selected regions as well as in the cotton-growing districts of Punjab, Haryana, Gujarat, Madhya Pradesh and Maharashtra. Wheat acreage (Orissa and Andhra Pradesh) have been estimated by using digital data derived from IRS - 1A in 1988-89 and these satellite - based estimates fared well in comparison with those made by conventional methods.

Apart from the LANDSAT imageries, the French Satellite System (SPOT) carries high resolution visible (HRV) sensors capable of recording an image in 3 wave bands with a spatial resolution of 20 meters which is ideal for many areas of agricultural application. The availability of stereoscopic capability of SPOT has added a new dimension to the study of soils. The reliability of soil studies will further increase with the regular use of radar on board satellites.

#### Land Use

Pressure on land by various causes, has considerably increased in recent decades. Agricultural land has been converted into non-agricultural land. Thus, it is necessary to evaluate land for its productivity and suitability for various uses. For this purpose, remote sensing techniques provide quick information about the current status of land use and

associated characteristics. Satellite images are very helpful to compare the physiographic and soil boundaries to understand their perfect correlation which was delineated on aerial photos. Identification of the significant vegetational changes is also possible but not of all the vegetation types. Satellite images and air photos are useful in the production of better quality soil maps that form the basis for soil conservation measures.

LANDSAT digital data was used for soil mapping for parts of Andhra Pradesh (NRSA, 1978) and Southern parts of Tamil Nadu (NRSA, 1978) with limited ground truth. LANDSAT data is used in India, in delineation and mapping of soil salinity (Venkataratnam, 1980), where in two degrees of soil salinity can be differentiated using computer aided multi-spectral data analysis system (M-DAS). Based on satellite data 16 per cent of India's land area is classified as wasteland. Small scale soil mapping and land evaluation were carried out recently in India on the basis of IRS 1A data for the Doom Valley in the northern part of the country.

Land use maps in several developing countries have been updated on the basis of satellite data. Land degradation areas have been identified and assessed and potential areas suitable for particular crops have been determined in several studies. And it is being also known that this technology has been widely used for land resources inventories at national, regional and sub-regional levels. Land use data is indispensable information for a city planner for the urban as well as the surrounding area. The satellite imageries taken at different seasons also provide valuable information about location of water resources, natural resources, agricultural land use, transportation networks, urban land use; settlement distribution too can be obtained from this systems which is most useful for urban planning.

#### Water Resources

Remote sensing reliably helps to locate surface water resources, assess major watersheds and their run-off capacities, delineate the flooded areas or temporary famine conditions. Increased use of ground water in the last few decades has made it necessary to develop

methods of studying ground water flows in various geological formations. The ground water resources should be assessed by conducting systematic and scientific surveys and the available potential should be utilized judiciously without affecting the existing hydrological condition of the area. Remote sensing techniques are now being used in ground water exploration.

Areas favourable for ground water development are also being identified with the help of the satellite imageries. Geomorphological, tectonic and land use maps are prepared using this. Landsat data assist to identify the most probable areas of water potential. Landforms, drainage characteristics, vegetation types, soil tones, land cover types, lake patterns are the indicators of ground water features on landsat images. A colour composite image is the most useful for groundwater interpretations, but lineaments and some drainage characteristics are seen best on black-and-white IR images (Moore, 1977).

Ground water is one of the most natural replenishable mineral resources which warrant careful planning and judicious development to bring maximum benefit to the people. The application of remote sensing techniques in this field therefore plays a vital role in delineating probable potential water zone areas for further ground water extraction and detailed ground water studies. In the coastal geomorphology, parts of Cauvery and Agnair river basins in Tamil Nadu, India, the favourable units for ground water development in alluvial plains, beach ridges, tertiary up and low land have been identified. Remote sensing is useful in several water-related application which include sediment transport analysis, pollution control, status appraised of water bodies, watershed management, monitoring of drainage patterns and irrigation. Satellite imagery can reveal the water level before and after planting. Interpretation of satellite imagery has been found useful in monitoring marshy areas, river levees and inundated areas. In large water bodies, it is possible to delineate silt deposits, silt dispersal pattern and active silting zones.

The recent advances in the field of remote sensing have generated a great awareness throughout the world. These



methods are much faster than conventional methods. It is hoped that they will play a very significant role in the effective management of water resources. Estimates of surface permeability and run-off characteristics can be obtained by a careful study of various types of imagery. Remote sensing should be considered for use in all ground water exploration studies, because it is a fast and cheap method of obtaining ground water information. Interpretation of aerial photographs and satellite images can be used to select promising areas for more detailed investigation. There is less need for field work.

### Coastal Resources

The coastal zone is a fragile and vulnerable area that requires integrated management of human activities that affect natural resources. The extensive coastline possesses a wealth of resources and the pressure on them in an accelerating pace leads to a depletion of habitats and resources. Thus the need for viable management policies and programmes for coastal zone management is paramount. For these purposes detailed biotic and abiotic information is required and some of which can only be obtained by ground survey. However, remote sensing has provided valuable support for ground sampling methods.

Coastal wetlands are some of the most valuable and biologically high productive areas along the coast. The wetlands are the transition zone between the mainland and the sea and are influenced by storm surges and human activities. As agricultural activities, growth of population, urban growth, tourism and modernisation have caused environmental degradation on wetlands. Recognition of marshes has been a difficult task for inventories because of greater spectral variation within marshes than in other categories. The mangroves are part of a fragile ecosystem which is a natural safeguard against coastal erosion and contribute significantly to the productivity of the estuarine ecosystems. For the purpose of planned development, mangroves have been mapped and monitored in tropical countries.

In tropical regions, mangrove forests are difficult to recognise in visual examination of landsat imagery. As a result of economic exploitation and develop-

ment activities, most of the mangrove areas in tropical countries have been progressively reduced. Carter and Schubert (1974) showed that classification, delineation and evaluation of coastal wetlands can be made on the basis of major vegetative associations and their spectral signatures.

Preparing look-up tables is prerequisite for the production of wetland maps and vegetation analysis. This is possible by using landsat MSS digital values for bands 4, 5 and 7 using seasonal spectral reflectance measurements from field observations. Based on this look-up tables, computer-generated maps at an approximate scale of 1:20,000 can be produced with a high degree of accuracy in the identification of wetland features and plant associations.

The multi-temporal nature of remotely sensed data provides sufficient data on changes in the coastal zone, including erosion and accretion. Landsat TM data have been used to monitor the ecological status of the mangroves and also possible to show their distribution amidst other environmental features such as mud banks and salt pans. SPOT, with its capability for high resolution data, has been able to monitor the status of mangroves conclusively.

### Geologic Survey, Mineral and Oil Exploration

Remote sensing techniques contribute to the improvement of mapping in the field of geologic, mineral, ground water and oil exploration. By disclosing large geologic anomalies, it indicates the unique capability of identifying potential zones of mineralization. Oil and minerals exploration have got tremendous impetus by remotely sensed images. LANDSAT images provide a view of the geologic fabric of continents which is compatible with the scales and provides a completely new perspective of the earth. In the few years, since space-acquired imagery has become widely available, it has been applied to a wide spectrum of geologic problems in virtually every environment on earth. For instance, LANDSAT data have been used by geologists to explore for resources in South Africa, Pakistan and Arizona, to better understand regional geology in Iran and Central Asia, to detect coastal erosion and to monitor volcanic activity. The

volcanic features for several purposes including mapping lava flows of different ages and glacial features are also studied by this method. Landsat data have been used to update poor quality maps produced for inaccessible regions. It also helps to reproduce the existing maps and to correct geologic structures which have been used in search for ore deposits, oil deposits, oil accumulation and ground water zones.

For the first time, geologists can interrelate the features across an entire field belt and fault and fracture zones, which if they are discontinuously exposed appear as major lineament changes in field orientation. The multi-spectral and repetitive nature of the space coverage allows spectral characteristics and time to be used as discriminants in geologic analysis. These characteristics allow geologists for the first time to view the same region at different seasons under a variety of lighting and soil moisture conditions and to compare regions with similar rock types and structural styles. These comparisons give insights that were previously unattainable.

Satellite imagery can reveal the surface effects of deep structures in sedimentary basins which would pass undetected in the general reconnaissance phase of petroleum exploration. It is surprising to observe that large faults, affecting the basement and buried beneath more than 1000 meter of sedimentary cover, can be detected on an MSS image (Webber, 1985). This phenomenon is even better shown by thermal sensors such as the Heat Capacity Mapping Mission (HCMM).

Remote sensing used in particular to investigate the evapo-transpiration of the soil. Various attempts have been made to evaluate the water balance of drainage basins in semi-desert regions. This technique can be made useful through identification of fractures in which ground water may be circulating. Thermal sensors enable differentiation of faults by their thermal inertia and easier identification of them in which water is circulating, even in vegetation-covered areas.

### Conclusion

Remote sensing focusses on the morphological, the mappable and the concrete on the surface of the earth. It



*Cont. from page. 26*

good results. Therefore the teachers of these tuition classes have to be competitive and aware of all changes that take place in the syllabuses and must immediately inform the students about them. A majority of the private teachers in tuition classes are graduates who have obtained first or second classes. An unqualified person can deceive children for a short time only. The job of a Government school teacher is safe even if all his students fail an examination. If, on the other hand, in some year, all the students of a tuition master fail, the fact gets adverse publicity. In the following two or three years, he will be driven out of his job by the competitive market of tuition classes. Consequently private tuition class teacher has to impart an education that will produce results.

It is difficult to cover the entire syllabus fully within one year. A large number of additional classes have to be conducted. A main superficial objection is that classes are conducted on Poya days. If an additional class is not allowed on week days it has to be conducted on a Poya day or a Government holiday. The tuition master has to prepare the student in such a way as to enable him to face the

stiff competition that prevails in the A level examination successfully. For this purpose the tuition master might have to plan a large number of additional classes so that it will be possible for him to do in one day what is done in a month at school. Otherwise it will be difficult for him to cover the syllabus fully. It will indeed be difficult to produce good results without covering the entire syllabus.

It is inconvenient for a school master to distribute printed or mimeographed books, leaflets etc. among students. He does not have the necessary facilities to mimeograph and distribute among students the tutorials etc. which have been discussed. If he levies any fee for the purpose there will be an agitation against it in the school. However, a tuition master can do it without causing any problems.

If the syllabus is covered in school in a way that will enable the students to get a good pass at the examination, they will not be attracted to tuition classes when they realise it. To what extent is this practicable? There is serious unevenness in the distribution of national educational resources. There is a great crisis

in education due to the discrepancy between the numerical growth and qualitative development in education. The system of tuition classes is a by-product of it. It is impossible to get rid of the by-product without solving the crisis. Those who criticise the existing system of tuition classes must find out whether others follow a course of action different from that followed by themselves. Although a critic has the right to criticise he must have a broader view of the entire crisis of education. I do not think the parents who send their children to International Schools have a reasonable right to criticise tuition classes. If an inquiry is to be held as to whether tuition classes are useful, the students who study in tuition classes also must participate in it.

I do not say that there are no shortcomings in the set up of tuition classes. In fact there are many. Among them are: (1) inadequate attention on the part of the teacher to each student's weaknesses; (2) concentration on education to win at the competitive examination, to the total exclusion of extra-curricular activities, artistic skills, creative skills etc. (3) decline in discipline in some tuition classes.

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need something as complex, say, as Microsoft's Word," argues Marc Sokol, head of product planning at Computer Associates: "They just need a basic program." To get its new products into the home the firm is considering using everything from door-to-door salesmen to "software parties".

Like Computer Associates, Borland, WordPerfect and Microsoft are also adopting an increasingly modular approach to designing software. As Microsoft's Mr Higgins points out, sharing software building blocks between programs not only cuts costs, it also enables the lessons learnt from one product to be transferred to others: "There is a great need to make business software easier to use--and that is something we can learn from the software we are designing for children."

The snag is that, whereas unit sales of home-PC software packages are set to

soar in 1994, most products will sell for \$70 or less. Profit margins will never again rival those of the early 1990s, when mass-market software sold direct to customers for \$795, and routinely left firms with a gross profit after development costs of well over \$700.

#### **Not quite enough**

In an attempt to make up the shortfall, software companies are also trying to sell a range of new services to their existing, mostly business, customers. To support its complex new Windows NT software, Microsoft is training a small army of independent technical-support engineers to act as consultants to customers. Microsoft sells the consultants the software tools they need; customers, in theory, then buy extra Microsoft software at the behest of the consultants. Mr. Higgins is enthusiastic about the fledgling scheme's profitability and the potential of such "solutions-oriented" business.

At the same time, Microsoft and most

other software firms are considering charging all of their customers for technical-support services, at present mostly provided free via toll-free telephone lines. Microsoft, Novel and Banyan (and several smaller software firms) already charge for technical support for their networking software.

Will all this be enough to support the software industry in the style to which it has grown accustomed? Few in the industry think so, which is why most software firms are scurrying to cut costs. Borland cut its workforce by a fifth in 1993 and claims to have reduced its operating costs by \$60m a year; it may have to make further cuts in 1994 if it is to remain independent.

Privately owned WordPerfect had hoped to go public in 1993, but is believed to have postponed its plans because of poor profits. Alan Ashton, WordPerfect's co-founder, stepped down as president and chief executive in December, and the firm is expected to announce a reorganisation soon. It is also

*Cont. on page. 59*



O.L.as school candidates in their first attempt, those who sit A.L. is around 140,000.

Annual examination results are not so easy as normally presented by individuals eg. 1992 shown in Table 2.

Looking at the passers by subjects the performances in subjects which are more popular in the private tuition marked is still low. Except for Botany all other science subjects at A.L. had a pass rate around 50%. Passes at A and B level remained at 5% or below English (which is a very popular tuition subject) recorded very low level performance at all examinations. In 1993 at O.L. 77.58% failed in English Language. This information reveals that the private tuition classes have a steady market at all levels and in all classes. For sustainable running of these classes a proper service should be rendered. The clients - being children need a service and help. They have a right to claim for a return as they pay for it. Instances such as a beautiful lady hired for advertising a brand of soap, or a certain commercial physician claiming in the press to give permanent relief to common physical illness do not serve as parallels to the education trade. Needless to say that the advertisements also do help. When it comes to education there should be more serious thinking on the expected service to the clients and its effects on the society as a result.

#### Thoughts for a sustainable tuition trade

It is useless attempting to push the millions of secondary school condemned cases back into the system by another force. There is no place in it. The necessity is not to put them back into it. The very presence of a large number of failures from the secondary and tertiary education system does not warrant a system to perpetuate it. What is necessary is to provide a more viable and a tangible system. New courses with more practical training and providing sufficient skills to face the challenge or the demands, should be provided by the tuition classes and institutions. There are also courses which could lead to practical training and further higher education, having relationship with any of the academic subjects of the secondary level.

There are symptoms of foreign tuition institutes identifying these needs and starting courses to gradually grab the total demand. Yet the real demand in the local context has not been understood by them or their local agents. The experienced tuition masters and the institutes who have been associating the youth for a long time are quite capable of understanding the feelings of these young ones. These youth as a matter of fact are the 'masters' themselves as they have been employing gainfully all the tutors and also with the passage of time become adults very soon. Hence it could be regarded as a great national service in addition to being a healthy development of the tuition industry for the pioneers to select a friendly and genuine approach to help this great human potential.

There is abundant information and studies done on this issue, by many eminent individuals and organizations. There are also organizations and agencies to provide guidance and leadership. Vocational oriented courses could be taught with linkages and ladders to higher education. Instead of driving them to a non-attainable examination result, the attention of the investors in education should be drawn to the attainable skills development programmes. The new trends in the economy and commerce should be diverted to this end. If for a start every tuition class (or a person) utilizes 5% of the turnover on research and development, it is not a difficult task to develop a more realistic and a paying venture. A very useful service in the society could then be regarded as a really useful one. So far the examination failures have provided technicians, managers, administrators and even tuition masters from among the drop-outs.

Finally it is suggested that the tuition industry which is a very formidable force in our country, look back on what has been happening and render a new service to the great labour supply readily available in their hands through a feasible support system. It is also essential to make this particular group to feel and understand the reality, create an awareness among those who are in schools and yet open to this reality in near future and open the minds of teachers, employers, economic planners and of parents to contribute their share. Instead of our youth becoming the victims of competition let them be armed with sufficient

educational tools to promote competitiveness, social mobility and democratization of power.

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#### Cont. from page. 58

renewed to be considering going public by merging with Software Publishing, a rival which last year cut a fifth of its workforce. Even Microsoft is trimming back: several of its product divisions have been told to cut costs by between 5% and 15%. That will mean job losses. And when Microsoft starts taking bites out of its business, things must be lean indeed.

Courtesy: The Economist

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#### Conclusion

No country in the world today is totally open. Even in the capitalist giants like the USA or Japan, the state plays a guiding role in the country's economic activities. What the MITI of Japan does is a shining example of this. Also East Asian countries like Korea reached NIC status not under 'laissez faire' as may be often erroneously perceived, but under what may be called 'guided capitalism'. The story of Korea, in a nut-shell is this:

.....After the middle of the 1960s, Korea had begun to change from a poor agrarian economy with surplus labour to an export-oriented economy specializing first in labour-intensive manufactures and then in capital and skill-intensive manufactures.

.....Korea has been operating not in a free-trade regime but in a highly interventionist atmosphere in which the government actively promotes exports and intervenes extensively

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Table 3

Summary of Imports The annual average of few selected items (as a percentage of the total value)		
Item	1988-92	1993*
Rice	2.3	0.9
Sugar	4.5	3.5
Milk	2.4	2.0
Motor Cars & Cycles	2.6	1.4
Petroleum	10.8	7.8
Textiles	14.2	21.2
Building Materials	3.9	4.6
Transport	3.9	8.6
Machinery & Equipment	9.5	11.4
Others	45.9	38.6
	<u>100.0</u>	<u>100.0</u>

Source: Central Bank of Sri Lanka

Table 4

Import Prices (C.I.F. Rs.)			
Year	Rice Value Ton	Sugar Value Ton	Petroleum per barrel
1987	6,086	6,348	544
1992	12,021	13,383	803
1993	11,833	14,183	--

exports. A rise in the amount of cinnamon exports has substantially pushed up the volume of minor exports. In 1988, 6810 metric tons of cinnamon peel were exported and in 1992 it rose to 8,238 metric tons. There has been a considerable expansion in the export products - such as vegetables, fruits, cashew nuts, unmanufactured tobacco, betel leaves etc.

During the last 5 years there has been a slight fall in the foreign exchange

allocation set aside for investment goods. Out of these goods about 10% of the exchange allocation has been set aside for the importation of machinery. At the same time in recent years there has been an improvement in the transport equipment and building materials.

But the expected production targets in cardamom, pepper, coffee and other minor export products were not realized because of the fall in prices in the foreign markets.

## Imports

The export earnings of Sri Lanka are sufficient to pay only 72% of the foreign exchange required to pay for the imports (1992 data). At the same time a notable feature in this is the fact that this amount expands every year. During the last five years the rate of expansion has been 9.3%. The average S.D.R. of the money expanded for imports during these years was S.D.R. 980 Millions (Rs. 105,768 Millions). The amount of foreign exchange expended upto September 1993 is S.D.R. 993 Millions (Rs. 33,409 Millions). 54% of the foreign exchange set apart for imports have been spent on processing intermediate goods.

Among these goods, textiles, petroleum and fertilizer take a major share. As a percentage it adds upto 27%. More foreign exchange had to be devoted to petroleum, not so much due to expansion of importation but mainly because the price payable for a barrel of unrefined oil had gone up in the foreign market. During the past few years due to the expansion of the garment industry there had to be heavy imports of textiles and hence the amount of foreign exchange expended went up annually.

During the past 5 years the foreign exchange set apart for consumption goods too rose. Rice, sugar and milk foods took much of the foreign exchange. When comparing average amount of sugar imported for the five years 1988-92 with that of 1983-87, there is not much of a significant difference. But during the last 5 years the foreign exchange expended on a metric ton of sugar has doubled. The same trends are observed in the importation of rice.

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in a number of markets, including financial and foreign exchange markets.

.....Another factor that is uniquely Korean is the centralized nature of the government, which in the 1970s directly or indirectly controlled almost two-thirds of the investment resources of the economy. The government maintains political and social stability and initiates policy changes in ways that would be difficult to implement in Western

democracies. Labour organizations, in particular, are kept weak, so that wages are also kept low. The government exercises overwhelming control over resource allocation. In the 1960s, government savings and foreign savings (both determined by the government) financed about 60 percent of Korea's annual domestic investment.

.....In addition, the government continues to regulate credit allocation in the organized financial sector.

.....Indeed, it is difficult to imagine that Korea would have achieved the economic success and the restructuring it has had if the government had introduced a non interventionist, liberal economic system in which prices clear markets and allocate resources."

Yung-Chul Park - "Korea" in Dornbusch, Rudiger & Helmers, F. Leslie C.H. - [edited]. The Open Economy: Tools for Policymakers in Developing Countries. OUP, 1991.

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Sri Lanka has such lessons to learn from these countries, in her own effort to reach NIC status. On the basis of her present status of socio-economic conditions and the level of policy implementation, it is not possible to "predict" that Sri Lanka will reach NIC status, even within the next one and half decades, completely leaving aside the target of reaching it in 7 years, by the year 2000.

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cannot easily be used to highlight the economic, social or political process that underlie so many questions of resource management. It is also noted that the atmosphere acted as an ideal propaga-

its own difficulties. Image processing is a skilled and specialist enterprise which acquires a range of new skills in developing countries.

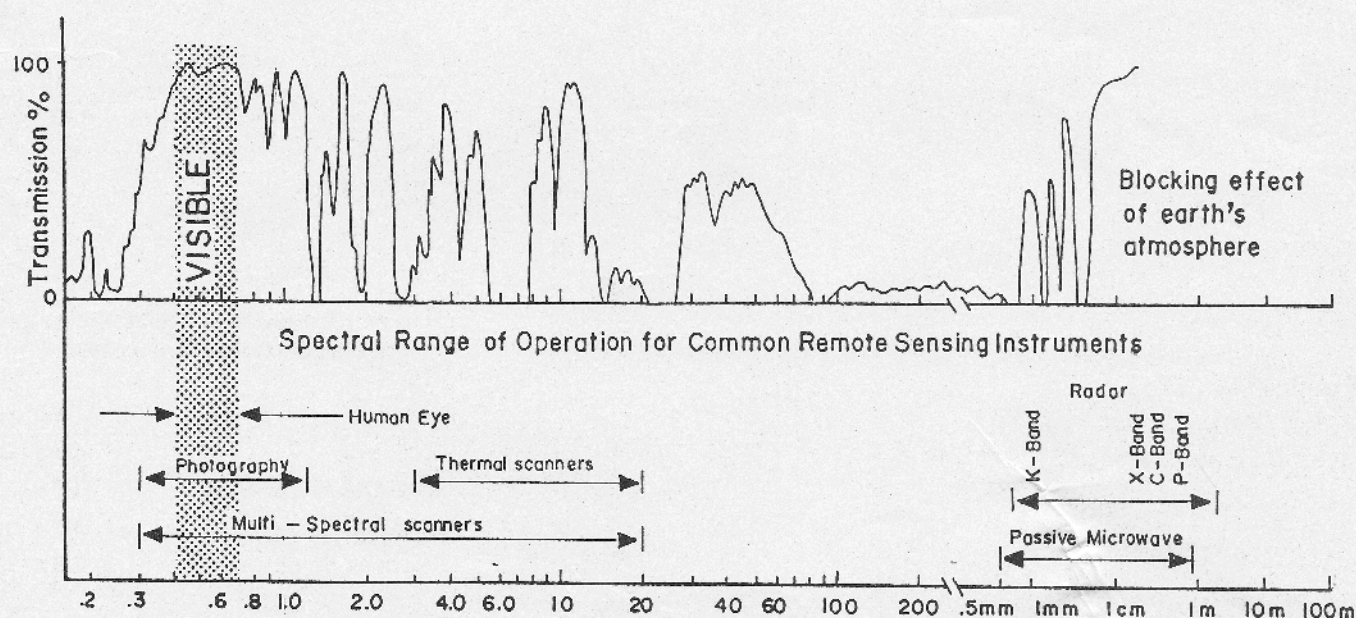
Remote sensing provide a rich array of spatial data inputs to Geographical Information Systems which is benefiting considerably from developments in computer-assisted cartography. The need to optimise the use of natural resources in an ecologically sustainable manner is growing more urgent by the day, and a technology like remote sensing can play an important role. Remote sensing centralises data and, therefore decision-making, while also helping to democratise the planning and management processes by releasing previously unavailable data.

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### The Electromagnetic Spectrum showing the common bands of energy and windows where remote sensing can be accomplished (after Scherz)



tion medium for radiation, the signals can be attenuated or even lost completely during the adverse atmospheric conditions prevailed. Another potential problem is closely associated with the digital nature of the data which creates

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