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CONTENTS

Articles

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Contents

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RURAL EMPLOYMENT CREATION IN SRI LANKA; PROBLEMS, PROGRAMMES AND A STRATEGY FOR THE FUTURE*

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Facets and Dimensions of the Rural Employment Problem - The Diagnosis

A rapid increase in population at rates ranging from 1.8% to 2.8% during the last four decades alongside an annual expansion of only 1.9% in the acreage under paddy (the principal agricultural crop) caused a sharp decline in the land-man ratio. This is reflected in the agricultural land area per agricultural family which declined from 3.31 acres in 1946 to 1.94 acres in 1982. These trends underlay the rural employment problem in its current facets and dimensions. The accompanying processes of land fragementation and subdivision was aggravated by the prevailing property inheritance system. The resultant proliferation of mini-holdings and marginal forms can neither absorb fully the labour of the operator families nor produce enough income for their subsistence. In 1982, 44% of the paddy holdings were below one acre in size[1] whereas the minimum size adequate for a family's subsistence is considered to be two acres.

A concomitant of these processes was an increase in the incidence of landlessness. In 1982 again, 11% of the operators in the small holdings sector had no land and 39% were almost landless having only home gardens averaging 0.6 acres. In this context there has been an expansion in the rural hired

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* This paper was sponsored by ADB in collaboration with ILO (ARTEP) and was presented at the Regional Workshop on Rural Employment Creation held from 24—28 November 1986, in Manila. The discussion in this paper focusses on the several programmes and schemes of the government relating to rural development and employment. It excludes from its purview the activities of the NGOs in this field and the more recent government sponsored schemes such as the self employment loan schemes of the banks.

labourer category, drawn from the landless and the marginal farmers, and estimated in 1975 at 15% of the total labour force of the country.[2] The casual and irregular nature of their employment and the sale of their labour in a buyers' market depressed their earnings to among the lowest in the villages. A correlation of nutritional levels with occupations and farm sizes has shown these rural labourers along with small/marginal farmers to be the groups most affected by absolute poverty.[3]

Another basic factor underlying the rual employment problem is the monsoon determined pattern of agricultural activities which causes seasonal unemployment. Only about 43% of the paddy acreage is double cropped because an assured water supply from major irrigation works is available to only 32% of the paddy acreage. But even in these lands double cropping is not high mainly due to poor water management. Thus the double cropping intensity index has remained at a low level of around 142.[4] A time lag of about two months between peak agricultural operations in the wet and dry zone areas offers an opportunity for seasonal migration of labour and thus reduce seasonal unemployment. This seasonal migration though not on a large scale, involves about half of the rural hired workers in some of the wet zone districts.

These different employment problems so far revealed in this diagnosis can be subsumed under underemployment. Underemployment on the time criterion is currently estimated at 21.%.[5] There are no estimates on the income criterion, to represent disguised unemployment, but it is a problem that affects all the marginalised and poverty groups identified above. Open unemployment rates at high levels have been reported for the rural sector since the late 1960s, and a recent estimate is 15%.[6] This is predominantly a problem of educated youth with the age group 15-29 years accounting for 67%,[7] and those educated up to "O" level and above accounting for more than half,[8] of the unemployed. Much of this employment problem therefore is one of structural imbalance, due to a mismatch between expectations and opportunities, and involving periods for waiting for "desirable" jobs especially among those from the richer rural families. It would not be incorrect to label half of the educated youth unemployment as voluntary unemployment.

The employment problem faced by rural females is a particularly complex and a severe one. Their labour force participation has risen steeply in the last three decades under the impact of spread of education, social change and economic necessity. Their employment choices, on the other hand are limited due to their limited spatial mobility, social conventions, employer preference patterns and their own job preference patterns. Thus the rates of under and unemployment are much higher among females than among males and unemployment has grown much faster for them raising the proportion of

unemployed females in total unemployment to 41%. High as these estimates of female unemployment are, they may yet underestimate the true extent of the problem because of the "discouraged worker effect".

An investigation into the sectoral pattern of labour absorption will provide useful insights into the dynamics of the rural employment problem. In the four decade periods, 1946 - 1981, the labour force grew at very high rates ranging from 1.5% to 3.3%.[9] As against this, the growth of employment in agriculture was only at 1.3% because the plantation sector's labour absorption capacity declined from the 1950s and the paddy sector which had earlier shown a high rate of employment growth on the basis of land area expansion found itself actually in a decline in this respect since the late 1960s This was due to the very high rate of farm mechanisation and the use of agrochemicals that accompanied the seed-fertilizer technology. The large volume of unabsorbed rural labour resulting from above diferential growth rates was not siphoned off by modern sector industry which was too small in its base, too capital intensive in its techniques, and too dependent on imports for inputs to have made any impact on absorbing rural labour either directly or indirectly through any backward linkage effects. There was no shift of labour from agriculture to industry as visualised in orthodox two-sector labour surplus models and no rural-urban migration as hypothesised in employment-migration models. Eventual fulfillment of the great unfinished task of employment provision for rural labour came from rural non-agricultural activities which grew rapidly at 4.5% p.a. and effected a significant change in the rural employment structure by pushing up their share in total rural employment from 37% in 1963 to 43% in 1981.[10]

For the present diagnostic purposes, the focus should be on that section of this rural non-farm sector comprising an amorphous field of activities in trade, industry and services, resorted to as survival strategies by the labour "squeezed" out from agriculture. That such a transition is taking place is evidenced by the observed inverse relationship between farm size and proportion of non-farm income in total household income.[11] Also, that such transition in this section of the rural non-farm sector is towards a deepening of structural poverty is evidenced by the presence of some non-farm activities which are of a residual nature of "distress adaptations", yielding earnings which are even lower than those of agricultural labourers.[12]

Broad policy implications and planning issues in rural employment creation emerging from the diagnosis-- (1) An increase in the volume of employment through new investments and intensified use of existing assets for the un- and underemployed and the cohorts of new entrants to the labour force -- (2) An improvement in the quality of employment in terms of productivity and income for the underemployed and the disguised unemployed through an increase in the productivity of their assets and a strengthened demand for their labour

in an expanded rural labour market -- (3) All issues in employment (except voluntary unemployment) and in poverty have to come under the same focus and be integrated in a multi-dimensional policy framework of growth with employment creation, as they concern the same category of households, the working poor -- (4) Giving explicit recognition to rural non-farm sector as another and an important dimension of rural development along with agricultural development -- (5) Formulation of employment policies without relying wholly on agriculture and with focus on rural non-farm activities -- (6) In such a multi-sectoral perspective, rescuing the rural non-farm sector from a possible transition into deeper poverty and transforming it into a "growth" sector by arranging for the multiplier effects of its activities and by exploiting its interaction possibilities with agriculture.

Critical Review and Stock Taking of Government Programmes Contributory to Rural Employment Creation.

Development programmes in the different production sectors in Sri Lanka usually have a plurality of objectives in various combinations from among growth, food supply and nutrition, employment, export earnings, import substitution and export diversification. In the experience of the country, programmes adopted primarily for their employment goals are few and would include the short lived Divisional Development Council projects of 1971-1977 and perhaps the poverty focused hand-loom scheme introduced in the 1950's. As it was in the past, in the present also, the employment objective receives its place or "high priority", not in the context of any planned national employment strategy, nor through any schemes specifically focusing on employment creation, but in the broad context of the sectoral pattern of public investment distribution. This under the present public investment programme, conceived not in any comprehensive plan framework, 26% of the investment is in domestic agriculture, which is the largest employment provider in the rural sector accounting for 57% of its employment. Also, within the framework of the economy, the functioning of which is left to the market mechanism, the government does intervene for the development of various production activities through assistance schemes and promotional measures. These schemes and measures together with some rural infrastructure investments have been intensified for some selected rural areas under the District Integrated Rural Development Programme. This programme will be examined at some depth later in this paper. Here we shall attempt a critical review of the public investments and assistance schemes in the different rural production activities that are intimately related to the different rural employment problems and to the different groups affected by these problems revealed by our diagnosis.

Crop Farming Activities

(*a*) **Major Irrigation Development and Land Area Expansion--** Effective irrigation holds the key to the agricultural development of the dry zone, which is two thirds of the country, and to its problems of employment and income. Viewing from this perspective, the employment impact of the currently implemented major irrigation development schemes (the Accelerated Mahaweli and other schemes) will be very substantial. The paddy acreage would increase by about 25% during a period of 15 years, creating about 160,000 new farms, which is nearly twice the number of farms created during the preceding four decades. Employment on the farms and in allied pursuits would be for about 600,000 which is equal to the total of a 4-5 years' increase in the country's labour force. Also, the pushing up of the proportion of paddy lands served by major irrigation to a level of about 55% will, by enabling an increase in double cropping, reduce seasonal unemployment. These schemes though impressive in their employment effects can hardly be replicated. Besides being constrained by a narrowing land margin, these schemes, are almost prohibitive in capital costs requiring about Rs. 175,000 for one acre of land, are dependent on the availability of large scale foreign aid and have long gestation periods.

While the employment potential expands under these schemes its fuller realisation may fail due to two adverse factors. One is the decline in the labour intensity in paddy cultivation which in the country's recent experience has been severe enough to cause a stagnation in the sector's volume of employment at a time when the land area was expanding.[13] This was mainly due to an increase in the use of tractors and chemical weedicides, which while bringing no agricultural advantage over their alternative techniques displace much labour.[14] These techniques continue to be encouraged by the government through concessionary credit schemes and the extension services. Furthermore, the labour using technique of transplanting is losing its ground and has lost the active support of the extension services.

The other adverse factor is the low degree of utilisation of the irrigation capacity and of the land irrigated. In the country's past experience, the cropping intensity has stagnated despite a rapid expansion in the sown area and an increase in the irrigation ratio. Thus about one million acres of paddy remain unutilised during a crop year. The underlying causes are an underutilisation of irrigation capacity and a low efficiency in water use that have

resulted from, a long neglect of maintenance that has reduced the functioning of most works to 40% efficiency; and from the disintegration of the traditional village level water management institutions inclusive of effective community participation. The government has now given water management a high priority; a programme for rehabilitating irrigation works has commenced and pilot projects are underway to institutionalise water management.[15]

(*b*) **The Village Tank Rehabilitation Project** -- Minor irrigation works in the dry zone which serve about 30% of its paddy acreage have over 70,000 families dependent upon them. The uncertainity of water supply in these rain-fed small tanks, aggravated by long years of neglect and disrepair, has caused these communities to suffer the severest of employment and income problems. Hence the current village tank project aiming at renovating 1200 tanks, nearly one third of the listed "minor works" in the dry zone, would produce a direct, and a weighty impact on the employment problems of one of the most marginalised groups in the country. The great constraint on this scheme, however, is that these irrigation assets are as marginalised as the communities dependent upon them. This severely restricts the feasibility of their restoration. A study of nine such works shows that the majority are not worth being renovated given the existing farming systems and institutions.[16] For these to provide viable solutions to employment problems, new cropping patterns and mixed farming systems need to be introduced, the communities need to be reorganised so that they could be more closely involved in irrigation matters, and adequate infra-structure facilities need to be provided. Such measures can be adopted only on a limited scale as in the Anuradhapura Dry Zone Agricultural Project which concentrates on 138 village tanks.

(*c*) **Minor Export Crops (MECs)**-- These include a wide range of crops grown mainly in small holdings, mixed home gardens and as inter-crops. As such, they have the capacity to absorb a family's labour force according to its different age and sex categories not only in the growing of these crops but also in their processing for which there is much scope. The supply of MECs is severely constrained by their low productivity levels resulting from the age of the trees and poor management. Their marketing prospects, on the other hand, are quite favourable. Given this setting, expanding their acreage and raising their productivity levels constitute one ideal and a practicable approach to the employment and income problems of the multitude of small highland holders and even the near landless who own only small home gardens.

The government assists in the development of MECs through subsidies for new and re-planting, distribution of planting material and provision of extension services. All this is available under a special programme even for small holdings of 1/8 - 1/2 acre. The progress of this scheme has been very slow, and particularly so with the smaller and the poorer growers. Delivery systems of assistance and advice tend to by-pass these groups, and they on their part are reluctant to participate because they cannot finance the needed supplementary expenditure nor endure a gestation period of 3-6 years in new or replating. A fall in real subsidy due to inflation, inadequacy in the research base, gross inadequacy of extension support, and low producer prices due to dominance by middlemen are the other factors impeding the progress.

(*d*) **Subsidiary Food Crops** (SFCs)-- The characteristics of the SFCs sector are - a wide range of crops on a large extent of over 670,000 acres constituted by small upland holdings and home gardens, absorptive of family labour in its different age and sex categories, non-intensive cultivation and low productivity in most crops, a large component of shifting cultivation practised by marginalised peasants and the landless encroaching on state lands, highly volatile prices and middleman domination. These characteristies give this sector a central place in the problems of rural employment and also qualify it to be a vehicle, given appropriate action, for a solution of these problems. SFCs could play a central role in employment creation because of their potential for, improved water management in terms of optimal water use under multiple cropping systems, inter-cropping, and agro-processing and linkages with industry.

Government's attempts at promoting this sector have not been very successful. In evolving a dry farming technique practicable by peasants to replace the shifting cultivation method - the key to the development of this sector - there has been a failure despite many years of government sponsored research. The recently instituted Diversified Agricultural Research Project and the Dry Zone Agricultural Project represent renewed and intensified efforts at research and development in this area. SFCs have been by and large neglected by the extension services. The floor price schemes operated for several of these projects have had negligible effect as price supports.

(*e*) **Intercropping in Coconut Lands**-- The greatest untapped potential for employment creation is found in the coconut lands. Under monoculture only 25% of the land area is taken up by palms and the labour-cropland ratio is as low as 1:4 has; a gross underutilisation of both land and labour. With inter-cropping the labour

cropland ratio could be raised to a level of 1:1.2-2.ha.[17] Such an increase in labour absorption would reduce underemployment in the operator families of small holdings, and by creating a demand for hired labour in the larger holdings, would reduce under - and unemployment in the neighbouring villages. The employment creation potential is immense, considering that the area feasible for intercropping is about 360,000 acres.

The government's measures to promote inter-cropping consist of support services and subsidy schemes which are extended to even very small holdings of over one acre for pasture development and of over 0.5 acre for inter-crops. The progress has been very slow; the present inter-cropped area is not more than 16% of the feasible area. There are many reasons for this low achievement. One is lack of know-how; while the research base is inadequate, the extension services in the coconut sector, as has been widely observed, are ineffective. The smaller and the poorer coconut growers face the same problems in participation as noted earlier under MECs. In large hodings where inter-cropping is rare, the impeding factor is absentee ownership.

Non-Crop Farming Activities.

(*a*) **Dairy Farming--** The specific employment gains realisable through small scale dairying would consist of the following absorption of family labour in its different age and sex categories and specially an enabling of housewives' participation, introduction of a regular pattern of work and a balanced allocation of labour throughout the year, a reduction in underemployment and seasonal unemployment among family labour due to the foregoing reasons, provision of a basis for self-employment for the land-poor and the landless, creation of employment through backward and forward linkage effects and employment created through incorporation in mixed farming systems in the dry zone highlands on the model of, SFCs dairying - farm animal power.

The government's present dairy development programme consists of several projects for developing the breed, stock, pasture and fodder; a pasture subsidy scheme and a loan scheme specially for small farmers to purchase cows. The Sri Lanka-Swiss Livestock Development Project aims at developing viable small scale dairying among the peasants of the dry zone by providing support services and credit. The scheme as it is being tried out in a Mahaweli Settlement Area is designed on the basis of just one or two cows of upgraded local breed per family and open free range grazing. It has

proved to be a success due to the low production costs.[18] The viability of dairying among the dry zone peasantry is under threat from the rapid tractorisation which makes increasingly difficult in the integration of dairying with crop farming and farm animal power.

(*b*) **Inland Fisheries** -- The possibilities for fisheries in the very ample 300,000 acres of water in the irrigation reservoirs of the country offer a potential for creating a large volume of rural employment with very little capital outlay and no mechanisation. The scope for this industry to integrate with farming activities and to solve the employment problems is found in fishing in the lull periods and in off-seasons which reduces under-employment and seasonal unemployment, fishing in the nights, as it is usually done, without interfering with day-time farm work; reduction of under- and unemployment among the landless, the encroachers and marginal farmers who, as it usually is the case, do the fishing in the irrigation reservoirs.[19]

Being a relatively new industry with a large potential, the development of inland fisheries is accorded the highest priority by the government. The promotional measures include very generous subsidies for the purchase of boats and gear, provision of credit, training, establishment of breeding and stocking centres and distribution of fingerlings. Almost the whole of the present investment in this industry has come out of public funds. While it has made some progress under these stimuli, the total employment generated by it is still around 4000. The great impediments to its progress are a consumers' preference for marine fish and a lack of know-how.

Non-Farming Activities

(*a*) **Rural Industries**-- Small, cottage and craft industries constitute a very fertile field for an employment strategy possessing as they do a number of characteristics and features highly conducive to rural employment creation -- a very low capital-labour ratio in their factor-mix, a heavy reliance on the use of indigenous processes and on locally fabricated machinery in their technologies, a bias in favour of traditional craft skills and skills commonly available among villagers in their skill-mix, dependence on locally available materials in their input-use, a wide geographical dispersion in their location, and the smallness of their size. Besides creating employment directly, these industries by forging linkages with the other rural activities in construction, transport and dairying, and by interacting particularly with the small farms sector would provide the dynamism necessary for sustained employment generation.

Several government agencies and institutions are engaged in the promotion of rural industries. The assistance schemes and the facilities provided are focussed on the different critical areas in their development materials supplies (for some crafts), marketing (for handicrafts), export marketing (for a few products), technology and designs development, finance and credit and training of skills. The Industrial Development Board which provides R and D and promotes small industries, has had some results, but has failed to evolve as a motivated body possessing the necessary expertise and able and willing to reach out to the smaller industrialists.[20] The government sponsored loan scheme which started out as a small and medium industry credit scheme has failed to reach out to the smaller industries and has turned into a vehicle for helping mostly the medium sized ones.

What prevail over the destinies of rural industries today are not the various institutions and their interventions, but the trade and industrial policies of the government and the liberalised economic environment from 1977. For many rural industries, some of them providing employment for large numbers, e.g. hand-looms, pottery and sugar cane jaggery, the consequences of the exposure to competition from mass scale factory produced goods (local or imported) have been disastrous.[21] A case in point is hand-looms which under the liberalised economy regime are also denied the government support they earlier enjoyed in the form of input subsidies and market reservations. The forces generated by the present policies have worked to strengthen the urban based larger industries and to weaken the rual based small ones.[22] The various assistance schemes which could produce only a very limited impact even at best of times have been rendered even more unhelpful under the present unfavourable environment.

(*b*) **Vocational and Craft Skills** - There are a number of officially sponsored training programmes and apprenticeship schemes, of short and medium term duration, in a wide range of traditional and modern skills. Some cater to specific categories, e.g. school drop outs, and young females as in hand-loom weaving. These programmes are adopted in the rural areas through permanent and mobile centres, institutes established in rural towns, and youth development projects. The annual output of the different programmes is very high, corresponding to 12% of the annual new entrants to the labour force.[23]

The employment that has resulted from the training provided in the modern technical skills and in construction skills has been high because of the high demand for such skills from the Middle East

and from the expanding local construction sector. The training provided in the others has not led to much employment; especially in the crafts and industries affected by the present environment and in vocations not matching with youth aspirations. Contributing to their failure are the facts that such training is not oriented to self-employment but to employment in established enterprises (which are rare), and the absence of package programmes to help those trained to set themselves up in employment.

A Critical Analysis of the Role of the District Integrated Rural Development Programme (DIRDP) in Rural Employment Creation.

The DIRDP, first adopted in 1979 and now covering 11[24] out of the 24 districts, has been regarded as an important innovation for accelerating social and economic development in rural areas. Its rationale derives generally from the long felt need for infusing some dynamism to the rural sector but relates more specifically to the need for sub-national programmes for benefitting those districts which do not figure in the country's major investment programme currently comprising three lead projects. Thereby any possible inter-district imbalance would be avoided. The DIRDP as a supplement to the national programme consolidates the ongoing process of decentralisation of development. It is regarded to be almost the country's "fourth lead project". Conforming to this status its broad objectives are to bring about a significant increase in income, employment and living standards in each of the districts.

The strategies and approaches of the DIRDP consist of eliminating the under utilisation and the wasteful use of agricultural resources and infrastructure facilities believed to prevail each rural area; ensuring a more efficient use of these resources by widening bottlenecks in production, filling in important gaps and providing for important needs through judicious investments and a strengthening of the complementary institutional services.[25] These strategies incorporated in a short/medium term plan specifically tailor-made to meet the needs and to tap the potential in each district will be specially concerned with its backward areas and disadvantaged groups. The emphasis of the strategies is on the increasing of productivity and of production activities through quick yielding production oriented projects with supportive infrastructure. These are to be achieved within the prevailing socio-economic framework; radical structural changes are not envisaged. While the approach is multi-sectoral with a synchronisation and a lateral co-ordination of the activities, it does not encompass all the production sectors, nor is its onslaught on the problems a total one. The operational constraints and the limited time frame have perforce made this approach, (according to its authors) a "compromise between comprehensiveness and manageability".[26]

The planning methodology is marked by a diversity in design and approach among the different district plans, which had been purposely introduced so as to allow for innovation, experimentation and a learning-by-doing process. The IRDPs of the four districts of Kurunegala, Puttalam, Matale and Badulla are broad based five year plans, prepared on sectoral lines, containing preidentified projects with annual targets. These plans which place emphasis on production and growth are of a rigid type, not allowing for any major deviations. The plans for the three districts, Matara, Hambantota and Nuwara Eliya, are prepared from year to year with continuity and a rolling element. This is an approach flexible enough to accommodate specially designed subprojects or packages of activities deemed necessary to develop those backward areas and groups adopted as targets. This type of planning is an exercise in selecting individual projects and calls for learning from experience in implementation and from concurrently conducted research into the specific problems.

The composition of investments and projects in the DIRDPs is generally a balanced-mix of, production oriented projects on which emphasis is placed, the relevant overheads and supportive infrastructure and services, and some projects that are oriented to basic needs and social development. The activities covered by the projects vary according to resources, needs and sectoral patterns in the different districts. There is a tendency for about two activities in each district to be considered as potentially "lead projects", that will determine the general district plan strategy. Paddy, irrigation and agricultural extension assume this status in most district plans. Other activities receiving major emphasis in the individual district plans are:- coconut industry, m.e.cs, road development, tea small holdings, rural electrification, marine fisheries, seri-culture, reafforestation and animal husbandry.

The expenditures under DIRDPs are on a modest scale, the total being below 2% of government's total capital expenditure. Considering, however, that the resources provided by this programme are a net increment to resource flows into a district through national development programmes and the decentralised budget, these are substantial enough to create an impact on the economy of a district. This may not be true for all districts, for the expenditure under the plan for Matara district is considered to be much inadequate in relation to its problems.[27] Foreign funding ranges from 66% to 100% in the different district plans, but the expenditure involved is well within the resource capability of the country even without such assistance.

The foregoing presentation of the rationale, perspectives, objectives, strategies and characteristics of DIRDP provides the background for analysing its role in rural employment creation. This analysis will now be done by critically examining the programme in the light of what our diagnosis revealed about the different types of rural employment problems, the different rural groups affected by these problems and the several planning issues and policy considerations in rural employment creation. Basically, there are four ways

in which a given rural development programme could impact on the different groups affected by the different rural employment problems by influencing (*a*) their production activities and or (*b*) their productive resources, by reaching out to them directly as (*c*) target groups and by focusing on their localities as (*d*) target areas. This will be the format for our analysis.

(*a*) Employment Effects of DIRDP Schemes for Production Activities and Productive Resources.

The DIRDPs in general, and the rigid types in particular, lay heavy emphasis on agricultural production (paddy, coconut, m.e.cs and s.f.cs) and on its physical resource base of land and irrigation. The orientation is to growth of productivity and output through an intensification of the use of resources already existing and owned by the different individuals. This immediately raises the issue of the landless and the land-poor who do not stand to gain directly from the employment-income benefits. The following distribution of households in Kurunegala district indicates how grave this issue could be casual and regular labourers 8%, landless with home gardens only 13%, households with inadequate land (below one acre of paddy or below two acres of total land) 38%.[28] The DIRDP of Matara readily admits that while its present approach of agricultural intensification will raise incomes, it will not have any impact on the problems of landlessness, near landlessness and unemployment which are widespread in that densely populated district.[29]

The creation of new agricultural assets to help the landless and the land-poor has very little scope under the DIRDPs. This is because their emphasis is on intensification and not on land area expansion which they are any way precluded from doing in a large way by the modest scale of their finances. The new acreage that would result from the village irrigation renovation schemes adopted in four of the DIRDPs will not exceed 25,000 and much of it could be land of marginal quality.

The agricultural intensification process itself could lead to an increased labour absorption under the influence of two factors. One is labour intensity in agriculture techniques which instead of being promoted is actually being reduced by the DIRDPs through their concessionary credit schemes for the purchase of tractors and weedicide sprayers. This appears to conflict with the professed employment goal of the programmes. Thus the Kurunegala DIR-DP which projected a substantial rise in labour absorption through intensification of paddy farming, did sponsor loans amounting to Rs. 14 million for the purchase of tractors in one year (1980) alone. The other factor is cropping intensity which may seem to be able

to rise due to the village tank projects. These tanks to be renovated however, cannot change much the existing levels of double cropping intensity and seasonal unemployment because they usually cannot conserve much water beyond the major season.[30]

If the employment generation through either horizontal expansion or intensification is constrained in the above manner in the large agricultural component, then it is the rural non-farm sector to which the landless and the land-poor have to look for employment opportunities. The DIRDPs, however, virtually make no provision for this sector and its participants. Although these programmes are multi-sectoral they exclude rural industries. The Kurunegala DIRDP, for example, has put off rural industries to a vague future phase of the programme.[31] In the seven DIRDPs for which details are available there is only a handful of projects for non-farm activities and these too have been adopted under dictates of particularly compelling circumstances. These are, a craftsmen's village project, 12 vocational centres and 5 mobile training centres. The near total lack of a perspective in district plans for integrating rural industries with rural development could cause much damage to national employment. Illustrative of this is the case of the Kurunegala DIRDP which proposed that a large number of mammoties be quickly imported to meet the requirements arising from farm development schemes when a neighbouring district had built up enough light engineering capacity to produce at least a part of the requirements. Given the constraints on the agricultural sector for expanding employment it would be unwise to seek solutions to rural employment and poverty problems solely within agriculture and relying purely on agricultural strategies as the DIRDPs have done. As revealed by our diagnosis, there is a need for a focus on the development of the rural non-farm sector and for it to be adopted as an explicit theme in rural development. The amorphous and complex rural non-farm activities do not feature in national development planning because of the difficulty of classifying them under conventional sectors. It is the concept of district-area development that makes possible the accommodation of rural non-farm sector in development planning because of the posssibility it offers for delimiting development issues on a geographical basis.

The large labour intensive construction and rural works component in DIRDPs offer scope for wage employment for the landless and land-poor, even though for a short duration. The provision of employment through rural works as an explicit objective is found only in the programme for Nuwara Eliya district where there is not much scope for agriculture in the villages hemmed in by estates. But even here the scale of operations can provide employment for not

more than 1000, for three years, whereas the number of landless is 50,000.[32] In the other districts there has been a failure to have exploited the employment potential in village tank construction for the benefit of the local poor; the work was got done by labour brought from outside by the contractors. This failure to have arranged for the construction work to be done by the local poor together with the earlier cited incongruent policy on paddy cultivation techniques demonstrate the lack of any systematic planning for employment in these programmes.

The programmes contain intensified efforts at providing supportive services (extension, input supplies) and assistance (subsidies, concessionary credit) to promote production in the various field and tree crops. There has also been a desire to see that the smaller and the poorer farmers, who are the neediest of all for such help, got their due share of the benefits of these schemes. Thus the Kurunegala DIRDP aimed at ushering in a viable rural credit system with high participation specially by small farmers and adopted some measures to impart a "credit discipline". Also, the programme for Matara district, which accords to agricultural extension the status of a lead project, adopted a T and V system with an intended coverage of very small holdings and home gardens.

Have the DIRDPs been able to change the distribution pattern of assistance and services in favour of the poor and the disadvantaged groups? The answer as it emerges from the few surveys carried out in these districts is largely in the negative. In the cultivation credit scheme in Kurunegala district, the participation of the small farmers has remained low and the high risk farmers remained excluded while the wealthier farmers continued to obtain credit with ease and to reap the maximum benefits of the scheme.[33] The coconut fertilizer credit scheme in the Kurunegala and Puttalam districts showed a highly skewed distribution in favour of the larger holders with the possibility that some of them used the scheme as a cheap source of funds for financing various businesses.[34] In the m.e.cs. subsidy scheme in Matale and Kurunegala districts the participation has been mostly by the more affluent of the growers with government service of trade as their main occupation and some of them had three or four subsidy permits obtained in the names of different family members;[35] the effect of the scheme has been to make richer those who were already rich. It was found that the agricultural extension services in Kurunegala district which had been strengthened with additional staff nevertheless continued unchanged as before bringing little or no benefit to small farmers.[36]

The reasons for such inequitable distribution are traceable to certain structural factors for which no effective corrective or counter-vailing measures have been organized under the programmes. These are found in the very economic weakness of the small farmers which lowers their ability to participate in these schemes, the impediments both to deliveries by institutions and officers in the modern/formal sector and to responses by operators in the traditional/informal sector in the context of socio-economic dualism, the inequity resulting from village power structures.

As can be seen in the foregoing analysis an orientation to productivity and growth in plans coupled with a failure to encompass rural non-farm activities can truly leave the landless and the land-poor high and dry. And, the implementation of production and growth oriented schemes under existing conditions of asset and income distribution would fail to benefit proportionately the poorer and disadvantaged farmers. Thus the DIRDPs have to add other dimensions if they are to gain relevance to the needs of the poor and local conditions. One opportunity for this lies in adopting two additional approaches oriented to the development of target areas and target groups. Such innovations have been possible in the flexible type DIRDPs.

(*b*) Target Area Approach

The aim is to activate a process of development of the physical and human resources in selected poorly served backward areas by taking into them a package comprising production oriented projects, infrastructure development and the required basic needs component. The economic-geographical features of a district help in the identification of target areas. In Hambantota district, the two special "Cluster Settlement Projects" are in areas which lie in between major irrigation systems forming pockets of neglect and backwardness. The project activities included the rehabilitation of two clusters of village tanks, the resettlement of about 728 landless and marginal farmer families, provision of housing and welfare facilities. The several such area specific projects along with the several projects for the major production activities in this district are believed to have resulted in a package capable enough for strengthening its economy while reaching out to the masses. Some resource poor villages in the plantation dominated hilly district of Nuwara Eliya have also been adopted as a target area. The situation-specific approach here differs from that of Hambantota in that it seeks to concentrate a number of sectoral activities in a limited area.[37]

The great obstacle to this approach is that the areas to be considered are so poor in resource endowment that it is difficult to identify any viable projects. The investments required to develop most such areas would be beyond the scale of DIRDP finances. The present trend in planning, however, is towards smaller areas, divisions rather than districts, because of the greater scope they offer for better identification of problems, more intensive development and for better integration of the component activities.[38]

(c) Target Group Approach.

The aim is to reach directly the disadvantaged and the under-privileged through projects specially designed for their benefit. The three flexible type DIRDPs give this approach explicit recognition. In the Matara district there is much less scope for the target group approach to merge with the target area approach as in the Hambantota and Nuwara Eliya districts because its poor are not concentrated in any particular area but dispersed widely across its highly crowded villages. Hence there has been a resort to a number of ways of reaching out to the different categories of the poor - home garden development projects for small and mini holders, rural works and work on large estates organised for the landless and the unemployed, vocational training for the unemployed youth, self employment and income generating activities for poor women with low educational attainments and in the age group 18-40 years.

An almost exclusive emphasis on the target group approach, as in the Matara DIRDP, could be self defeating. This is because attempts at benefitting groups without a parallel broad based production sector oriented development may well end up as relief or social service measures. The individuals to be benefitted can better realise their potentials when development takes place around them. A balance needs to be struck between the group-specific interests and the broader interests of rural development.

For the target area/group approach to be effective it needs to have the participation of the beneficiaries in the process of both planning and implementation. Through such involvement the issues would be better identified, the activities sustained and the receiving capacity of the groups improved. The few attempts at consulting local communities and using voluntary organizations as helpers notwithstanding, the planning of DIRDPs remains a top-down affair.

Conclusion - Towards a Rural Employment Strategy.

Employment problems in the rural sector can be summed up as being the problems of labour-time use, productivity and income of the households of the working poor. The involuntarily unemployed rural youth of today are from these same households, and they will join the ranks of the working poor tomorrow. From this perspective on the rural employment problem some aspects of the prevailing policies and programmes are prudent and positive. There is the eschewing of make-work expendients and artificially propped up "employments" because the problems of living to which these solutions would relate are best left to the well developed welfare delivery system. Instead, the focus is on production activities; expanding their resource base and improving their productivity. Public investments are extended to benefit the irrigation assets used by the poor. Assistance and support services for production activities which are neither short term palliatives nor pamperers, but sober inducements and stimulants, are on offer to small holdings and crafts of the poor. A district specific approach and within it target area and target group approaches are adopted to spread out better the intensified development efforts spatially and among the poorer classes.

Agriculture, the focus of almost all these efforts at both expansion and intensification is to be looked upon as a sector poised for growth. Yet, a technology based productivity and output growth in agriculture may be impeded by the inadequacy in research in several lines and the insufficient diffusion of assistance and support measures among the small and poor farmers. These need to be corrected; the latter through organizations and by institutionalising the participation of the poor for receiving assistance, managing the irrigation water and local planning.

A rural employment strategy has to be formulated in the context of the above prospects for agricultural growth. The direct labour absorption in an expansion of agriculture based on productivity increase cannot be of much importance here because the elasticity of employment to output in this sector is usually low. Far more important is the indirectly created employment; the increase in employment in different rural activities stimulated by rising agricultural incomes and the resultant increase in expenditure. Rising expenditure streams originating in farms will stimulate employment in the non-farm sector through an increased demand for farm producer goods and services, but more importantly through an increase in the demand for non-food consumer goods driven by a high incremental consumption/expenditure for this category of goods. The employment multiplier will spread even further as J. W. Mellor points out,[39] because a high incremental consumption/expenditure also obtains for non-food grain agricultural products and employment in these sub-sectors will now be stimulated by rising incomes in both food grain farming and in non-farming activities. Being stimulated in this way would be the critical

determinant of employment growth in s.f.c.s., vegetables, horticulture, dairying and inland fisheries; under existing conditions they would invariably run into a marketing constraint as production expands.

Such linkage mechanisms for mutually reinforcing growth can operate only when the appropriate structural features exist in the farm and non-farm sectors. Stimuli and growth impulses originating in one sector (or sub-sector) should be able to get transmitted through linkage channels to other sectors and these should have the capacity and preparedness to respond and in turn generate their own growth impulses. This sequence is possible when a labour intensive small farms sector (as is already found in the country) is symmetrically balanced by labour intensive, spatially dispersed, small scale rural non-farm production units. Unimodality in size or scale of the units in the two sectors, the level of labour intensity and the resulting egalitarian income distribution are the critically important factors for the operation of the rural growth-employment multiplier. That this is not just theory but also proven in practice is borne out by the historical East Asian experience in rural development.

Is the milieu appropriate in Sri Lanka, and are the prevailing policies and programmes conducive to a pattern of interrelated and interacting farm and non-farm development in rural areas? The milieu partly exists; rural agricultural holdings are small, are potentially more labour intensive and technology based growth in them can be promoted with the help of institutional changes. As a policy measure, the DIRDP is a lop-sided one, for it has no vision of rural non-farm activities. There is the need for a programme which integrates rural non-farm activities with rural development. The industrial and trade policies do not perform the function of facilitating an expansion in the rural non-farm sector; the environment created by them is in fact unfavourable to rural industries. Such policies, in the context of a small country with good rural communications and transport, rendering consumption patterns and life styles vulnerable to the demonstration effect, would cause large leakages of the possible multiplier effects into modern sector produced and imported goods. More favourable trade and industrial policies are needed to enable rising expenditures from agricultural incomes to get diffused and to circulate within the rural sector. The activities of this sector would then be stimulated by the market widening effects as well as by an increased supply of investible funds.

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BLACK MONEY IN THE SRI LANKA ECONOMY

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For some unknown reason the role of black money in the Sri Lanka economy has never been hitherto discussed, nor has there been any writing on the subject. People and government officials have been reluctant to talk about the subject, even though black money has created serious problems for resource mobilisation and economic management. At various times the unorganised money market has been discussed but black money has featured only superficially in such discussions. There are close links between the unorganised money market which is a large market in Sri Lanka and the market in black money which has been growing steadily.

In a large number of countries today there is increasing interest in black money and even in England a few studies have come out on what they have called the shadow economy. Even the affluent countries are concerned about the black money economy because of its importance for purposes of taxation, particularly from point of view of equity in taxation and mobilising additional resources. In the developed countries the task of the authorities to bring the holders of black money sooner or later under the tax framework and to clearly identify the transactions is not too difficult. In many instances, the growth of black money could at least in part be attributed to the ineffectiveness of the system of taxation and the lack of interest in curbing a wide range of illicit transactions. In the developing countries this problem is more acute than in the rich countries because a large volume of activities remain outside the organised sector.

A word of explanation about black money in the Sri Lanka context may be relevant. There are various shades and grades of black money in the Sri Lanka economy. Its occurence is widespread in many different activities and sectors of the economy. Some economic activities generate more black money than others, and in some instances, there is no known way of accounting for this money because the transactions are carefully concealed. Black money is retained by the owners and it can be used only for particular kinds of trans-

actions which themselves do not come to the open. The tax network usually covers only recorded or identifiable incomes of the people, companies and other institutions. On the other hand, black money emerges where such money has not been brought to account officially although the individual holders keep track of such money carefully without bringing it to public knowledge. The volume of unrecorded transactions have continued to grow progressively in the Sri Lanka economy, and along with this, the stock of black money has risen; this is mainly due to two reasons. First, the tax network has progressively expanded with the diversification of direct and indirect taxes and therefore people do not want to pay taxes. Increasing consumerism has also contributed to this. The second reason is that a considerable volume of black money emanates from certain categories of unauthorised transactions, which in some instances, could be illegal and criminal and such transactions cannot be brought to light.

It was mentioned earlier that there were different shades of black money money and a few examples could be given. In some sectors of the economy there is what could be characterised as grey money, where the administration is not too keen to bring the income within the tax network. A good example is the money earned by paddy farmers, producers of subsidiary crops, minor export products and other small scale producers. It is obvious that a farmer who owns more than 10 acres of paddy would be liable to income taxation. But it is known that only a very few of the large paddy farmers, in fact, pay income tax. This is equally true of retail traders, transport operators, dealers and commission agents in the villages and in the rural sector. There is no record of these transactions and very often the people engaged in them are not known to the tax authorities, and most of these transactions take place in cash and are often not recorded. This money falls into the category of grey money because it results from meaningful production and because taxation of such incomes sometimes could act as a serious disincentive for production.

Wherever profits result from productive activity, where it is known to the authorities that such money exists and such money can be easily identified and quantified, though not taxed, that money falls into the grey rather than black money category. The real black money comes from the illicit trades which include smuggling, narcotics, illicit gem sales and exports, transactions in gold and precious metals, unauthorised commissions, bribes and pay offs and other transactions that fall into this category. Today, in the Sri Lanka economy the volume of transactions, particularly in the latter categories which generate black money, has increased phenomenally specially after the open economy policy was launched in 1977. Before that period, although black money existed the quantum was much smaller because opportunities for generating black money were much less. First, before 1977 the role and volume of activity in the private sector was much less than it is today.

Secondly there was a considerable amount of state trading and imports were restricted, and within that context, there was less scope for black money. Thirdly, private sector contract work increased sharply after 1977 and even large projects in the state sector, for example the Mahaweli projects, were undertaken by local and foreign contractors. Fourthly the gem trade which is today the major source of black money operated in a more favourable manner before 1977 and the volume of transactions that went through official channels was much greater, and this was due to the incentives offered by the FEEC and Convertible Rupee Account Scheme.

It may be appropriate to identify the various activities, sectorwise, which generate black money in the eeonomy today. The agricultural sector could be taken first. In the plantation sector, since nearly all transactions are recorded and are identifiable, the black money in that sector is at a very minimum. It is also partly due to the fact that more than 60 per cent of the plantations are state owned and only the small holder sector today is private owned. The only scope for making black money in that sector would be through the commissions which high officials may get on equipment supplies and maintenance work. A certain amount of black money could come from the leakage of made tea into the local market through unauthorised channels.

In the case of domestic agriculture, which consists of paddy, subsidiary food crops, chena cultivation and minor export crops, there is considerable scope for black money. The Census of Agriculture of 1982 reported that there were nearly 1.8 million agricultural operators in the country, of which, 14 per cent or 242,000 of the total worked in extents over 5 acres. Fourteen per cent of the land holdings were between 5 and 7 acres and 10.1 per cent were between 10 and 20 acres. It is very likely that a large number in this category are getting very satisfactory incomes, but it is obvious that they are not income tax payers.

In 1982 there were 799,280 paddy farmers. The country today produces roughly an average of 125 million bushels of paddy every year with a market value of about Rs.10 billion. On the assumption that the farmer would keep a part for his own consumption and that only half this quantity would be marketed there would be roughly 60 million bushels available with a market value of Rs. 5 billion. If the cost of production is Rs.40 per bushel then the sale of 60 million bushels would give a net profit of about Rs. 4 billion. This money circulates in the economy without being caught up by taxation : subsidiary food crops like onions, chillies, potatoes, produce even higher levels of profit than paddy. The same is true of minor export crops like cardamom, clove, cinnamon, pepper and nutmeg. It is estimated that the surplus from the subsidiary food crop sector would be over Rs.1 billion. There are 186,000 cultivators on high land and 707,000 operators who cultivate home gardens of whom over 21,000 cultivate extents of land of over 5 acres.

In addition, middlemen and traders in the rural sector make large profits by trading in these crops and their activities generate black money. Presumaumably, very few of the middlemen pay income and turnover taxes. In this framework there is also the indigenous money leader in the villages who is able to double and treble his working capital and his earnings through lending money at exhorbitant interest rates, sometime exceeding 100 per cent per annum. Despite the efforts made to increase the supply of institutional credit from different kinds of banks, successive surveys have shown that even today about 75 per cent of the volume of rural credit is provided by indigenous moneylenders and non institutional sources. A good part of the surpluses generated in domestic agriculture goes towards the repayment of debt. Over Rs.1 billion in paddy farming surpluses may be going ultimately into the hands of village moneylenders.

When the industrial sector is considered the opportunities for transactions which generate black money are much greater than in agriculture. In the period before 1977, black money transaction in the industrial sector emerged mainly through over invoicing imports and under invoicing exports. This continues even today. However today, the opportunities for making black money have increased significantly because the quantum of imports and exports are much bigger and certain foreign exchange transactions have been freed from controls. The black money earned by industrialists is surreptitiously retained abroad. Black money therefore exists both in the form of rupee holdings and as foreign exchange. There is a preference among the people to hold black money abroad in foreign exchange because as long as the money is in a foreign bank account it is not easily detected. Some of this money is held in code numbered Swiss bank accounts. Secondly such monies appreciate automatically because of the progressive and continuing devaluation of the rupee. The largest stock of black money is presumably in foreign exchange and additions to the stock continue.

At various times where there are tax free avenues of new investment a part of this black money could come back as foreign investment. Some of the money that went into hotels in the period before 1983 was really black money coming back to Sri Lanka, the same was true of some new industries including those in the Free Trade Zone. Underinvoicing of trade transactions to remit funds out of the country has been frequently used as a means of repatriating the capital that has been brought into the country earlier for investment in various projects.

Perhaps, the largest quantum of black money in the Sri Lanka economy comes from transactions in gems. It was pointed out that before 1977 the amount of black money from the gem trade was much less, although it was a period of controls, regulations and restrictions. It is ironical that in an era today without controls the official gem trade has fallen to abysmally low levels.

The most significant feature in the Sri Lanka economy after 1977 has been the phenomenal decline in earnings from gem exports. Exports have fallen from Rs.531 nmillion in 1977 to Rs.400 million in 1985. The figure for 1985 and the preceding six years are heavily inflated due to the devaluation of the rupee. Despite the precipitous fall in official gem export earnings there is no indication that domestic production has declined. The unofficial trade in gem exports has reached new heights between 1979 and 1987.

Exports of gems from Thailand amounted to some Rs.9 billion in 1986 which is about Rs.10 billion in Sri Lanka currency. Thailand is not rich in gemstones when compared to Sri Lanka. It has hardly any mines that produce blue sapphires, rubies, catseyes and alexandrites, but Thai exports are more than 20 times that of Sri Lanka. If Thai gem exports are Rs. 10 billion, on a very conservative basis, Sri Lanka gem exports should be at least Rs.4 billion. About 40 to 50 per cent of the stones exported from Thailand have their origin in Sri Lanka and a good part of it constitutes blue sapphires which are the products of heat treated geudas. Sri Lanka is not getting the benefits of its own gem industry and it is losing enormous amounts of foreign exchange while at the same time generating a lot of black money. The Sri Lanka gem trade has been controlled and dominated by Thai merchants, lock stock and barrel. The government has not shown a positive interest in controlling the blantantly open activities of Thai gem traders and thereby controlling the generation of black money, mobilising more rupee resources for the budget and increasing the supply of foreign exchange.

Now let us identify the various categories of black money emanating from the gem trade. Most transactions in the gem trade have been free from taxation because these transactions are not recorded and cannot be identified and for some activities in the gem trade there is official tax exemption. Black money results when a gem miner sells rough uncut stones to traders or middleman. The proceeds of these sales are divided equally among the miners and the mine owners. Sometimes the sale of a single stone can give each shareholder Rs.50,000 or even Rs.100,000. In any other economic activity a man who earns Rs. 50,000 or Rs.100,000 has to pay income tax, but it is not so with the bulk of the transactions in the gem trade.

A rough stone bought from a miner by a gem dealer is cut and polished and the value appreciates about 10 times, but the resulting profit does not accrue to official institutions. Nearly all the transactions in the gem trade are in cash and it is therefore very difficult to account for the funds or even to get an indication of the turnover. Judging by the volume of transactions in the Thai trade the total value of output of finished gems in Sri Lanka, including the potential output of heat treated stones, could be estimated at anything between Rs.6 and Rs.8 billion per year. When stones are smuggled out of

the country the gem merchant who was the final buyer in Sri Lanka gets foreign exchange, which is black money, which is retained abroad in places like Bangkok, Singapore and Hongkong.[1]

The black money in the form of foreign exchange is retained in these centres and are used for a wide variety of purposes which include the import of goods, particularly textiles and consumer durables, which are not officially imported, gold, import of narcotics, or payment for other unauthorised transactions, or the money is sold abroad for rupees at a premium to other Sri Lankans who need foreign exchange for travel, education or for other purposes. All these transactions do not involve the flow of funds to Sri Lanka. From the Sri Lankan standpoint they are barter transactions.

The foreign exchange stocked abroad, as already indicated, could come back to Sri Lanka as foreign investment in approved tax free projects, or could even come as foreign aid. The Sri Lanka government has had offers at various times of foreign loans from private groups. It can be estimated that the total volume of black money annually generated from the gem industry, both in rupees and in foreign exchange, would be in the region of Rs.6 billion per year. What is often ignored is the total stock of black money that has been built up abroad from the gem trade alone over the years. For the period 1977 to 1985 the stock could be conservatively estimated at about Rs.33 billion, a little less than the cost of the entire Mahaweli project. In actual fact the gem trade should be Sri Lanka's leading foreign exchange earner, more important than the plantation exports and remittances from the Middle East. But government has never adopted appropriate policies or introduced effective measures to harness this unending source of foreign exchange.

The services sector has many avenues and activtities through which black money has resulted. The largest volume of black money comes in the form of commissions, bribes, brokerages, other kinds of fees and under the table transactions. When a house is given on rent or when a property is sold or even when a vehicle changes hands commissions are paid to brokers. But only a small fraction of the receipts are actually declared and about 75 per cent of the earnings constitute black money. In the case of large development schemes and construction projects the local agent individually, and others associated with these projects, have got commissions and payment in various forms. These commissions in money and kind are very much greater than commissions

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1 The Thais do not remit foreign exchange for the purchases of stones in Sri Lanka. The local merchant purchases the stones on behalf of the Thais and the Thai illicitely pays the merchant in foreign exchange in Bangkok, Hongkong or Singapore.

often specified in the official contracts . A good part of these commissions could be in foreign exchange, especially if the principal contractors are foreign firms, such as those that undertook the Mahaweli projects.

A lot of money has moved under the table where tenders for construction, consultancy services, supply of equipment and goods and purchases are involved. In the case of large schemes like Mahaweli, even if the commission on a single project is an insignificant 3 or 5 per cent and the total cost is 9 billion the commission would amount to a collosal Rs. 450 million. The total cost of all Mahaweli projects so far is about Rs. 40. The total commissions on a conservative basis would amount to about Rs.2.0 billion. While some part of these commissions would be declared for tax purposes the balance would constitute black money. Furthermore, where the commissions are in foreign exchange, there is no local record at all and the entire sum could be treated as black money.

Money lending is a major activity in the informal sector in the rural areas and even the most recent figures on the supply of credit from institutional sources to rural agriculture shows that only about 25 per cent of the credit requirements of the rural sector are met from these sources. This is despite the fact that since 1970 the bank branch network has spread out extensively in the rural areas and specialised institutions for agricultural credit have been set up. The bulk of the credit comes from the enormous unorganised indigenous money market with a huge turnover. There is no record of these transactions and of the interest rates charged by lenders such as, retail traders boutique keepers, pawn brokers and village money lenders. It is known that interest rates range from 75 per cent to 100 per cent or even more. These high rates of interest enable the money lenders to build up capital resources through the massive flow of black money. The black money continues to grow steadily and to circulate in the unorganised money market. Even in the towns and urban areas there are money lenders who charge high rates of interest and deal increasingly in black money. They usually lend to people who do not have access to the banks and even to the finance companies. Officially, these urban money lenders are associated with other trades such as export, import and production, but for tax purposes they only declare the earnings from the formal economic activities, while lending in the unorganised money market is kept out of taxation.

The country today has a large number of liquor and arrack taverns and betting shops. It is reported that in the last two years more than one thousand seven hundred new liquor licences have been issued for the sale of liquor, while one cannot keep abreast of the proliferation of betting shops. There is practically one in every street. Although the betting shop keepers pay turnover taxes it is not difficult to conclude that a good part of the money they receive falls into the black money category. In the last three years there has been a proliferation of casinos, and they are also large reservoirs of black

money. The new area where black money could become increasingly important is the private bus transport services, with some sixteen thousand buses now in operation. In the first few years these operators have heavy commitments to finance companies, but thereafter, their earnings could largely turn out to be black money.

The narcotics trade is another major source, like the gem trade, that freely generates black money. The production transport, and the sale of narcotics resullts in enormous profits to the producers, dealers and those who operate in the field. At the same time, those who smuggle narcotics and are responsible for its internal transport are also recipients of black money. In recent times a large number of highrise buildings with luxurious facades have been put up in Colombo and in various other parts of the country. It is difficult to imagine how such large profits may have been made in a relatively short time by various businessmen, specially if they were taxpayers, to put up such enormous structures. It is very likely that the additional funds have been available to them in the form of black money that has resulted from illicit trades and activities such as smuggling, narcotics and gems.

Gold is a commodity which cannot be officially imported into Sri Lanka, other than by the Central Bank. But in the last decade the number of gold and jewellary shops in the city alone have increased by more than three fold. The simple question is how do these shops get an almost unlimited supply of gold., and how do they pay for this gold? It is obvious that payment for gold imports cannot be made through official channels. While trading in gold is largely a black money transaction, the payment for gold smuggled into the country has to be done with the help of black money. These payments could either be in rupees or in foreign exchange. The foreign exchange for this purpose is built up largely through smuggling gems and the illicit trade in narcotics. Without the use of black money, mainly in the from of foreign exchange, there would be no gold in Sri Lanka, because there are no official imports and thousands in the trade would be seriously affected.

A rough estimate of the black money generated from the illicit trade in gems could be arrived at by making an estimate of the total gold stocks in all the jewellery shops in the country. It could be taken that a large volume of the stock of black money arising from gem smuggling, would have over a period of time, been converted into gold and is being sold at a premium in the country. The price of gold in the local market is sensitive to the inflow of stocks. When a major smuggler is caught there is a tendency for the price to rise. Furthermore, a fair quantity of the gold is smuggled from Sri Lanka into India and this traffic has considerably increased in the last five years. Sri Lanka's stock of black money has been steadily increasing every year, and since 1977, after the implementation of the open economy policy, the rate of accumulation of black money has accelerated. Progressively, the use of black money has got diversified because the open economy policy has given

opportunites for the utilisation of black money for diverse purposes. some of which did not exist prior to 1977. Today, some part of black money may even be used by the terrorists to finance the purchase of arms, for subversive activity, for travel and for international propaganda cmpaigns against Sri Lanka.

An indication of the amount of black money seeking investment in the urban areas alone is evident in the investments that have been made in Certificates of Deposit which have been progressively increasing since 1981. Today, the total outstanding Certificates are over Rs.3 billion and it is only one (and not a very important) index of the volume of black money that is openly available for investment. Furthermore, these are only rupee funds which are held by the elite and upper echelons of the business community. In the rural areas and elsewhere, and in particular illicit activities, the quantum must be very much more. Due to the various risks involved one could assume that only about 10 per cent of the total stock of rupee black money would be in Certiffcates of Deposit. In fact, those who presently invest in Certificates of Deposit are mainly professionals and businessmen who have dealings with the banks and financial institutions. and who do not want to get into the higher tax brackets. But the vast majority who operate on a cash basis in the unorganised money market will presumably never come into the Certificates of Deposit market because the return is very low and they are unfamiliar with transactions with the institutional financial system. The bulk of the black money has however been spirited away in a variety of bank accounts overseas.

However some part, and that a very small part of black money, may be in deposit in non resident foreign currency accounts (NRFC). But a considerable part of the money in these accounts are really the legitimate earnings of people who have been employed abroad. Black money dealers in the gold, narcotics and the gem trades would not put money in NRFC accounts. They would prefer foreign bank accounts, particularly the Swiss type, for the safe keeping of their funds and their free transferability

The total annual flow of black money could be roughly estimated to be about Rs.10 billion, or about 10 per cent of the GNP, or about 25 per cent of the total government revenue. The bulk of this black money, about 50 per cent, would come from the gem trade and the balance from narcotics, commissions, bribes and unauthorised payments, unrecorded payments for professional services and domestic agriculture. If these monies are taxed at 20 per cent it would yield an additional revenue per year of at least Rs.2 billion, but since these black money holders are among the highest income receivers in the country the actual average rate of tax would be about 40 per cent which would yield Rs.4 billion in tax revenue. This is only in respect of rupee

revenue. The annual foreign exchange loss to the country through illicit traffic in the various items discussed earlier would be at least twice this figure, or about Rs.8 billion.

The foregoing magnitudes are an indication of the funds that are readily available for mobilisation for development. The country has been dependent heavily on foreign aid since 1977 and today it has a crippling debt service burden of over 35 per cent. By depending on foreign aid the UNP government has found an easy way out of the problem. Its efforts at mobilising domestic resources have beee extremely poor. Ministers and officials spend more than six months overseas in every year seeking foreign aid but devoting less than one weeks time to the question of finding out ways and means of mobilising more domestic resources. The government can now only make belated efforts to mobilise domestic resources and it is attempting to do this at a time when there has been a sharp downturn in economic activity. In the the past, had efforts been made to mobilise these resources very systematically the government would not have been weighed down by a crippling debt and a progressively rising debt service burden which the country will have to shoulder over the next ten to fifteen years.

DETERMINANTS OF ECONOMIC GROWTH IN SRI LANKA 1970-1986

N. L. SIRISENA

Introduction :

Sri Lanka's economic experience is unique in many respects. Sri Lanka has improved its physical quality of life (PQL) beyond what is usually permitted by a per capita GNP of about us $ 350. Many development economists[1] consider this an unique achievement realized through the development strategy of the country. The expenditure on social sector development, particularly on education, primary health and nutrition as well as on physical capital formation which was dominated by investment in the agriculture sector, and that too mainly in the food sub-sector, greatly contributed to improvements in the physical quality of life. This development strategy which dominated economic policy in the period 1948 — 77, and continued with less dominance since 1978, seems to have enhanced the labour productivity in the country.

The contribution of the increased labour productivity to economic growth had been very substantial during the last two decades.* Between 1963 and 1971 labour productivity, measured by per worker GDP had increased by 28 per cent, while during the decade 1971 — 81 it had further increased by 38.8 per cent. In economic growth models[2] investment or capital formation

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1 Sen Amartya, "There is little doubt that the social welfare programmes of Sri Lanka place it at an advantaged position in terms of poverty removal and lognevity increase given its income level." *Levels of Poverty—Policy and Change*, World Bank Staff Working Paper No. 401, 1980.

* See table 12 in page 56

2 Sen, Amartya (Editor), Growth Economics, Penguine, Baltimore, 1970.

is considered the most important determinant of economic growth. The contribution of capital formation to economic growth in Sri Lanka had fluctuated during 1970 — 1980. In recent years, particularly after 1980, although the expenditure on capital formation had increased rapidly, its contribution to economic growth, measured by the incremental capital output ratio (ICOR) has declined. Moreover, the export sector of the economy had not grown at an adequate rate as shown by the large deficit in the balance of payments.

Economic policy is recognized as an important determinant of growth and in the context of a small island economy such as Sri Lanka, the import capacity[3] is evidently the most binding policy variable on economic growth. In this study, we shall examine how the major determinants of capital formation, labour productivity and import capacity had influenced the economic growth of Sri Lanka during 1970 — 86.

METHODOLOGY

Economic growth is widely accepted as a necessary, though not a sufficient, condition for a sustainable economic and social progress in a country. A less developed country could not think of achieving long term economic development without increasing the size of its per capita GNP. However, it is more important to recognize that aggregate GNP growth or per capita GNP does not reflect adequately the changes in the welfare standard in an economy. Because of the way GNP estimates are computed, no distinction is made between economic activities that promote human welfare by increasing desirable goods and services, as against those that are not so desirable for human welfare.

For instance, in many of the less developed countries, manufacturing sectors record significant growth rates. However, the enviornmental pollution that takes place due to industrial refuse is not taken as a negative value in the calculation of value added. On the other hand, when a project is started to control pollution at a particular point of time, the value added generated through that project is taken into account. The same could be said about deforestation and reforestation i.e. deforestation is considered of zero value while reforestation is considered of positive value added. More amazingly, in the case of production of timber and firewood, which is largely achieved through deforestation in LDCs, it is taken as a positive value added. Notwithstanding the numerous limitations of national accounts, they are still considered the best available statistics for macro-economic policy. Therefore, in this study we consider GNP/GDP estimates as the basic parameters which measure the economic growth in Sri Lanka.

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3 Sirisena, N. L., Alternative strategy for Production Planning in Sri Lanka, Central Bank of Ceylon, *Staff Studies*, September, 1974.

The economic growth concept has three sub-concepts, the first relates to the realized growth, the second relates to the warranted growth, while the third relates to the potential growth. The realized growth concept refers to the growth rates shown by estimates of national accounts. The warranted growth concept refers to the growth rates which could have been achieved in the absence of major constraints. The potential growth refers mainly to the future, medium and long term growth prospects. The potential growth concept implies that through development policy the growth prospects of a given economy could be expanded. One objective of macro-economic policy is the removal or minimisation of obstacles to growth. In otherwords, appropriate policies should be taken by authorities to remove obstacles to the realization of warranted growth. On the other hand, if appropriate policies had not been taken, the economy would grow slowly. In other words, the macro-economic policy itself is one of the determinants of economic growth.

In the literature on determinants of economic growth capital formation is considered a primary determinant of the productive capacity of an economy. The fixed capital formation, according to the national accounts methodology consists of the outlays of producing units on additions to their reproducible fixed assets, less their sales of similar scrapped or second-hand goods.

In more detail, gross fixed capital formation includes :

(*a*) "Net acquisitions by producers of tangible reproducible assets that have an expected life of one year or more and are intended for non-military use ;

(*b*) Outlays by producers on improvements and alterations of capital goods that significantly extend their expected life or substantially increase their productivity ;

(*c*) Outlays on the reclaimation and improvements of land, on the development and extension of timber tracts, mines, plantations, orchards and similar agricultural holdings and on the preparation of fish ponds ;

(*d*) Net purchases and breeding of draught animals, breeding stock, dairy cattle and sheep and other animals raised for wool and hair clips ;

(*e*) Dealers' margin, solicitors' fees, stamp duties on documents, legal fees and other transfer costs of transactions in land, mineral deposits, timber tracts and similar non-reproducible tangible assets, intangible non-financial assets, and second hand assets[4]".

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4 UN, Handbook of National Accounting, Series F No. 39, New York, 1986.

It may be noted that costs of research are excluded from the fixed capital formation.

In the economic literature the relative significance attributed to fixed capital formation against other types of expenditure such as R + D and the expenditure on social sector (human capital development) appears to be too high. In developing economies where labour is the main factor of production the expenditure programmes which aimed at improving the labour productivity should be given a greater emphasis as a determinant of economic growth. Similarly, research and development which have direct linkages with the country's production system need to be recognized as crucial factors of promoting economic growth.

The contribution of research and development (R + D) is considered significant in promoting greater output in an economy. The development of high yielding varieties of seeds and better cultivation methods etc. have greatly contributed to increased output in agriculture. In Sri Lanka, R + D in the paddy sector has significantly contributed to output growth in that sector. Similar contributions have been observed in respect of rubber, tea and coconut sectors.

Expenditure on the social sector development is an important contributor to labour productivity. The expenditure on primary education is considered very productive in LDCs since it improves the functional literacy which is crucially essential to make better use of modern technology. Agricultural practices which are more productive could be far more easily introduced to a functionally literate farming community than to an illiterate community. Similarly, health care, particularly primary health care could be effectively taught in a shorter period of time to mothers with some education than to those who had no education. Educated labour could function more productively in the manufacturing and other production activities.

Expenditure on health and nutrition is considered an important determinant of labour productivity. The ability of labour to engage in work for longer hours and the capacity to attend to wotk regularly is a primary requirement of high productivity. Lower labour productivity due to absentism and poor quality is a common feature in LDCs. Therefore, the programmes which improve labour productivity could be considered determinants of economic growth.

International trade is recognized as an important contributor to economic growth, since a country can make better use of its resources when the opportunity for trade exists. Through international trade a country can import goods and services which are cheap in the international market, while exporting goods and services which are cheap and produced locally. For a small developing economy such as Sri Lanka, a wide range of imports is needed. If the import

flows were not maintained at a desirably high level, the country would face constraints in economic growth. In otherwords, import capacity could be considered an important determinant of growth. In Sri Lanka the bulk of the capital goods are directly obtained through imports. Moreover, those imports form the basis for capital formation in a large number of sectors. A wide range of intermediate goods, including petroleum, fertilizer and chemicals too are imported for use in production activities. Even in respect of consumer

TABLE 1

DETERMINANTS OF ECONOMIC GROWTH IN SRI LANKA 1974 — 1986

Equation \ *Variable*	*K*	*L*	*M*	R^2	$\bar{R}^2$
1	4.50 (0.17)	—	—	.74	.74
2	—	8.12 (0.50)	—	.31	.31
3	—	—	3.06 (1.87)	.84	.84
4	2.9 (0.21)	3.09 (0.39)	—	.96	.95
5	1.5 (0.77)	—	2.01 (0.52)	.89	.88
6		2.16 (0.66)	2.28 (0.24)	.92	.91
7	1.90 (0.32)	2.43 (0.33)	0.91 (0.26)	.98	.97

Notes : 1. Independent Variable = GNP at 1974 prices.
2. K = Gross Domestic Fixed Capital Formation at 1974 prices.
3. L = Labour Employment.
Projected using Census data for 1971 and 1981.
4. M = Import of Goods and Non-Factor Services at 1974 prices.
5. Figures in brackets are standard error estimates.

goods, a number of basic commodities such as milkpowder, sugar, textiles and medicines are imported in substantial quantities. Therefore, the import capacity is a significant determinant of economic growth in Sri Lanka.

A country's import capacity is basically determined by earnings of its export of goods and services. In recent years foreign exchange earnings through export of labour which are recorded as private transfers have become as significant as the other export of goods and services. In addition to export earnings, the ability to obtain foreign savings could determine a country's import level. Foreign savings may be obtained through grants, borrowings and private capital inflows. In this study, the manner in which import levels are decided is considered a proxy variable for government policy.

The theory on economic growth clearly identifies investment and labour productivity as two key variables of economic growth[5]. Studies on the Sri Lanka economy as well as on other small scale economies, have found import capacity as a critical determinant of economic growth, in addition to investment and labour productivitiy. Regression coefficients of these key determinants of economic growth, in relation to the period 1974 — 86 are given in table 1. The year 1974 was considered the base year since price deflators for capital formation are available from that year. The price deflators of the investment category in the Wholesale Price Index (1974 = 100) were used to obtain constant values of capital formation. The values of Gross National Product at 1974 prices were obtained by adjusting the 1970 based national accounts series. The constant values of imported goods and non-factor services were obtained by deflating by import price indices.

The regression results given in table 1 confirm the hypothesis that Sri Lanka's most important economic growth determinants are capital formation labour productivity and imports of goods and non-factor services. These three variables together can explain about 98 per cent of the economic growth in Sri Lanka during 1974 — 86. Of these variables, labour productivity is the most crucial variable, followed by capital formation. The imports of goods and non-factor services which determine capital formation to a significant extent too is a critical variable. As the standard error estimates of the three variables show all of them are statistically significant.

Economic Growth

The economic growth of Sri Lanka could be looked at either from the production (GDP) angle which gives value added arising out of economic activity or from the expenditure angle (GDE) which gives aggregate expenditure

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5 Solow, Robert M, "Technical Change and the Aggregate Production Function", *Review of Economic Statistics*, August, 1957.

on consumption and capital formation. The incomes to primary factors of production, GDI (or GNI) are not available in the Sri Lanka national accounts data.

Growth in Production (GDP)

The Sri Lankan economy which expanded at an average rate of 2.9 per cent during 1970 — 77, improved its performance to 5.4 per cent during 1978 — 86. The acceleration of economic growth was apparent in most of the sectors, the main exception being mining and quarrying. The paddy sub-sector which had continuously received the greatest attention of policy makers (even before independence) recorded high growth. The main reasons for this growth had been the expansion in land development and adoption of improved varieties of seeds, along with better cultivation practices.[6] The significance of the paddy sector in GDP increased to 5.3 per cent in 1977 and 5.8 per cent in 1986 (Table 2).

The greatest contribution to increased growth during 1978 — 86 came from construction and service sectors. The construction sector which declined by 2.6 per cent annually during 1970 — 77, expanded by an average rate of 6.4 per cent in the following period. The construction of Mahaweli and other development projects as well as building construction contributed to a major growth trend in this sector. Hence, the significance of the construction sector in GDP increased to 8.5 per cent in 1986 from 3.3 per cent in 1977 and 5.6 per cent in 1970. The services sector which represents over 40 per cent of the economy expanded by an annual rate of 6.8 per cent during 1978 — 86 compared with the 3.6 per cent growth rate during 1970 — 77.

The economic expansion during 1978—86 came primarily from the services sectors. The agricultural sector which represented 30.7 percent in 1977 declined to 26 per cent in 1986. The decline in the plantation sub-sector too contributed to this decline. The significance of the manufacturing sector which represented about 20 per cent of GDP in 1977 declined to 14.5 per cent in 1986. The primary reason for this decline has been the virtual stagnation in agro-processing industries of tea, rubber and coconut.

The services sector which includes trade, transport, utilities, housing, financial services, public administration and other personal services expanded rapidly during 1978 — 86. The expansion in the import and domestic trade had been very substantial. Value added in wholesale and retail trade increased by 52.3 per cent during 1978 — 86. The financial services sector which covers banking activities as well as other financial services too expanded rapidly during

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6 Sirisena, N. L., An Evaluation of Agricultural Policy on the Paddy Sector, 1950—,85, *Sri Lanka Economic Journal*, April 1986.

TABLE 2

CHANGES IN GDP, 1970 — 1986 AT 1970 FACTOR COST PRICES

ITEM	*Values in Rs. Million*				*Average Rate of Growth*	
	1970	1977	1978	1986	1970—77	1978—86
GDP	13,187	16,078	17,401	25,761	2.9	5.38
Agriculture	3,732	4,299	4,532	5,667	2.1	3.12
Mining & Quarrying	95	515	619	841	27.1	5.60
Manufacturing	2,193	2,357	2,541	3,621	1.0	4.89
Construction	744	619	794	1,068	—2.6	6.25
Services	6,419	8,288	8,660	14,564	3.7	6.46
	Percentage Distribution					
GDP	100.0	100.0	100.0	100.0		
Agriculture	28.3	26.7	26.0	22.0		
Mining & Quarrying	0.7	3.2	3.6	3.3		
Manufacturing	16.6	14.7	14.6	14.1		
Construction	5.7	3.8	4.6	4.1		
Services	48.7	51.6	51.2	56.5		

Source : Central Bank of Sri Lanka, Annual Reports.

1978 — 86. Public administration too expanded rapidly, particularly after 1983, in view of the increased recruitments to security forces. The tourist industry which expanded rapidly in early 1980s started to decline since 1983.

On the whole, the period 1970 — 77 was characterised by slow overall growth, largely because of the negative growth in construction and the slow growth in services. Among other factors, the restricted supply of imports too contributed to this slow growth. On the otherhand, the 1978 – 86 period had been characterized by the liberal availability of imports, and hence the sectors which were import dependent expanded rapidly.

Growth in Expenditure (GDE)

In any economy, goods and services are supplied in response to demand for those commodities and hence the aggregate demand, among other factors decides the growth rate as well as its distribution. During 1970 — 77, the aggregate demand which is made of consumption and investment expenditures expanded more or less at the same rate as production. However, during 1978 — 86 the aggregate demand had been about 12 per cent in excess of the aggregate supply by the domestic economy. In other words, in the latter period through the use of foreign assistance, Sri Lanka maintained a gross domestic expenditure (GDE) which had been in excess of what the economic growth had permitted.

In this section, we shall examine primarily the private consumption which had expanded rapidly during 1978 — 86. During this period, GDP increased by 51 per cent. As the data in table 3 on marginal propensity to consume show, over 90 per cent of the marginal increase in GDP had been utilized for private consumption.

TABLE 3

MARGINAL PROPENSITY TO CONSUME

Period	*MPC(T)*	*MPC(P)*	*MPC(G)*
1970 — 1977	.872	.773	.101
1978 — 1986	1.117	.97	.147
Percentage increase between two periods	28.1	25.5	45.5

Notes :
1. MPC(T) = Marginal Propensity to Consume (Total).
2. MPC(P) = Marginal Propensity to Consume (Private Sector).
3. MPC(G) = Marginal Propensity to Consume (Govt. Sector).
4. Marginal Propensities were calculated as ratios of increase in GDP.
5. It is essential to note that GDE was greater than GDP.

TABLE 4

COMPOSITION OF PRIVATE CONSUMPTION AT CURRENT PRICES

(In Million Rs.)

ITEM	1970	1977	% *Increase* 1970—77	1985	% *Increase* 1977—85
1. Imports of Goods and Non-factor Services	2,014	4,859	141.3	28,121	478.7
1.1 Rice, Wheat, Flour and Sugar	787	2,716	245.1	4,433	63.2
1.2 Other personal consumption goods	998	1,749	75.3	17,394	894.5
1.3 Non-factor services	229	394	72.0	6,294	1,497.5
2. Locally produced goods and services	7,868	21,839	177.6	98,382	350.5
2.1 Locally produced goods	6,243	18,048	189.1	82,847	359.0
Rice	979	3,294	236.5	14,730	347.2
Coconut Products	366	882	141.0	4,563	417.3
Tea	85	286	236.5	1,862	550.0
Other Food Crops	972	4,082	320.0	12,129	197.1
Tobacco	45	77	71.1	293	280.5
Betel and Arecanuts	89	64	—28.1	237	270.3
Fire-wood	147	258	75.5	1,828	608.5
Livestock Products	348	856	146.0	4,248	396.3
Fish	241	963	300.0	3,781	292.6
Industrial Products	2,971	7,286	145.2	39,176	437.7
2.2 Rents of Dwellings	398	832	109.0	2,394	187.7
2.3 Transport and Communication	503	1,403	179.0	8,839	530.0
2.4 Services n.i.e.	1,240	2,412	94.5	10,537	336.8
Less : Government Local Purchases	234	116	—50.4	363	212.9
Less : Goods and services purchased by Non-residents	282	740	162.4	5,872	693.5
Total Private Consumption	9,882	26,698	170.2	126,503	373.8y

Source : Central Bank of Sri Lanka, Review of the Economy

The distribution of private consumption expenditure given in table 4 shows that the import content in private consumption during 1978 — 86 had increased to about 22 per cent compared with about 18 percent in the previous period. In spite of the large scale import substitution that tookplace in the agricultural sector, particularly in the paddy sub-sector, the import of other consumer goods had increased. More strikingly, the foreign expenditure on services of consumer nature had increased. This reflects a significant change in the nature of demand for consumer imports.

The changes in the expenditure pattern on locally produced goods and services are also striking. The expenditure on services particularly on transport had increased very rapidly. The expenditure on intermediary commodities such as fuel-wood too had increased rapidly. The increasing expenditure on transport and fuel-wood, reflects the combined result of price and volume increases. The expenditure on manufactured goods had increased substantially. The consumption of agricultural commodities as reflected by the expenditure had increased slowly. The expenditure on local rice had increased only by 347 per cent, while the expenditure on other food crops increased by 197 per cent. The expenditure on fish, meat and eggs too have increased modestly.

Some of the changes in the consumption pattern had not been favourable to the domestic economy, both from the standpoint of producers as well as of consumers. It appears that the internal terms of trade had been unfavourable to sectors that produce agricultural commodities. The price increases in respect of public transport which in turn increased nominal wages hindered labour utilization. The increase in expenditure on fuel-wood reduced the real income of those who use fuel-wood for cooking purposes. In other words, the poorer sections of the population felt the adverse consequences of price increases more than the higher income groups. Increasing imports in consumption led to greater income leakages while increasing marginal propensity to consume imported goods, affected domestic savings and investment.

Gross Domestic Capital Formation and its Efficiency

As we have already noted capital formation is considered one of the primary determinants of economic growth. The contribution of capital formation to economic growth depends both on quantity as well as on quality. The quantity of resources allocated for capital formation could be increased when foreign assistance is available. As we note in this study, Sri Lanka had managed to increase the volume of capital formation* without a parallel increase in national savings.

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* The gross domestic fixed capital (GDFC) formation in Sri Lanka has accelerated during 1978 — 86 period compared with the earlier period of 1970 — 77. As a proportion of Gross Domestic Product (GDP) at market prices, GDCF improved from about 13 — 14 per cent to over 20 per cent during 1978 — 86. In some years the fixed capital formation had increased to as much as 28 per cent of Gross Domestic Product. During 1978 — 86 the capital formation by public corporations and by the government sector increased faster than in the previous period.

The efficiency of capital formation is primarily a result of good economic planning. |On the other hand, efficiency of capital formation could get affected either due to wrong selection of projects, or inefficient implementation or both. In fact, defects in implementation of projects is considered a frequent source of ineficiency in less developed countries, and consequently, good projects could become bad investment since the economic contribution is below the expectations.

The efficiency of GDFCF is measured through the incremental capital output ratio (ICOR). In Sri Lanka there are difficulties in estimating the net ICOR since net capital formation statistics are not available. Moreover, since sectoral capital formation data are not available sector-wise incremental capital output ratios could not be computed. However, when the available gross domestic capital formation data are used in calculations, the results show that there is a significant variation in the efficiency of capital formation over the years.

TABLE 5

INCREMENTAL CAPITAL OUTPUT RATIOS (ICOR)

Year	$\triangle$ *GNP* (*Rs. Mn.*)	*GDFCF* (*Rs. Mn.*)	$\frac{\triangle \text{ GNP } t^*}{GDFCF\ t-1}$	$\frac{\triangle \text{ GNP } t^{**}}{GDCF\ t}$
1970	—	2359	—	—
1971	52	2140	.022	0.024
1972	1244	2206	.581	0.563
1973	2742	2493	1.243	1.099
1974	4698	2972	1.884	1.580
1975	2137	3699	0.719	0.577
1976	2085	4595	0.564	0.453
1977	5552	5035	1.208	1.102
1978	7789	8521	1.546	0.914
1979	13250	13246	1.555	1.000
1980	14939	20845	1.128	0.716
1981	13235	23279	0.827	0.568
1982	15793	30279	0.678	0.521
1983	20721	35342	0.634	0.586
1984	28378	39558	0.803	0.717
1985	12337	39457	0.312	0.312
1986	17030	42326	0.443	0.402

Note : * ICOR with one year lag.
** ICOR without a lag.

Most of the technological changes are embodied in fixed capital, and therefore economic benefits of technological improvements are realized through the use of them. Since a small economy such as Sri Lanka obtains the bulk of its capital goods through imports when imports are restricted, as it had been the experience during 1970 — 77, efficiency of capital formation declines as shown by the ICOR estimates. On the other hand, when the imports were liberalized in 1977, till about 1980, ICOR estimates had improved very substantially. However, after 1980 the efficiency of capital formation as measutred by the ICOR estimates had started to deteriorate.

The declining efficiency of capital formation observed since 1980 appears to be the result of a complex of factors. In the Mahaweli development programme, which absorbed over 50 per cent of public sector fixed capital formation, the head-work construction had progressed very rapidly. By 1986, Rs. 38,270 million had been spent under the Accelerated Mahaweli Programme completing the construction of the major reservoirs of Victoria, Kotmale, Maduru Oya and Randenigala. However, the economic benefits of the Mahaweli development programme are realized relatively slowly. Since commissioning the Kotmale power project in August 1985, it has generated only 198 gigawatt hours of energy. The energy generation by the Kotmale project is presently suspended for need of repair work to the tunnel. The expected cost of this repair is about Rs. 500 million. The Victoria power project which was commissioned in April 1985 had generated 1502 gigawatt hours of energy. This energy generation is within the expected range.

Of the total Mahaweli Command Area, which is about 155,000 hectares of newland, about 26 per cent had been cultivated during the Maha 1985/86. During the Yala 1986, only about 22.7 per cent had been cultivated. In other-words, nearly 75 per cent of the Mahaweli Command Area is yet to be brought under cultivation. The progress of developing new lands for cultivation had been on average around 5,000 hectares per year ; which is lower than the expected 10,000 hectares per annum. The apparent slow realization of economic benefits of a major project such as the Mahaweli development is obviously reducing the efficiency of capital formation.

Adequate planning had not been undertaken in a number of projects. (See table 6.) The urea fertilizer manufacturing project which dominated the public sector investment programme during 1978 — 81, had to be abandoned later since it was found a major burden on the government budget. The funds invested in projects such as the Air Lanka too have not been productive. With regard to building construction, particularly the large number of hotels constructed recently could not make a worthwhile contribution to economic growth as tourist arrivals began to decline drastically since 1984. Some of these projects attracted a substantially large proportion of the investment funds, and their poor performance or failure would have contributed to the lower overall efficiency of the fixed capital formation in Sri Lanka.

TABLE 6

CAPITAL TRANSFERS TO PUBLIC CORPORATIONS

(In Rs. Million)

Sector/Corporation	1978	% *Distribution*	1985	% *Distribution*
1. Agriculture & Irrigation of which :	**510**	**24.6**	**7,464**	**58.5**
1.1 Mahaweli Authority of Sri Lanka	416	20.1	7,233	56.7
2. Manufacturing & Mining of which :	**1,241**	**60.0**	**541**	**4.2**
2.1 Sri Lanka Sugar Corporation	—	—	508.3	4.0
2.2 State Fertilizer Manufacturing Corporation	1,061	51.3	—	—
3. Trade	**18**	**0.9**	**13**	**0.1**
4. Services of which :	**300**	**14.5**	**4,744**	**37.2**
4.1 Air Lanka	—	—	800	6.3
4.2 Air Port and Aviation Services	—	—	955	7.5
4.3 Ceylon Electricity Board	42	2.0	153	1.2
4.4 Export Development Board	—	—	101	0.8
4.5 Greater Colombo Economic Commission	2	0.1	50	0.4
4.6 National Housing Development Authority	—	—	360	2.8
4.7 National Water Supply & Drainage Board	—	—	966	7.6
4.8 Sri Lanka Transport Board	173	8.4	307	2.4
4.9 Sri Lanka Ports Authority	—	—	185	1.4
TOTAL :	2,070	100.0	12,762	100.0

Source : Central Bank of Sri Lanka, Review of the Economy.

Note : By and large the government capital transfers decide the level of capital formation in public corporations.

Public sector as well as private sector organizations have undertaken expenditure outlays which generally fall within the definition of capital formation to meet the security needs of their respective organizations. Acquisition of checking equipment, construction of walls, fences etc. are some of these expenditure outlays. Since capital expenditure of this nature is not enhancing the production capacity, the inclusion of such espenditure in the aggregated capital formation statistics also leads to a lower ICOR reflecting inefficiency in capital formation.

Finally, although the gross domestic capital formation had increased in recent years the net domestic fixed capital formation would have actually declined. Before the start of terrorist activities in Sri Lanka the depreciation rate of the national capital stock was normal. However, in recent years, since capital distruction due to acts of terrorism had increased the normal rate of capital depreciation appears grossly inadequate to provide for replacement of capital. In other words, statistics on gross domestic fixed capital formation, do not seem to reflect the trend of actual capital formation in the country.

Financing the Capital Formation and Impacts of Investment Savings Gap.

Investment is considered a function of savings. However, in most of the less developed countries, often investment exceeds national savings. In Sri Lanka, during 1970 — 86 except in 1977, Gross Domestic Fixed Capital Formation (GDFCF) exceeded national savings. As table 7 shows investment during 1970—77 exceeded national savings by 38 per cent while during 1978—86 it exceeded savings by 67 per cent. The investment-savings gap shown in table 7 could be seen in table 8 also which gives public sector capital formation and savings.

Government capital formation which had been around 8.3 per cent of GDP during 1970 — 77, increased to 14.5 per cent of GDP during 1978 — 86. This large scale increase in government sector gross domestic fixed capital formation was not matched by increases in government savings. The government budgetary surplus which financed 3 per cent of government sector capital formation during 1970 — 77, declined to 2.7 per cent during 1978 — 86. The investment-savings gap in the government sector which was 5.4 per cent during 1970 — 77 increased to about 11 per cent during 1978 — 86.

The foreign borrowings which amounted to 40 per cent of public sector capital expenditure during 1970 — 77 increased to 48 per cent during 1978—86. On the whole, during 1978 — 86, over 75 per cent of the public sector capital formation had been financed through foreign savings inclusive of grants.

The public sector capital formation financed through domestic non-bank borrowings too increased during 1978 — 86. A part of the private sector savings was channelled to the public sector through government securities.

TABLE 7

INVESTMENT — SAVINGS GAP

Item	1970	1977	*Annual Average* 1970—77	1978	1986	*Annual Average* 1978—86
1. Gross Domestic Capital Formation (Including Stocks) (In Rs. Mn.)	2819	5483	3858	8587	42600	28609
2. National Savings (In Rs. Mn.)	1933	6461	2787	6622	26014	17152
3. Investment Savings Gap (1 — 2) (In Rs. Mn.)	886	—978	1072	1965	16586	11457
4. I — S Gap as % of GDP at market prices	6.5	—2.7	5.3	4.6	9.2	11.4

Source : Central Bank of Sri Lanka, Annual Reports.

TABLE 8

PUBLIC SECTOR : INVESTMENT-SAVING GAP (*In Rs. Million*)

Item	1970	1977	*Annual Average 1970—77*	1978	1986	*Annual Average 1978—86*
1. Public sector capital formation	1122	2627	1672	4725	19078	14307
2. Govt. savings current account surplus/deficit	108	108	51	— 551	7353	1393
3. Foreign grants	60	500.5	272	660.7	1505	2483
4. Total (2 + 3)	168	608.5	323	109.7	8858	3846
5. I — S gap (1 — 4)	954	2018	1345	4615	10220	10550
6. Foreign borrowings	235	1255	677	3953	9046	6887
7. Domestic borrowings (Banks)	693	858	903	1710	2287	4469
8. Domestic borrowings (Non Bank)	140	505	283	280	4470	2116
9. Use of cash balance	123	— 492	— 45	58	760	— 380
10. Net borrowing from the banking system	218	— 715	44	173	3047	2854
11. 5 as % of GDP at market prices	7.0	5.5	5.4	10.8	5.7	11.1
12. 8 as % of GDP at market prices	1.7	3.4	2.5	9.3	5.0	7.1
13. 2 as % of GDP at market prices	1.6	—2.0	1.0	0.4	7.7	3.0

Source: Central Bank of Sri Lanka, Annual Reports.

Public sector borrowings from savings institutions such as the Employees Provident Fund (EPF), National Savings Bank (NSB) and other savings institutions too had been considerable. About 15 per cent of the public sector capital formation was financed through bank borrowings. This method of financing public sector expenditure is considered as "forced savings", since resources are mobilized to the public sector through money creation which is inflationary.

Domestic private savings as a proportion of GDP had declined during 1978—86. As the propensities to consume indicate the Sri Lanka economy had reduced its marginal propensity to save. However, this was compensated to a large extent by the increasing private transfers from abroad. Because of foreign private transfers, during 1978 — 86, national savings ratio was higher than the domestic savings ratio. The primary reason for this very considerable increase in net private transfers to Sri Lanka from abroad had been the increasing numbers of Sri Lankans working abroad, particularly in the oil rich middle-east countries. The gross private transfers from abroad which was Rs. 60 million in 1975 increased to Rs. 109 million by 1976 and Rs. 2518 million in 1980 and Rs. 7991 million in 1985. Since the outward remittances were not increasing faster, the net transfers helped improving national savings.

Direct foreign investment financed by inflow of the foreign capital had been negligible in Sri Lanka during 1970 — 77. After 1977, there had been some improvements in the inflow of foreign capital. In 1978, net direct foreign investment amounted to Rs. 731 million. In 1986, it amounted to Rs. 814 million. As a proportion of the current account deficit in the balance of payments it amounted to 7 per cent in 1986.

Impact on Prices

The financial statistics prepared in Sri Lanka estimate only the expansionary impact of government sector borrowings. In the case of private sector borrowings, a separate inflationary impact is not calculated. Although private sector securities/collaterals could not be used as a basis for credit creation, and hence they had no secodary expansionary effect, the primary expansionary effect of credit to private sector could be of significance. Since credit for consumption purposes* is supposed to be negligible according to monetary statistics, the price increase experienced in Sri Lanka could be considered primarily a function of credit expansion for investment.

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* About 1.5 per cent in most of the years.
In 1985 it was 1.7 per cent of total commercial bank advances.
(See Central Bank of Sri Lanka, Review of the Economy).

TABLE 9

PRICE MOVEMENTS

Sector	1970	1977	*Annual Average* 1970—77	1978	1986	*Annual Average* 1978—86
GDP Growth Rate	—	4.2	2.9	8.2	4.3	5.6
GNP Deflator — Rate of growth over previous year	—	18.8	11.9	7.4	5.5	12.5
Colombo Consumers' Price Index- Rate of growth over previous year	5.9	1.2	5.8	12.1	8.0	13.0

The available price indices in Sri Lanka are only a few, and these are mainly the Colombo Consumers' Price Index, which measures consumer prices of the working class, the Wholesale Price Index which measures the wholesale prices of major commodities including export commodities and the implicit deflators of GNP and GDP derived from national product estimates. All these three indices have various limitations in measuring the inflationary trends in the economy ; however, since they are the available price indices, their movements are given in table 9.

Although there are other factors which influence price movements, government inflationary borrowings could be considered a fundamental factor in price determination. As measured by the CCPI, the average annual rate of price increase during 1970 — 77, was around 5.8 per cent per annum. The government policy of controlling prices of wage-goods too would have been important in reducing the price increases in the CCPI. In addition domestic credit to private sector expanded slowly during this period. This too helped to reduce the inflation rate during 1970 — 77.

During 1978 — 86, the inflationary financing as a proportion of GDP amounted to 2.5 per cent, however, CCPI increased by 14.8 per cent per annum. In the absence of a regulated price system, CCPI would have reflected the general price trend better. Moreover, rapid expansion of credit to private sector further accelerated the inflationary pressure in the economy.* The GNP deflator which incorporates the price trends in export commodities also indicates higher price increase during 1978—86. The GNP deflator which increased at an annual rate of 11.9 per cent during 1970—77 ; increased by 12.5 per cent during 1978 — 86.

Impact on the Balance of Payments

As we note in table 10, foreign borrowings had been significant in Sri Lanka in financing capital formation. During 1970 — 77, the external debt increased by Rs. 9,015 million. In the following period of 1978—86, external debt increased by Rs. 75,615 million. The external debt outstanding which was 34 per cent of GNP in 1977, increased to 48 per cent of GNP in 1986.

The external debt service payments which comprise of amortization and interest payments increased by Rs. 757 million during 1970 — 77 while during 1978—86, the comparable payments increased by Rs. 9,296 million. The most striking feature to note is the increase in interest payments during 1978 — 86 which amounted to Rs. 4,321 million. The payments in respect of external debt

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* Between 1977 and 1986, domestic credit to private sector increased by more than ten times, between 1970 — 77 domestic credit to private sector doubled.

servicing, as a ratio of total foreign exchange receipts inclusive of private transfers, increased from 15.6 per cent in 1977 to 21.7 per cent in 1986. Once the net private transfers are excluded from foreign receipts, the debt service ratios in 1977 and 1986 are 16 per cent and 26.2 per cent respectively.

TABLE 10

EXTERNAL DEBT AND EXTERNAL DEBT SERVICE PAYMENTS

(In Rs. Million.)

Item	1970	1977	1978
1. *External Debt* (Outstanding)	1578.4	10593.5	86208.3
1.1 Project Loans	521.5	3072.1	50417.9
1.2 Non Project Loans	985.5	7521.4	35790.4
1.3 Sterling Loans	71.4	—	—
2. *Debt Service Payments*	453.4	1211.9	11643.5
2.1 Amortization	353.7	966.9	6837.1
2.2 Interest Payments	99.7	245.0	4806.4
3. Earnings from Merchandise Exports & Services	2253.3	7563.2	44474.3
4. Receipts from Merchandise Exports Service and private Transfers	2251.0	7753.0	53616.6
5. Debt Service Ratio (2 as a % of 3)	20.1	16.0	26.2
6. Debt Service Ratio (2 as a % of 4)	20.1	15.6	21.7

Source : Central Bank of Sri Lanka, Annual Reports.

As the data reveal, Sri Lanka's debt service payments are already at a critically high level. Absence of worthwhile improvements in foreign exchange earnings through export of merchandize goods and services appears to be the main reason for this growing problem. The seriousness of the problem may be better understood, once account is taken of the growing overall deficit in the balance of payments which we shall examine in the next section. However, it is essential to note that problems in the external sector persist in spite of the exchange rate adjustments implemented. During November 1977 and end 1986, the Sri Lanka Rupee depreciated against the SDR by 46 per cent. During the same period, the Rupee depreciated against the U.S. Dollar by 44 per cent, the British Sterling by 30 per cent and Japanese Yen by 64 per cent.

Import Capacity

Since the beginning of plantation economy, foreign trade had played a crucial role in the economic growth of Sri Lanka. Export earnings of tea, rubber and coconut products primarily decided the import capacity. The imports of Sri Lanka consisted of consumer, intermediate and investment goods. In 1960s when export earnings were inadequate to meet the expenditure outlays on imports, accumulated international reserves were used to finance the balance of payments deficit.

During 1971 — 77, import restrictions were imposed on all categories of imports. 1967 based all import volume index which recorded 102 in 1970 declined to 90 in 1971 and 56 in 1974, a 45 per cent reduction in four years. In the following years there was some increase in imports, however, even in 1977 in which year there was a surplus in the balance of payments, import volume index (1967 = 100) recorded only 97. The same volume index on consumer imports declined from 86 in 1970 to 46 in 1974. During 1970 — 74, the volume indices on intermediate and investment goods declined by 47 per cent and 53 per cent respectively. Reduced imports during 1970 — 77 had been one of the most critical factors responsible for the lower growth during that period. Import shortages led to under utilization of existing production capacity in addition to constraining new capital formation.

After 1977, Sri Lanka's policy towards foreign trade completely changed. A liberal trade policy was adopted in place of the restricted import policy. The inflow of imports increased rapidly. The import volume index (1968 = 100) increased from 97 in 1977 to 132 in 1978 and 185 in 1980, an increase of 90 per cent within a three year period. The largest increase in imports was in the investment category. The volume index of investment goods increased from 131 in 1977 to 366 in 1980.

The increases in import volumes were felt in all activities in the Sri Lanka economy. The GDP growth increased by 8.3 per cent in 1978, and 6 per cent in 1979 and 5.8 per cent in 1980 in contrast to 3.8 per cent growth in 1977 and 3 per cent in 1976. This acceleration in the GDP growth rate was not basically a result of investment efforts of that period. It was the combined result of greater utilization of the existing production capacity in real sectors and expansion in the trading sector, particularly the import trade sub-sector. The momentum of economic growth generated by trade liberalization was short-lived. Once the under-utilized production capacities were exhausted the real sector economic growth slowed down.

The basic point that need stressing is the need to maintain an adequate import capacity for the efficient functioning of the economy. The historical trend indicates that an import capacity of about 25 per cent of GDP is generally

TABLE 11

IMPORT CONTENT IN CAPITAL FORMATION

Year	*Investment GDFCF (Rs. Mn.)*	*Import of Investment Goods (Rs. Mn.)*	*Import content of GDFCF*
1970	2,359	546	0.231
1971	2,140	419	0.196
1972	2,206	438	0.199
1973	2,493	452	0.181
1974	2,972	457	0.154
1975	3,699	653	0.177
1976	4,595	643	0.140
1977	5,035	746	0.148
1978	8,521	3,367	0.395
1979	13,246	5,459	0.412
1980	20,845	8,141	0.390
1981	23,279	7,956	0.342
1982	30,279	11,951	0.395
1983	35,342	12,077	0.342
1984	39,558	12,170	0.308
1985	39,457	10,387	0.270
1986	42,326	10,556	0.249

Source : Central Bank of Sri Lanka, Annual Reports.

needed for efficient functioning of production, capital formation and consumption. In other words, in the formulation of economic growth strategies, the need to maintain an adequate import capacity, should be recognized as a prior condition, at least in the short and medium runs*.

It may not be economically feasible for some years, for Sri Lanka to produce the bulk of capital goods it needs. As table 11 shows import content in capital formation is about 25 per cent. However, this masks the fact that imported capital goods form the base of capital formation in most sectors. Similarly, in respect of intermediate goods such as petroleum, fertilizer, chemicals etc., Sri Lanka has to depend on imports. The room for import substitution is largest in respect of consumer goods. However, here too some amount of consumer good imports is unavoidable for efficient functioning of the economy.

* In the long runs of-course, the import needs may change either as a result of economic growth or as a result of policies or both.

Sri Lanka's ability to maintain a high import capacity is critically dependent on the development of a rapidly expanding export sector. Upto now, Sri Lanka has not made a break-through in expanding the export sector*. Recently, the gross export earnings of import based products such as petroleum and garments have increased. However, their net contribution to foreign exchange earnings had not been significant. In any case, even for the growth of import based industries, the maintainance of high a level of exports is essential.

The policy instruments for promoting a dynamic export sector is beyond the scope of this study. However, it is essential to stress that international trade is highly competitive and Sri Lanka at this particular stage of development, does not have comparative advantages over a wide range of commodities. Therefore, Sri Lanka should develop comparative advantages through effort. For this purpose the main economic expansion should be in tradable goods. Moreover, the efforts to achieve efficiency in investment should be given priority. Simultaneously, labour productivity need to be improved faster for Sri Lanka to gain cost advantages over a wide range of goods and services. Among other factors, research and development could play a vital role in promoting efficient adoption of technological innovations and improving labour productivity.

Labour Productivity**

Labour productivity measured by the per worker value added at constant prices, increased by 24 per cent during 1963 — 71. In the following decade of 1971 — 81, labour productivity had further increased by 37 per cent. As could be seen from table 12, labour productivity improvements had been observed in all sectors during 1963 — 71. In the following decade too labour productivity had improved in all sectors, although it was negligible in the manufacturing sector.

In the agricultural sector, labour productivity increase due to adoption of new technologies was most conspicious. The high yielding varieties of seed paddy had been used in 88 per cent of paddy lands in Sri Lanka. Along with the spread of HYVs of seeds, fertilizer use, transplanting and weed control had taken place since new seed varieties had shown greater yield response to input applications. On the whole, "the Green Revolution" had a very considerable impact on increasing the labour productivity in the paddy sub-sector. One of the factors that helped the rapid spread of "the Green Revolution" would have

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* During 1978 — 86, SDR value of imports increased by 131 per cent as against a 74 per cent increase in export earnings.

** The discussions on labour productivity could not be done in detail since employment data are not available on an annual basis. The discussion here is limited to the years in which population census had been carried out.

TABLE 12

INDUSTRIAL DISTRIBUTION OF VALUE ADDED PER WORKER (*In Sri Lanka Rupees*)

Sector	*At* (1959) *Factor Cost Prices*			*At* (1970) *Factor Cost Prices*		
	1963	1971	*Percentage of Growth* 1963—71	1971	1981	*Percentage of Growth* 1971—81
1. Agriculture, Forestry & Fishing	1692.0	1845.4	9.1	1991.4	2734.7	37.3
2. Mining & Quarrying	3191.5	5114.5	60.3	7328.2	18471.5	152.1
3. Manufacturing	2918.2	4063.1	39.2	6714.8	6782.1	1.0
4. Electricity, Gas & Water	1410.3	3020.8	114.2	9375.0	15394.7	64.2
5. Construction	3196.2	5308.9	66.1	6834.0	8285.3	21.2
6. Wholesale & Retail Trade	2506.4	3827.8	52.7	7143.7	9288.5	30.0
7. Transport, Storage & Communication	4302.3	5142.5	19.5	6813.9	9844.1	44.5
8. Finance, Insurance, Real Estate and Business Services	4294.9	5180.7	20.6	6666.7	10153.8	52.3
9. Community Social & Personal Services	2278.1	2593.3	13.8	3164.7	4432.5	40.0
10. Activities not Described						
11. All economic activities	2175.2	2701.1	24.2	3620.0	5026.6	38.9

Source : Estimated from Data on Value Added and Employment.
Value Added Data are from Central Bank of Sri Lanka, Annual Reports.
Employment Data are from Census of Population, 1963, 1971 and 1981.

been the high literacy rate. Obviously, improved technologies in agriculture could be more easily introduced to literate farmers than to those who are illiterate*.

In the rubber sub-sector where small-holdings are dominant, about 76 per cent of lands were replanted with improved varieties of rubber plants by 1981 compared with 53 per cent in 1972. Between 1972 and 1981 per worker rubber output had increased by 12.3 per cent.

In the tea sub-sector where state owned plantations are dominant, only about 16 per cent of tea lands were replanted with high yielding plants in 1981 compared with 9 per cent in 1972. Because of slower progress in adopting new technologies, per worker tea output increased only by 2.5 per cent between 1972 and 1981. In the coconut sub-sector improved palm varieties were introduced only recently. It may be noted that in the coconut sub-sector, there had been substantial output increases while the land area under coconut declined. This suggests that per worker coconut production too would have increased.

In the manufacturing sector there had been a 39 per cent increase in labour productivity between 1963 and 1971. Because of import restrictions introduced since 1961, a large number of industries were started to produce import substitutes. With increasing experience and production, some industries would have realized increasing productivity per worker. However, these proudctivity gains did not further improve in the following years. As the data show, between 1971 and 1981 there was no worthwhile improvement in labour productivity. In the first seven years of 1971 — 77, due to shortage of imported inputs, industries could not improve the labour productivity. Many of the industries were operating around 50 per cent of the production capacity. On the other hand during 1977 — 81, since imports were liberalized industrial sector had to reduce production in view of the competition from imports. The high competition in the market affected the industrial sector adversely and consequently labour productivity.

The public sector industries which represented about 40 percent of the total industrial output expanded their employment much faster than output. The public sector industrial output index (1977 = 100) increased by 18 per cent between 1977 and 1981, however the total employment in them increased by 24 per cent during the same period. In other words, the public sector industries had experienced a reduction in labour productivity between 1971 and 1981. The net result of slow growth in labour productivity in the private sector industries and negative growth in public sector industries had been the overall virtual stagnation of labour productivity in manufacturing.

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* According to the Census of Agriculture 1982, 82% of agricultural operators have had primary education.

The large scale increase in the per worker value added in the mining and quarrying sector, both during 1963 — 71 and 1971 — 81 could be attributed to the expansion in the gem industry. The gem industry expanded very rapidly in response to the Foreign Exchange Entitlement Certificate (FEEC) Scheme which provided a premium exchange rate to gem exports. After 1977 also, gem industry maintained a high labour productivity.

Among the other factors that contributed to the high labour productivity, improvements in the quality of labour in Sri Lanka should have been predominant. The expenditure on social sector development which had been very considerable in Sri Lanka helped to improve the quality of labour. Due to large scale public sector expenditure on primary education, the literacy rate improved to 78 per cent in 1970 and to 85 per cent in 1981/82.

CONCLUSIONS

This study examined Sri Lanka's economic growth performance against the three variables of capital formation, labour employment and the import capacity. Increase in labour employment and improvement in labour productivity, emerges as the most significant (2.43) determinant of economic growth during 1970—86, followed by capital formation (1.9).* The import capacity also emerges as a significant determinant of economic growth (0.91). These three variables explain about 98 per cent of the growth during this period. According to economic theory also, capital formation and labour employment are significant determinants of economic growth. However, as the study confirms, in a small economy the import capacity is also a critical determinant of economic growth. This also shows that in the formulation of economic policies all three variables, capital formation, labour productivity and import capacity have to be treated as integrated components. Moreover, the critical dependence of economic growth on the international economic forces need to be recognized.

In Sri Lanka there is considerable difference in Gross Domestic Product (GDP) and Gross Domestic Expenditure (GDE). During 1970 — 77, the GDE was higher than the GDP by a small margin ; however, during 1978 — 86, this margin increased to over 10 per cent of GDP. Sri Lanka was able to maintain a high level of expenditure (GDE), primarily by borrowing abroad. By the end of 1986, per capita external debt amounted to US $ 251, while per capita GDP amounted to US $ 354. Increasing dependence on external borrowings, on one hand means increasing repayment commitments. On the other hand, it means the need of greater efficiency in economic management, particularly in respect of capital formation.

See table 1 in page 15.

The estimates of incremental capital output ratio for the period 1981 — 86 indicates a trend of declining marginial contribution to GDP. Defects in project identification (e.g. fertilizer manufacturing project) as well as in implementation have contributed to this. The Mahaweli Development Programme is a good example of inadequate planning of implementation stages. The main economic benefits of the Mahaweli Development would be realized through greater utilization of land for agricultural benefits. However, since head-work construction is given high priority, a large number of reservoir dams are completed, while inadequate resources are allocated for down-stream development. Consequently, the contribution of the Mahaweli Project to GDP growth is still insignificant. The delayed realization of economic benefits also reflects through reduced incremental capital output ratio. In respect of capital formation, increasing the volume of capital stock is inadequate. The primary objective of capital formation should be the achievement of maximum economic and social benefits. For this, both quantity as well as the type of capital formation are equally important.

Increasing labour productivity had made a significant contribution to economic growth in Sri Lanka. Education, training and improved health and nutrition would have certainly contributed to the improvements in labour productivity. The public expenditures on social sector development which improved the physical quality of life, are the basic contributory factors to this development. Therefore, an evaluation of relationship between the public sector expenditure and labour productivity could provide useful guidance for future policy formulation. In general, it may be said, that public expenditure should create more opportunities in education, training and wage-goods production to promote further improvements in labour prodctivity.

Reasearch and development, particularly in the fields of developing high yielding varieties of seeds/plants have contributed to increase the labour productivity in tea, rubber, coconut and paddy sectors. In respect of rubber and paddy, high yields have clearly helped producers to absorb the effects of adverse prices movements. Therefore, expansion of research and development work could make a very valuable contribution to economic growth in Sri Lanka. Hence research and development deserve to be given greater priority over physical capital formation.

The study reveals that Sri Lanka needs to maintain an import capacity of about 25 per cent of GDP for efficient functioning of the economy. During 1970 — 77, Sri Lanka failed to recognize the critical role of import capacity and did not increase imports, even when the balance of payments was in surplus. Consequently, economic growth was constrained in almost all sectors. After 1977, import capacity was expanded not only by foreign exchange earnings (including private transfers) but through foreign borrowings. The sustainability of an import capacity which is largely financed through borrowings is doubtful. A substantially large import capacity is not sustainable in the long

run, without an equally large export sector. In other words, economic growth objective needs to be realized while promoting the growth of exports. This could be realized by promoting capital formation and labour productivity in sectors that produce tradable goods.

In an attempt to ensure a regular and efficient flow of imports, it is essential to identify complimentary and competitive imports separately. The complimentary imports are essential for the efficient functioning of the economy and hence they should be allowed with little or no taxes. On the other hand, competitive imports are in competition with local production units and hence if they were allowed in to the country under the same conditions as the complimentary category, local production and therefore the economic growth, would be adversely affected. In fact this has been the experience of Sri Lanka since 1978. The slow growth of the manufacturing sector during 1978 — 86 was largely a result of severe competition by imports. The appropriate economic policy would have been to subject competitive imports to heavier taxes so that some indirect price protection is provided to the local industries. This seems justified, since most of the Sri Lankan industries have not yet reaped the benefits of economies of scale.

As we noted in the section on methodology, a high economic growth is essential for sustainable development of a less developed economy. However, we also noted that in the computation of national accounts no account is taken of the activities such as deforestation, damage to environment due to industrial refuse while on the other hand, account is taken of the expenditure outlays on projects that attempt to remedy those damages. In other words, GDP/GNP growth rates shown by national accounts are non-reflective of the negative effects of the economic expansion. From the policy angle Sri Lanka has already reached a stage that it can no longer consider the negative effects of economic expansion as having no significant impact on the overall development of the country.

THE PROSPECTS FOR OUR POOR*

GAMANI COREA

You have done me a signal honour by asking me to deliver this year's N. M. Perera Memorial Lecture. I would like to say at the outset how deeply touched I am by this invitation. It is a privilege to be asked to pay tribute in this way to the memory of a great leader, and particularly a leader whose political and intellectual presence was so much a part of the environment in which my generation grew up. I had particularly in his later years, some personal contact with Dr. Perera. Many of his qualities struck me with force. He had deep ideological commitments ; but he was not dogmatic. He had a hard political life ; but politics did not colour his personal relationships or his assessment of people. He was inspired by the highest principles ; but he was not an Utopian idealist. He had a deep love of his country ; but he also had a world view which led him to a role in international affairs. Dr. N. M. Perera was, all his political life, a socialist. His ideas led him to want, I believe, a modern, progressive, egalitarian, humane and democratic Sri Lanka. That is what many, like myself, would also want, although all may not share a common ideology.

The organisers of this event suggested a subject for my lecture : "The prospects for our poor." This reflects N. M. Perera's life long involvement in the fight against poverty. It also highlights an issue that is central to the economic and political future of our country. I must say that at first I had some hesitation in accepting such a theme. I did not wish to appear a soothsayer trying to predict some preordained destiny. I also do not wish to focus exclusively on the subject of how incomes are distributed ; for with our existing national income even an egalitarian distribution will leave our people relatively poor. My acceptance of the subject stems from a realization that its dimensions are far wider. The prospects for our poor — who I take to be the great majority of our population and not just the destitue — are, in fact, closely linked up with

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* Fourth N. M. Perera Memorial Lecture on 21.8.1986.

the prospects for our economy and these in turn will be determined by the interplay between the policies we pursue internally and the external environment in which we are placed. In other words, the prospects for our poor depend on two factors — the way in which our economy may be expected to grow in the future and the way in which the benefits of growth will be distributed between the various groups in the country. It is on these issues that I will attempt some reflections today.

The debate on "Growth *vs* Equity" is now a relatively old one and I am not sure that there is much to add. In the 50's and 60's economists and development planners were accused of pursuing growth in a single minded way and of neglecting income distribution, poverty, employment, the environment, traditional value systems, and a host of other things. A number of schools of thought sprang up with suggestions for alternative strategies. There has been talk of poverty oriented development — of growth with equity, of growth with redistribution, of basic needs strategies, of development from below, and so on. There has been talk of alternative development and of growth without cultural disruption. I have no real quarrel with those who want to moderate or avoid the negative factors that accompany growth or to adopt styles of development that have a favourable social impact. I believe they are basically right. Like modern medicines growth can generate harmful side effects and it is whoolly proper that planners and policy makers take these into account and do something about them.

At the same time, I am not in the least convinced that growth itself could be dispensed with or even accorded a low priority because of these side effects. After all, poverty is essentially the lack of resources, and growth is at the bottom the enhancement of a nation's capacity to generate resources. I have not understood the venom and ferocity which is sometimes directed at the growth objective, particularly in contexts where there has, in fact, been very little growth. Besides, against whom is the charge of growthmanship directed ? It might with some justice be directed at those who want to rely on market forces to the exclusion of welfare, equity and everything else. But it cannot be levied against the early planners in countries like India and Sri Lanka whose plans were indeed concerned with poverty and unemployment and wyich looked to growth as an essential means of attacking these problems.

There are, all the same, to things of some importance that are now recognized concerning the relationship between growth and poverty. The first is that whilst growth is needed to eliminate poverty it need not — in the absence of special measures — immediately, automatically, and directly, benefit all strata of the poor. Over thirty years ago now, the economist Simon Kuznets argued that in poor countries, in the absence of offsetting measures, a process of economic growth is likely at

first to widen income disparties. Even absolute poverty could increase through the immiserization of sections of the poor. But when growth has continued for some time, he argued, and a country's per capita income has reached a level corresponding roughly to today's middle income countries, *i.e.*, around $ 1500-$ 2000, income disparities begin to narrow and societies become more egalitarian. Well, this is an interesting contention and it may well be true. But to my mind the message for us in Sri Lanka is that although income distribution might after a time begin to improve spontaneously, from a trickle down of the benefits of growth, we cannot wait that long. Development policies must, from the beginning encompass programmes and actions to deal with income disparrities — and specially the widening disparities that might accompany growth in the earlier stages. There must particularly be actions to safeguard those who might find themselves in a worse situation, not just relatively but absolutely.

The second point is that it is not necessary to wait for high levels of development to be reached to attack and overcome some of the worst aspects of poverty. In fact, Sri Lanka has demonstrated this better than any other country. Professor A. K. Sen of Oxford made an interesting comparison in a recent article. Out of 5 countries, whose achievements he looked at, 3—India, China and Sri Lanka—had relatively low per capita incomes ranging from $ 210 to $ 290. Two others—Mexico and Brazil—had per capita incomes of around $ 2000. In 5 out of 6 areas of achievement in 1980 *i.e.*, life expectancy, infant mortality, child deaths, literacy, and secondary education Sri Lanka was ahead of the other countries—both those with low per capita incomes like her's and those with substantially higher incomes. It was only in the area of University education that we lagged behind—and somewhat badly at that. Our own example shows, I think, what can be achieved at relatively low levels of per capita incomes and development. Sri Lanka's achievement was not due to policies that left social and economic development to market forces. It was due to a deliberate concern for welfare shown by our legislators and policy makers. I feel that a good deal of the credit of for this must go to the interaction between parliamentary democracy, universal franchise, and an increasingly articulate electorate.

Having made these two points I must return to the theme of growth. The fact that we have done some things to improve the welfare of our people despite our low per capita income does not mean that we can continue indefinitely in this way. In fact, if, in a situation of continued population increase, we do not augment our resources through growth we risk loosing what we have achieved. Over the years since Independence the Sri Lankan economy has grown only moderately—at a rate only a little above the rate of population growth. In this we have not differed

very much from our neighbours on the Indian sub-continent. But we have, as you know, differed considerably from the countries in East and South East Asia. Over the 18 years between 1965 and 1983, for example, Sri Lanka's GNP per capita grew at an average rate of 2.9 per cent an year—and that too was the result of two bursts of expansion, in the late 60's and the late 70's, that were not sustained. Over the same years, Indonesia's per capita GNP was expanding at an average annual rate of 5 per cent, Malaysia's at 4.5 per cent, and Thailand's at 4.3 per cent. The so-called "little tigers" Hong Kong, Taiwan, South Korea and Singapore were growing even faster—at per capita rates ranging from 6.2 to 7.8 per cent. We have been left behind. The opening chapter of the Ten Year Plan written in 1959 included a table showing that at that time only two or three countries in Asia, such as Japan and Malaysia, had per capita incomes higher than Sri Lanka. There was a warning there that we risked loosing our position if growth rates were not accelerated. The warning unfortunately has come true.

But it is not our place in the international "league table" of growth that is really important. What is important is that our economy, that is to say, our productive capacity should grow fast enough to meet the needs of a growing population—not just their basic needs, although this is a priority, but their need, no less than that of other peoples, for a standard of living that modern science and technology has made possible. Consumerism and the endless pursuit of material wants are things to rile against, particularly when they take place alongside poverty and inequility. But having seen the transformation in living standards of the population at large in the West, the access they have to good health services, education, food, housing, travel and cultural pursuits I find it difficult to yield to the temptation to pronounce those grapes as being altogether sour.

I, for one, would argue, therefore, that we need to accelerate growth rates in Sri Lanka and to sustain these over a period. At the same time we must do our best to anticipate and deal with the adverse side effects—social, environmental and cultural—that will surely rise in the process. I am convinced that the prospects for our poor depend on our success in achieving this goal. What is even more important the prospects for our young depend on it. The World Bank and the Monetary Fund and some other agencies tend to accept as satisfactory overall growth rates for developing countries of even 4 per cent. These may compare well with the growth rates achieved by the industrialized countries. They are certai nly something to be thankful about in periods of recession when total stagnation is not uncommon. But the experience of the countries that have seen real economic transformation in the post wat period—Japan, the Socialist countries, the newly industrializing countries of Asia and Latin America—is that growth rates were sustained at a considerably higher level—from 6-9 per cent annually—over a number of years. I believe that if the Sri Lankan economy is to be really transformed our growth

rates must reach and remain at comparable levels. In the period since Independence there were only 2 years in which our growth rates reached 8 per cent—1968 and 1978—but this was the result of import liberalization after years of shortages and was not sustained. For most of the rest, there was only moderate growth—not very much in excess of the rate of growth of our population. It is this performance that we have to change. The prospects for providing employment for our growing work force depend on it and with that the prospects for our poor.

Could we achieve this goal of a sustained tempo of more rapid growth in the period ahead ? I believe we could. I have often suggested that the latent impulses for growth are stronger today in the countries of the Third World—particularly the countries of Latin America and Asia—than ever before in history. I think this is true of Sri Lanka. Development brought about by outside capital and enterprise on the model of the plantation economies of Colonial times may require little by way of local initiatives and skills. But endogenous development does requite these elements and I think these are present in Sri Lanka today together with the essentials of an infrastructure for further development. The question is not whether or not the potential exists but whether we will succeed in releasing it. And it is on this point that I would say that the answer depends, on the one hand, on the efforts we make and the policies we pursue internally and, on the other, the extent to which the external environment is supportive of those efforts and policies.

But before I talk of the external environment and of internal policies I must underline an obvious truth. We can look to the future with confidence only if we assume that there will be an end to the internal conflicts that endanger our national unity. The conflict of the last few years has already undermined our economy; weakened confidence both locally and abroad, and diverted substantial resources to security purposes. The future will be bleak and unpredictable if all this continues. This is not the occasion on which to discuss this complex issue. But it will be recognised that there are economic aspects to the communal tension in the country — particularly the inadequacy of employment opportunities for the youth. We had a warning of the unrest of youth in another form in 1971 and this is probably a factor in the present crisis as well. But whatever the relationship between our economic performance and our political experience, the immediate need is for an end to the extremes of political conflict and to the violence that has gone with it. The prospects for our economy in the years ahead depend on this—although in the longer run we may hope to underpin our internal harmony and national unity with a stronger economic base.

Having said this I want to turn now to the twin themes of the external environment and internal policies. Let me start first with the

external environment. It is a subject which occupied me in UNCTAD over the past 11 years or so. I have no doubt that the external environment is crucial for the development prospects of Sri Lanka and of the countries of the Third World in general. There are two reasons for this. First, the historical pattern of development of Sri Lanka and many other countries during the Colonial era led to the creation of open economies heavily dependent on commodity trade. This was certainly an unsatisfactory pattern of development because it gave rise to unequal trading relationships between weak and strong partners. But the fact is that despite this and the efforts of the developing countries at diversification many of them continue to this day to remain open economies heavily dependent on commodity exports and on capital inflows from outside for their resources and their economic wellbeing.

The second reason is no less compelling. It is that new patterns of development, including industrial development, also involve in one way or another a growing integration with the world economy and a continued dependence on the external environment. There are those who argued that the way to break away from the inequalities of part patterns of development was through some kind of "delinking" of the economies of the developing countries from the world economy. The logic of this is understandable. Certainly old linkages have to be dissolved or loosened up. The linkages with the former colonial power, the linkage with world markets for a few commodities, the linkage with the historical sources of capital—all these must be the subject of change. New linkages too must be built up—linkages with new trading partners and linkages with other developing countries, for example.

But I do not think that "delinking" is the phrase that properly describes these processes—certainly not if some kind of autarchy is envisaged in which the developing countries individually or even collectively, cut themselves off from the rest of the world in pursuit of self contained development. The dynamics of global economic change is making for greater integration, greater interdependence, among the several participants in the world economy. Since the post war years world trade has grown considerably faster than world, production and even large and relatively self contained countries like the United States have increased their exposure to and dependence on world trade. I do not think that the development strategies of the developing countries would be successful if they went in altogether different direction. If nothing else technology and technological progress would be the weak point. The socialist countries of Eastern Europe and China have come, increasingly, to recognize this fact.

So if the external environment will remain crucially important what are the prospects in this regard ? The developing countries never considered the external framework of the post-war period to be sufficiently supportive of their development efforts. At UNCTAD—I my predecessor, the late Raul Prebisch,

argued that the developing countries would not be able to reach even the modest growth targets set for them by the United Nations because their export earnings were likely to fall short of their minimum import beeds. This was the celebrated "trade gap" which Prebisch wanted to see bridged by international actions in the areas of trade and aid.

But despite its inadequacies, the external environment of the 50's and the 60's was more favourable for the developing countries than in the later period. At that time the developed countries themselves were growing rapidly-at about 5-6 per cent an year—and world trade was expanding dramarically. There was some trickle down of these impulses to support growth in the developing countries. At this time there also emerged the elements of an international consensus on development co-operation—a recognition that the development efforts of the developing countries need to be supported by such measures as aid, preferential access to markets and actions to stabilize commodity prices or earnings.

By the end of the 60's and the beginning of the 70's things began to change. Even before the first oil "shock" growth rates in the developed countries were beginning to slow down. The oil shock compounded these difficulties and a new phenomenon—stag-flation—took hold of the economies of these countries. All this affected the environment for development. The developed countries talked of putting their own house in order and became less responsive to the needs of development co-operation. At the same time the developing countries that imported oil had to bear the burden of higher prices and a mounting imports bill.

For a time there were compensating factors. Some developing countries in Asia and the Middle East were able to profit from the boom in the Gulf region through the export of men and materials. Certain developing countries were also able to borrow vast funds from the international banks whose own liquidity was greatly increased by the surpluses of the oil producing countries. These factors were able, for a time, to support growth rates in the developing countries despite the slow down in the developed countries. It was an interesting and an unprecedented phenomenon—possibly even a pointer to the future. For the first time the South was significantly helped by growth impulses generated from within the South itself. In fact, it was not only the South that was helped. The decline in growth rates and in employment in the North were also moderated by the expansion in the South. There was now talk of the changed character of interdependence, of the "new interdependence" where economic forces no longer flowed exclusively from the North to the South but in the reverse direction as well. The centre-periphery relationship, though still dominant was beginning to change. The centre had become less of a centre than before ahd the preiphery less of a periphery.

This situation, however, did not endure. By the early 80's the developed countries had plunged into recession dragging the rest of the world with them. The recession was wholly man made. It was the policy response of the developed countries, in the wake of the second oil shock of 1980, to the problem of chronic inflation. The contraction which the developed countries introduced in their own economies had a heavy cost to themselves in terms of investment and growth and above all in terms of unemployment. But in addition it wrought havoc on the developing countries. The recession brought to a virtual halt the development process in the Third World. In many of the developing countries the industrial revolution that was beginning to get into stride in the 70's was dramatically interrupted. The squeeze on resources in the developing countries was without a post-war parallel. There was a collapse of commodity prices. Markets for manufactured goods were narrowed by rising protectionist trends in the developed countries. The vast inflow of finance through borrowing gave way to problems of debt repayment and, in the case of many developing countries, to a net outflow of financial resources. The external environment was not just insufficiently supportive of development ; it was outright hostile to it.

By and large this negative scenario still prevails. What is particularly disturbing about the current scene is that the adverse external economic environment is matched by a corresponding change in the international political environment. Multilateralism and the representative institutions that support it are in disfavour. The earlier consensus on development. co-operation has all but collapsed. The so-called North-South dialogue is virtually non existent. The North—and I mean here the market economy countries of the OECD—is becoming increasingly resistant to the pursuit of the objectives to which it had earlier subscribed. Foreign aid is no longer in vogue and aid to developing countries is being increasingly tied to a host of conditions—economic, political and military. The preferential treatment of developing countries in trade is being resisted and the principles of nondiscrimination and non reciproeity are being challenged. The earlier commitment to work towards international agreement to stabiliz commodity markets and to set up a Common Fund is being put aside and even existing agreements are proving difficult to negotiate.

There is a totally new atmosphere in the arena of international negotiations. New philosophies are afoot. Measures to protect the weak from the unrestrained operation of market forces are regarded as statist and interventionist—a kind of international socialism or Marxism. Even the concept of a North-South dialogue is being reduced to the question only of aid for the poorest countries. The issues of trade, money, and finance do not, in this view, have a North South dimension. In these areas the developing countries are asked to integrate into the global system. That is not all. Other developments have been occurring over

the years. One of these is the rise of the transnational corporation into whose hands has passed a substantial proportion of world production and trade. Accompanying this has been the growing privatization of international liquidity and financial flows. All this has deeply affected the efficacy of many of the instruments which the governments of the developed countries have traditionally used to carry out economic policy. It has also created serious dilemmas for the developing countries. If they are to treat with the North in their quest for trade, finance and technology they have, increasingly, to treat with the transnationals and face the possible conflict with national goals and objectives. At this moment the developed countries have proposed a major new round of trade negotiations in which, for the first time they want the question of trade in services to figure prominently. Amongst the pertinent issues are foreign investment, the right of establishment of foreign enterprises, and the national treatment of such enterprises. New winds are now blowing and these can profoundly affect the external environment for development.

I cannot predict how long the present malaise in the World economy will last. Each year since 1982 we have had assurances that recovery was round the corner. But virtually every year current forecasts have been scaled down and the optimism transferred to the year to come. The practice continues. I, for one, am not convinced that the present mix of policies will usher in a vigorous and widespread recovery, least of all a reactivation of development in the Third World. I certainly do not think that the harsh adjustment processes to which the developing countries are being subjected will get development going again. At best they constitute an orderly response to adversity ; at worst they reinforce the global contractionary process. I can make no guess about the prospect for new attitudes and policies. Eventually the experience of mutual damage may prove a stronger catalyst than all the arguments about mutual interests. Years of continued stagnation in the Third World will surely have consequences—political and social—and these might compel an eventual change of approach.

I have talked of the present external environment. For the longer term, almost all forecasts for the developed countries predict a return only to relatively show growth rates—2-3 per cent annually —for the next decade or two. This is very different to the growth rates of around 5-6 per cent that these countries enjoyed over the 50's and the 60's. These forecasts, if realised, have implications for the future external environment. They suggest that the developing countries cannot rely only on the trickle down process from the North to boost their own development or count on the developed countries for increasing financial flows and widening market access.

In the face of this, the developing countries must strive to create a better environment for themselves by stimulating their own growth impulses through South-South co-operation. They must also be more effective in their negotia-

tions with the North for the reform of the international monetary, financial and trading systems. With the potential of modern technology there can be an alternate scenario for the future if policies and institutions could be adapted to support a dynamic world economy. In such a situation the South instead of being weighed down by the weak impulses coming from the North, could instead be a source for the transmission of the forces of growth to the entire world economy. But all this calls for a capacity on the part of the South to mobilize its won strength. Unhappily, at the moment, there are signs of weakness in the camp of the South.

I have made these observations on the external environment without particular reference to Sri Lanka. But there is no need to labour the relevance of all this. Just a glance at the course of our terms of trade highlights the importance of the external environment. The Central Bank's index of the terms of trade shows a sharply declining long-term trend since Independence which, I believe, is one of the worst of the developing country experiences. It has been a major factor underlying our slow growth performance. At present, the expansion our econony experienced since the late 70's is being braked by the global recession which has brought down commodity prices, increased protectionist barriers and constrained the flow of external finance. We can hardly expect a vigorous upturn in our economy as long as this situation continues.

The longer term prospect is no less important. If the forecasts about the global environment to which I referred earlier are realised we cannot count on a buoyant world economy to support our growth. But this does not mean that we have to be passive in the face of all this. I think that three approaches would be relevant in this context. We should first of all exploit the opportunities that would still be available in a setting in which the developed countries grow more slowly than in the past. Even the cautious scenario implies that world trade will continue to expand and if we do not grasp our share of this others will. Good external relations are important to this. But we have also to be responsive to the dynamics of world trade and adapt to new demands, new products and new technologies. Secondly, I believe that we must look increasingly to the countries of the South for trade and other economic relationships. Already, our trade with the developing countries is vastly greater than what it was at the time of Independence. The imperatives of the future point more strongly in that direction. We have a stake in initiatives for South—South co-operation both on an interregional and a regional basis. The potential of the South Asian Regional Co-operation grouping is great indeed. If developed it could have a great impact on the economic future of the countries of our region. I feel, thirdly, that Sri Lanka must take an active interest and play its part in the multilateral processes and negotiations pertaining to such issues as commodities, money and finance, and international trade. The shortcomings of the external environment could be offset by reforms in these areas and they are too crucial for us to be passive and leave things to others. Some of our problems can never be solved by bilateral relationships alone.

Let me turn now to internal policies. Indeed there are some who argue that developing countries should stop faulting the external environment and concentrate on their own domestic policies. "A businessman, "delegates in Geneva were recently told, "does not have the luxury or the time to contemplate whether his banker was doing all he could to help him or whether the global environment was conducive or not to his business. If conditions change, the businessman changes." I will not ask you to subscribe to this view of developing countries as business enterprises. But I am perfectly willing to concede that the external environment is not all that matters and that domestic policies are crucially important.

In recent years there has been a lot of criticism outside of the internal policies pursued by the developing countries. They have been accused of adopting faulty priorities, of excessive bureaucratization, of wasting resources on inefficient state enterprises, of neglecting the private sector, of distorting prices, of stifling the market mechanism, of maintaining unrealistic exchange rates, of neglecting agriculture, of forcing non-viable industries through artificial protection, of being excessively inward looking, of missing out on the opportunities for attracting foreign capital, and so on. In large measure, these criticisms are defensive. By blaming poverty on the poor they hope to deflect the demands for a reform of the external framework. But in some measure they claim also to flow from an assessment of the actual experience of the developing countries over the past decade or two.

It is not my purpose here to enter into the vast and complex area of alternative domestic policies. Some issues have been the centre of controversy for decades and will continue to remain so. I could only make some general observations concerning internal policies that are, perhaps, relevant to some of the criticisms that are commonly being made. But I must say first that I want to avoid on this occasion the big debate about total systems—the capitalist system *vs.* the socialist, for example. I feel that systems as such—whatever imperatives they respond to—do not by themselves ensure or guarantee growth and development. There needs to be a human effort, there needs to be management and sound policies. In my student years there was, I recall, a feeling that if only the system was changed—meaning thereby the colonial system or the capitalsit system—growth will follow more or less automatically. Today one hears a similar argument from the opposite side—that if only the market were given free play some latent force will ensure spontaneous development. I am reminded of a remark by one of the distinguished economists who visited us in the 50's in the context of the debate at that time on the nationalization of the plantations. "Whatever the system" he observed "it will be these same nice people who will run it."

So whatever the system growth can certainly be aided or hindered by good or bad policies. Let me comment on some aspects of these policies—starting with statism, planning and bureaucratization. Over the years the state in developing countries, including Sri Lanka, has been trying consciously to promote economic and social development. The state has played a leading role, not because of socialist principles generally, but because of the weaknesses of private enterprise and the compelling need to build up infrastructure. It is true that in this process heavy strains have been imposed on the machinery of the administration and this has resulted in inefficiencies which have become a drag on development. I think you will agree that regulation and control can prove excessive and self-defeating and that there is merit in the use of flexible instruments of policy including the price mechanism and the market. But I would not agree that planning and the leadership role of the state be abandoned and that everything be left to the forces of the market. No country, least of all a developing country, could allow this to happen. The state must stay in the business of development if only to ensure that patterns of development reinforce national independence and support national objectives.

Let me also comment briefly on sectoral priorities. I believe we were right in giving high priority to food production. A country particularly a poor country, that is heavily dependent on outside sources for food is very vulnerable indeed. Besides, the expansion of domestic agriculture provides work and incomes to our rural population. We can take satisfaction from what has been achieved on this front. I believe, however, that we have been somewhat remiss in regard to our plantation sector. We need a dynamic sector that is responsive to developments in world markets and that moves progressively in the direction of the further processing and marketing of our products.

I am convinced, nevertheless, and despite the prescriptions from outside, that our long-term prospects—and once again the prospects for our poor—depend also on our success in industrialization. Almost three decades ago the Ten Year Plan argued that there are limits to the growth of agriculture and to its absorptive capacity in terms of employment. We need to take decisive steps towards industrialization in this country ; and the objective require government support. Policies of protection and of import substitution in developing countries have, in recent times, come in for severe criticism. But whilst protection can be inefficient and excessive—and there is no dearth of examples in developing countries—it should not be dispensed with altogether. It is not only a question of the limitations of infant industries. It is also a matter of the limitations of infant economies.

I have the same attitude towards import substitution. Developing countries must certainly seize the opportunities of the world market but why should they neglect their own market in the process ? A domestic

market bases is a factor of security and an element in the integration of an economy. Contrary to popular belief, countries like South Korea have had considerable recourse to planning, protection and import substitution. Besides, future trends in the developed countries may not be highly supportive of export led growth in developing countries. This is a further reason for looking to the domestic market as well as to markets within the South itself. Import substitution can be on a regional as well as a national basis.

I went to emphasise the importance of our responsiveness to the opportunities provided by technological change. In fact, if I were to comment in a single sentence on the prospects of our economy—and hence for our poor—in the longer run I would say that much depends on this factor. No one can foresee precisely the extent or the way in which developments in areas such as informatiques, communications, genetics and others will influence the development opportunities and prospects for the Third World. But there are many who believe that such influence could be profound. Already some of the developing countries are seeing their patterns of development being affected by these changes and are preparing to adapt to the changing situation. Sri Lanka cannot lag behind. And this is why I would say that a central issue in our development is the training of our people. There are many remi, cations to this subject which I cannot expand upon here. The extent, content and quality of education the question of attitudes and valuesl the capacity for organization and co-operation, the rewards for skills, al-these are facets of a wide and complex area. Development is as much the transformation of a society—its responses and reactions, its aptitudes and skills—as it is the transformation of an economy.

I want also to comment on social objectives and income distribution. If we succeed in achieving high growth rates strains would be imposed on income distribution, on the infrastructure, and on the rural and urban environment. It is the business of policy makers to anticipate and minimize these strains. Our past achievements in the area of social welfare have won us international recognition. We should not turn away from this tradition. There are difficult choices to be made. It is certainly true that high living standards and levels of welfare follow or accompany economic growth and improvements in productivity. A distinguished socialist economist reminded us many years ago that we cannot eat the fruit before we plant the tree. At the same time we must remember that social programmes can contribute to development. Economists once dismissed these as consumption expenditures that compete with investment outlays. Now, they know better and acknowledge the fact that health and education are crucial to economic growth. But I should say that governmental programmes are not the only determinants of social welfare and income distribution. What the poor get depends

also on how strong they are. A labour movement that safeguards the wages and the welfare of the working population makes a decisive contribution to income distribution. Growth with equity would hardly be possible in the absence of such a movement.

There are a number of other issues vital to internal policy and I can do no more than flag some of them. There is the question of enterprise, both public and private. It may well be that growth and development have at times to be put off in the interests of economic and social reorganization. But if the pendulum does not shift back to emphasize efficiency, risk taking, and enterprise there can be stagnation and the reorganization itself comes to be discredited. Where the private sector is an important part of the economy—and this is true in Sri Lanka and most developing countries—it is necessary to attract a good performance from this sector. Confidence and security, communications and contact with the world outside, sensible taxation, flexibility—these are among the imperatives of success whether for private or public enterprise. I do not know how socialists regard self employment and small scale enterprise in the context of the dynamics of development. This can be part of the answer to the employment problem since it will take time for the industrialization process to absorb a growing work force in wage employment alone. The treatment of foreign capital and investment is another issue. I do not like policies which leave economic transformation largely to foreign enterprise. This was by and large the colonial pattern. But contacts with foreign sources for technology, markets and organization are inevitable in the world of today. What I would look for is an association which ensures a learning process at home, one that supports the creation of indigenous capabilities, an association that is a means to greater self-reliance in the future.

I have touched on a welter of issues, each of them complex and deserving of extensive treatment. On all the issues of internal policy—agriculture *vs.* industry, public *vs.* private enterprise, export *vs.* domestic led growth, and so on—trade offs and compromises are invariably needed. One cannot say *a priori* just what the balance should be. Decisions have to be based on the conditions that prevail in a country from time to time and the balance may shift from one direction to another in the light of circumstances. But I do feel that the decisions on these issues should essentially come from within the country. We must benefit from outside thinking ; we must learn from the experiences of others ; but we must decide for ourselves.

I am concerned about the growing tendency for prescriptions on internal policies to be made outside and with an uniformity that ignores the individuality of nations. The developing countries are today in a vulnerable situation. They are heavily dependent on accommodations by

international institutions, donor countries and external private creditors. It is not surprising that the concept of "conditionality" should gain currency and that assistance should some to be linked to tests of performance. There may be even merit in the insistence on efficiency, cost effectiveness, and good management. But often the prescriptions go farther and place the developing countries in an ideological frame that imposes political and value judgements that have grown out of other environments. They take little account of the compulsions that flow from the balance of political and social forces within a country. All this can increase tensions within societies and thwart the domestic processes of compromise, consensus and decison making. They also undermine the political independence of the developing countries.

This is an unhealthy state of affairs and one that the developing countries should resist. I am sure this is one of the battles that Dr. N. M. Perera would have fought with relish. I know that he is widely missed nationally particularly at this point of time. But his death has also impoverished the developing countries and the international community at a critical moment. The fight to improve the prospects for the poor would have been fought that much harder had he been with us today.

GROWTH AND EQUITY - A REVIEW OF THE SRI LANKAN EXPERIENCE*

SAMAN KELEGAMA**

Sri Lanka is often cited as an exception in raising living standards among less developed countries. Leading economists have attributed its exceptional performance to its social welfare policies which were pursued since the beginning of the century. Microeconomic studies as well as Econometrics studies (based on simple assumptions) on these policies supports this view. A recent view emerging from the World Bank implicity states that since Sri Lanka had already achieved high living standards by early 1960s, a growth-based development strategy since then would have brought about higher living standards in late 1970s than the equity-based strategy which was followed during that period. This paper critically examines this view and questions its rationale, and provides comparative econometric evidence and lessons from the post-1977 experience to challenge it.

Growth and equity are two important goals of any developoing country. Development economist have variously contended that there are complementaries or trade offs between these twin objectives of economic development. At present there is considerable agreement on these goals while there are widespread disagreements about the means of achieving these goals.

In simple terms the goals could be put forward as, equity for whom? or growth for whom? The general agreement here is on the target population (e.g. those below the poverty line) for whom the policy goal matters. The issue of means towards this end can be brought in to sharp focus by contrasting two extreme view points. The first extreme view point contends that a direct attack on promoting Basic Needs is the preferred alternative. An

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explicit assumption of this approach is that a growth only view is too slow and therefore takes too long. Consequently, governments should directly provide goods and services to the population in order to ensure that they are quickly and equitably distributed. The other extreme viewpoint is that policy makers should concentrate on increasing long term economic growth. The explicit assumption here is that such growth will raise the income levels of the people (including those below the poverty line) and thereby allow them to purchase goods and services and thus raise their living standards. The former method which can be described as the direct approach, emphasises equity, while the latter, which can be called the indirect approach, emphasises economic growth.

At a time when policy markers and economists are attempting to take a stance on the growth - equity divide, Sri Lanka's case is always mentioned with especial emphasis. It is said that Sri Lanka is one country which had successfully implemented the direct approach to raising economic welfare while maintaining a respectable level of economic growth. This is illustrated by its exceptionally high living standards (indicated by its high life expectancy, low infant mortality and high level of literacy) compared to other developing countries. In recent years Sri Lanka's case has been under constant scrutiny and the major studies have been carried out by Isenman (1980), Sen (1981 and 1986) and Bhalla (1984 and 1986). In regard to the causation of this superior performance Isenman and Sen have tended to concentrate on Sri Lanka's social welfare programmes. They support the view that the large amount of social welfare expenditure (here-in-after SWE) on the part of the government was the main cause of Sri Lanka's high living standards. Bhalla's analysis is based on the period after 1960 and he argues implicitly that since Sri Lanka had already attained relatively high living standards by 1960, a growth oriented strategy since then would have brought about better living standards in the late seventies than the equity-based strategy which was followed by the succesive governments. Bhalla supports this arguments by drawing attention to the new economic developments of the post-1977 period.

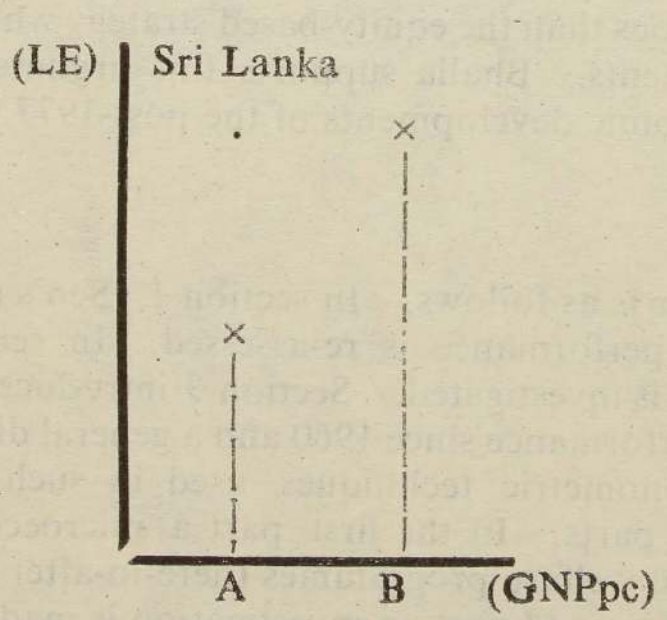
The plan of this paper is as follows. In section 1, Sen's (1981) approach to evaluate Sri Lanka's performance is re-assessed. In section 2 Bhalla's econometric methodology is investigated. Section 3 introduces a new method to evaluate Sri Lanka's performance since 1960 and a general discussion is done on the intricacies of econometric techniques used in such analysis. The final section consists two parts. In the first part a microeconomic study is done on Sri Lanka's social welfare programmes (here-in-after SWP) that were followed till 1977. In the second part an investigation is made to see whether the new emphasis on economic growth after 1977 has led to a sacrifice in the country's achievements in living standards. Also, the post 1977 experience

is analysed with respect to both East Asian success stories and other developing countries. It must be emphasised here that eight years (1977 to 1985) is too short a time period to judge economic policies. Nevertheless, it is hoped that the paper can provide some information about the direct approach towards social welfare in the pre-1977 period and the indirect approach towards the same in the post-1977 period to highlight the effectiveness of the two different approaches.

Section 1

Sen's method.

To compare Sri Lanka's achievements in living standards with other developing countries Sen (1981) establishes a relationship between living standards and income levels for a cross country sample for which data sets were readily available. Here Life Expectancy (LE) is used as a proxy for living standards, GNP per capital (GNPpc) is used as a proxy for income levels and a simple log linear functional form is used to estimate the relationship. Sri Lanka is one of the countries included in this sample. It is found that Sri Lanka does not fit in to this relationship (or that Sri Lanka is a significant outlier to the fit), hence Sri Lanka is seen as an exception in raising its living standards compared to its income level. Sen attributes the reason for this to the social welfare policies that Sri Lanka followed since the begining of the century. In this context a methodology is adopted to measure the effectiveness of these social welfare policies using Sri Lanka's position in relation to the statistical fit. Attention is drawn to Sri Lanka's performance (economic growth rate) had it forgone its social welfare policies (direct approach) for an extreme growth-based development strategy (indirect approach). Basically the framework of analysis is a growth-based vis-á vis a welfare-based strategy comparison. The methodology here is to convert the LE advantages into



AB = Sri Lanka's income advantage.

If t = Years needed to achieve $(GNPpc)_B$ at growth rate X.

income advantages and then to convert income advantages into the corresponding measures of years of lead at the appropriate growth rate of the economy. This method is explained in the diagram.

Then we get the following,

$$(GNPpc)_B = (GNPpc)_A (1 + X)^t \qquad \text{——————} (a)$$

$$t = \frac{\ln (GNPpc)_B - \ln (GNPpc)_A}{\ln (1 + X)} \qquad \text{——————} (b)$$

For a 59 country sample the following fit ($\bar{R}^2 = 0.65$) is obtained for a power relationship between LE and GNPpc for the year 1975.

$$\text{Log (LE)} = 3.263 + 0.123 \text{ Log (GNPpc)}$$

The countries chosen to get such a fit are not specified. It appears that the specifications used were those that gave the best fit in the range of sample values, rather than, for example, specifications that provided asymptotes (eg: 100% literacy) but weaker fits (see, Isenman, page 257). Further the standard errors and 't' statistics are not given for the parameters. (Thus for our re-evaluation we shall assume the 't' statistics for the parameters are significant).

From this equation it is easily calculated that the income per capita corresponding to Sri Lanka 's LE of 69 years (1975) is US $ 2,684 as opposed to its actual income of US $ 120 in 1975. Now US $ 120 corresponds to $(GNPpc)_A$ and US $ 2,684 corresponds to $(GNPpc)_B$ in the equation (b). By making suitable assumptions about the growth rate of the GNPpc (X) the following table is formulated.

Years needed to match social welfare achievements of Sri Lanka through the growth of income

Table 1

Growth Assumptions	*Growth rate*	*Incme-based longevity increase : Number of years needed*	
No change in growth rate	2.0	152	(83)
Full transfer at 1970-76 $\frac{K}{Y}$ ratio	4.01	77	(33)
Full transfer at 1960-70 $\frac{K}{Y}$ ratio	5.37	58	(20)

K- Capital, Y - Output.

The first row's figures are obtained by making the least favourable assumption of unchanged growth rate as social welfare programmes of 1960 to 1977 are eschewed (Sri Lanka's average per capita growth rate from 1960 to 1977 was approximately 2% per year). The second (and third) row figures are obtained by the full transfer of the average 11% of GDP expenditure on social welfare and services during 1960-77 into gross domestic investment, and enhancing the growth rate of per capita income by the rate determined by the marginal capital output ratio of 1970-76 (and 1960-70). Sen says that "the overall impression from the analysis is one of a long haul in matching social welfare achievements in Sri Lanka with economic growth". He goes on to argue that in fact these hauls must be rather long if it is recognised that even the assumption of no change in growth rate - may prove to be too optimistic and he gives reasons to justify his claim (see, Sen (81), pages 305 and 306).

It is quite understandable that there are too many unquantified relationships and too many assumptions required to enable a useful quantitative comparison of a growth-based vis-à-vis a welfare-based strategy; thus very little criticism could be made about the above analysis. Since the country smaple is not provided by Sen, a regression analysis was carried out by the author for a cross country sample where individual countries had GDPpc close to that of Sri Lanka in 1960.[1] (Here the GDPpc of the countries chosen did not exceed double that of Sri Lanka - the easily accessible sample is the one provided by Bhalla (1984),given in Table 2). We get the following fits for 1960 and 1978.

For 1960

$$\underset{(15.538)}{\text{Log (LE)} = 3.014} + \underset{(3.916)}{0.157\ \text{Log (GNPpc)}} \qquad \text{---------- (1)}$$

$$\text{SSR} = 0.856,\ \text{SER} = 0.142,\ \bar{R}^2 = 0.25,\ \text{D.W.} = 2.02$$

For 1978

$$\underset{(27.467)}{\text{Log (LE)} = 3.139} + \underset{(7.208)}{0.156\ \text{Log (GNPpc)}} \qquad \text{---------- (2)}$$

$$\text{SSR} = 0.435,\ \text{SER} = 0.102,\ \bar{R}^2 = 0.55,\ \text{D.W.} = 2.20$$

Using the 1978 equation (since 1978 is close to the year 1975 chosen by Sen chosing this year would give us results that would be more comparable with that of Sen's analysis) we could find the number of years required to match the country's social welfare achievements. (In calculating these a slightly different method from that of Sen's was used; see Appendix). The results are given in brackets in column 3 of Table 1. The figures are the years needed from 1978 to match the social welfare achievements of 1978 through the growth of income from 1960 onwards. From this it is clear that the haul is not as

Table 2: LEVELS OF INCOME AND GROWTH RATE PER CAPITA, 1960-1978

Country	*GDP per capita* 1960	1978	*Karvis S per capita* 1960	1978	*Growth Rate* *GDP*	*Karvis*	*Life Expectancy* 1960	1978
Afghanistan	121	128	366	405	0.4	0.6	34	42
Algeria	254	353	1209	1989	2.3	2.8	47	56
Angola	149	100	934	767	1.2	-1.1	33	41
Bangladesh	59	66	355	432	-0.4	1.1	42	47
Benin	84	89	437	419	0.4	-0.2	37	46
Bolivia	134	204	684	1151	2.2	2.9	43	52
Brazil	243	550	912	1982	4.9	4.4	57	62
Burma	59	75	248	340	1.0	1.8	44	53
Burundi	67	97	482	374	2.2	-1.4	37	45
Cameroon	103	152	546	903	2.9	2.8	37	46
Centafrp	69	76	528	531	0.7	0.0	37	46
Chad	59	52	493	403	-1.0	-1.1	35	43
Colombia	- 256	434	1070	1803	3.0	2.9	53	62
Congo	138	176	653	1030	1.0	2.6	37	46
Dominican Rep.	238	409	926	1487	3.5	2.7	51	60
Egypt	160	286	541	1019	3.3	3.6	46	54
El Salvador	221	321	756	1130	1.8	2.3	50	63
Ethiopia	47	60	278	331	1.5	1.0	36	39
Ghana	179	158	1009	946	-0.5	-0.4	40	48
Guatemala	263	416	919	1419	2.9	2.4	47	57
Haiti	75	76	363	436	0.2	1.0	42	51
Honduras	173	220	736	1001	1.1	1.7	46	57
India	73	96	428	514	1.4	1.0	43	51
Indonesia	92	177	370	636	4.1	3.1	41	47
Ivory Coast	165	275	762	1376	2.5	3.3	37	46
Kenya	97	152	378	481	2.2	1.3	47	53
Korea	153	488	631	2053	6.9	6.8	54	63
Malaysia	280	588	888	1856	3.9	4.2	57	67
Morocco	175	265	596	1264	2.5	4.3	47	55
Nepal	41	44	345	402	0.8	0.9	36	43
Nicaragua	238	434	897	1290	2.3	2.0	47	55
Pakistan	81	134	404	629	2.8	2.5	44	52
Paraguay	167	296	828	1508	2.6	3.4	56	63
Peru	249	315	1200	1704	2.0	2.0	48	56
Philippines	254	409	644	983	2.6	2.4	51	60
Senegal	174	177	922	720	-0.4	-1.4	37	42
Sri Lanka	152	226	961	778	2.0	-1.2	62	69
Sudan	102	128	753	865	0.1	0.8	39	46
Taiwan	149	505	733	2246	6.6	6.4	64	72
Tanzania	59	86	285	493	2.7	3.1	42	51
Thailand	95	219	446	1121	4.6	5.3	51	61
Uganda	78	73	569	582	0.7	0.1	44	53
Zambia	213	227	657	703	1.2	0.4	40	48
Zimbabwe	232	253	880	883	1.2	0.0	45	54

Source : GDP figures from World Back files, Kravis income number are obtained from Summers-Heston (1984).

Notes 1/ GDP figures are in 1960 prices and exchange rates, and Kravis numbers are in 1975 international prices.

L E from World Development Report 1981.

long as in the case of Sen.[2] Yet it is substantial enough to support his claim. Note here that Sen's equation is a **level-level** equation and it is used to evaluate **indirectly** the effectiveness of social welfare programmes. This is an indirect method because SWE is not included as an explanatory variable in the equation, instead the residual is used to measure its effectiveness.[3]

Sri Lanka's record of social welfare programmes goes back to the beginning of the century. Compulsory primary education began in 1901, food rationing was introduced in 1942, free education began in 1944 (a detailed study of these programmes is made in section 4); also Sri Lanka benefited from a benevolent ecological situation. It has had, until recently, ample land resources and a relatively abundant supply of nutritious foods.[4] It is worth making the following comparison for 1946, to illustrate its remarkable achievements.

	Ceylon	**India**
LE (1946)	43	32
Adult literacy (1946)	58%	17%

Thus it is quite tempting to attribute its exceptional performance to the country's social welfare programmes and Sen's analysis is based on this assumption. It is an assumption because the methodology reviewed so far does not say anything about the **causation** for the exceptional behaviour. Also the residual of the level-level equation through which the entire analysis is done need not solely contain the SWE component. In fact the residual could contain certain country specific factors like climate, diet or ecological conditions (and the causation for the exceptional behaviour can be due to these factors) in addition to the SWE component. This is not accounted for in Sen's analysis.[5] The reason for getting very large values for the number of years in Table 1 could be due to the influence of these factors on the residual. Thus to make a more rigorous comparison one must account for this factor. To obtain a country specific factor free residual a new methodology is suggested by Bhalla (1984 & 1986). We shall now draw our attention to this method.

Section 2

Bhalla's method.

To get rid of the effect of the country specific factor on the level-level equation Bhalla estimates a difference equation. In Bhalla's own words he says that "one method of purging the residual of the country specific factor is to estimate the difference model or the Change-change regression".

A brief outline of Bhalla's method is as follows. Assume the living standards is given by H_{it} (for country i at time t) are related to per capita income Y_{it} and other variable $\bar{Z}_{it}$ as follows.

$$H_{it} = f(Y_{it}, \bar{Z}_{it})$$

$\bar{Z}$ is a vector which represents all determinants of H other than Y. If a reduced form model rather than a structural model is estimated, then

$$H_{it} = \alpha_t + \beta Y_{it} + e_{it}, \text{ where } e_{it} \text{ is a function of } \bar{Z}_{it}.$$

Now e_{it} contains effects of all omitted varibles, and one of them is social welfare expenditure

$$\therefore H_{it} = \alpha_t + \beta Y_{it} + \delta E_{it} + U_{it} \text{ where } e_{it} = \delta E_{it} + U_{it}.$$

If the country specific factor (fixed effect = λ_i) which is assumed to be time invariant is incorporated then the modified form would be as follows.

$$H_{it} = \alpha_t + \beta Y_{it} + \delta E_{it} + \lambda_i + U''_{it}.$$

Now the residual $e_{it} = \delta E_{it} + \lambda_i + U''_{it}$.

Now in Sen's analysis we measure this residual (e_{it}) which contains the country specific factor. When we purge the residual from λ_i we get the **change-change** equation or the difference equation.

$$H_{i,\,t+1} - H_{i,\,t} = \alpha_{t+1} - \alpha_t + \beta(Y_{i,t+1} - Y_{i,\,t}) + \lambda_i - \lambda_i + U^*_t$$

$$\therefore \triangle H_t = \alpha_{t+1} - \alpha_t + \beta \triangle Y_t + U^*_t \text{ ——————— (c)}$$

$$\text{Where } U^*_t = \delta(E_{i,\,t+1} - E_{i,\,t}) + U''_{i,\,t+1} - U''_{i,\,t}$$

The log form of (c) would be

$$\triangle \text{Log } H^*_t = \alpha_{t+1} - \alpha_t + \beta \triangle \text{Log } Y_t + U^*_t$$

In general we could write this as

$$\triangle \text{Log } H_t = \alpha_T - \alpha_t + \beta \triangle \text{Log } Y_t + U^*_t \text{ ——————— (d)}$$

Clearly the residual is now independent of the country specific factor and includes only the difference in social welfare expenditure and the error term. Now a modified form of this equation (d) is obtained by incorporating the **initial conditions** of the countries in the constant term of this equation. This is done to account for exogenous factors which are not the same for all countries. For example, cheaper methods to eradicate Malaria may have no impact on a country that has already eradicated Malaria. Thus the modified equation that would reflect the diminishing impact of time for countries with better initial conditions is presented in the following form.

$$\triangle \text{Log } H_t = (\alpha_T - \alpha_t) \frac{1}{\text{Log } H_{i,\,t}} + \beta \triangle \text{Log } Y_t + U_t^* \text{ ——————— (e)}$$

By fitting the GDPpc data (from Table 2) and LE data (from World Development Reports) on equation (e) Bhalla shows that Sri Lanka's performance in relation to raising living standards from 1960 to 1978 was not exceptional. This fact is shown using both equation (e) and a logistic form of (e) for six Basic Needs indicators. The methodology used is to determine the outlier status of Sri Lanka using tolerance intervals. It is found that Sri Lanka is within the interval for most of the indicators chosen. Hence Sri Lanka is not seen as an exceptional performer for the period 1960 to 1978.

In fact by this method Bhalla is trying to solve a different problem to that of Sen - he is trying to indirectly evaluate the effect of the change in social welfare expenditure on the change in living standards for a period under consideration rather than the relationship between Sri Lanka's high living standards and high social welfare expenditure. This is an indirect method because SWE is not used as an explanatory variable, instead the residual is used to measure its impact. A modification of Sen's method would be to remove the country specific factor from the level-level equation residual without reducing it to a change-change (short run) equation. This is not an easy task, however, if we use the level-level equation to solve Bhalla's problem, that is to evaluate the social welfare expenditure impact on living standards for a short term period 1960 to 1978, then this can be done as illustrated in section 3.

Bhalla's frrst paper (1984) which was presented as a critique of Sen's analysis was based on a fundamental confusion he (Bhalla) made in regard to Sen's assumptions on the growth rate of the economy. The average per uses income growth rate in the absence of the 1960 to 1977 SWE that Sen uses is in no way related to a certain period of analysis, say 1960 to 1975 or 1978 (see Bhalla (1984), page 27, see also Appendix). Bhalla envisages that this growth rate should be combined with an equation that corresponds to that period (say 1960-78). This muddling up has led him to solve a different problem to that of Sen, as described above.

Putting aside this confusion we shall now analyse the extent to which his methodology is successful in assessing the effectiveness of the social welfare policies since 1960. Our intention here is to show that inspite of all the new statistical techniques used in this method there are many econometric flaws that makes the entire analysis redundant.[6]

Firstly, the residual term is autocorrelated as shown below and hence it would be of no use to assess the short term effectiveness of social welfare expenditure. The reason being that autocorrelation in U_t^* would make the OLS estimates not only biased but inconsistent in large samples. As a result

the residual would be different from the unbiased coefficient equation's residual.[7] (Further it must be noted here that the coefficients being biased impairs the power of D. W. statistics in tecting autocorrelation.)

$$U^*_t = \delta(E_{t+1} - Et) + (U''_{t+1} - U''_t)$$

$$\text{Now } \text{cov}(U^*_t\ U^*_{t-1}) = \Big\{ \Big[E\delta(E_{t+1} - E_t) + (U''_{t+1} - U''_t) \Big] \Big[\delta(E_t - E_{t-1}) + (U''_t - U''_{t-1}) \Big] \Big\}$$

$$\neq 0$$

Secondly, the introduction of time as an explicit variable or implicitly through the constant term in the **first differences** has the meaning that there is an autonomous growth in the dependent variable. The interpretation of time as a growth factor may be plausible in some cases, but not in others.[8] In many applications the coefficient of time represents in reality not any autonomous growth in the dependent variable but the joint effect of the factors which have been omitted from the function; trends are usually the expression of our ignorance of the true forces that determines the growth of dependent variable. Therefore the residual will not totally have the social welfare expenditure change variable.

Thirdly, when equation (e) was re-examined using LE and GDPpc data from Table 2 it was found that coefficient β to be insignificant at 5% level. (This result indicate that either Bhalla's LE data is different from World Development Report 1981 or that there were some errors in his computing technique).

$$\triangle \text{Log H} = 0.682 - 0.029\ \triangle \text{Log Y} \qquad \text{---(3)}$$
$$(24.669)\quad (-1.886)$$

$$\text{SSR} = 0.048,\ \text{SER} = 0.034,\ \bar{R}^2 = 0.19,\ \text{D.W.} = 2.22$$

$$\triangle \text{Log H} = \text{Log H}_{78} - \text{Log H}_{60},\quad \triangle \text{Log Y} = \text{Log Y}_{78} - \text{Log Y}_{60}$$

Thus whatever result one gets for outliers using tolerence intervals for such an equation would be meaningless.

Fourthly, the difference equation (d) itself does not hold for the given data set as shown below.

When we carry out a regression analysis for Bhalla's data sample for the difference equation (d) we get the following results.

$$\triangle \text{Log H} = 0.1702 - 0.0462\ \triangle \text{Log Y} \qquad \text{---(4)}$$
$$(32.111)\quad (-2.783)$$

$$\text{H} = \text{LE},\ \text{Y} = \text{GDPpc}.$$

$$\text{SSR} = 0.051,\ \text{SER} = \text{O}.035,\ \bar{R}^2 = 0.13,\ \text{D. W.} = 2.13.$$

Now Bhalla's difference equation (d) is a specific form of the general equation

$$\text{Log}\, H_T = a_0 + a_1 \text{Log}\, H_t + a_2 \text{Log}\, Y_T + a_3 \text{Log}\, Y_t \quad \text{——————} \quad (f)$$

where a_i, i = 0 to 3 are constant parameters; t and T are different time periods

when $a_1 = 1$ and $a_2 + a_3 = 0$ (f) will reduce to

$$\text{Log}\, H_T = a_0 + \text{Log}\, H_t + a_2 (\text{Log}\, Y_T - \text{Log}\, Y_t)$$

i.e. $$\triangle \text{Log}\, H_T = a_0 + a_2 \triangle \text{Log}\, Y_T \quad \text{——————————} \quad (d')$$

In other words equation (d') is a restricted form of equation (f). To check whether the restrictions hold, we carry out a "F" test. For this purpose we carry out a regression analysis for equation (f) using Bhalla's data from Table 2. We get the following equation.

$$\underset{}{\text{Log}H_{78}} = \underset{(3.569)}{0.587} + \underset{(-0.275)}{0.0062}\, \text{Log}Y_{90} + \underset{(1.121)}{00.026}\, \text{Log}Y_{78} + \underset{(17.419)}{0.863}\, \text{Log}H_{60} \quad \text{——} \quad (5)$$

SSR = 0.04324, SER = 0.0328, $\bar{R}^2 = 0.95$, D. W. = 2.146.

$$\text{Now } F = \frac{SSR_R - SSR_{UR}/r}{SSR_{UR}/n\text{-}k}$$

SSR_R = Sum of Squared residuals for the restricted equation, ie (4)

SSR_{UR} = Sum of Squared residuals for the unrestricted equation, ie (5)

r = number of restrictions

n-k = sample size - number of parameters of the unrestricted equation.

We have $SSR_R = 0.05194$, $SSR_{UR} = 0.04324$, r = 2, n-k = 44-4 = 40.

By substituting we get F = 4.226

From the Tables we have $F_{0\cdot05,2,40} = 3.23$

Clearly $F > F_{0\cdot05,2,40}$

$\therefore$ $a_1 = 1$ and $a_2 + a_3 = 0$ will not hold

$\therefore$ Equation (4) is invalid.

Fifthly, and most importantly, to obtain equation (d) from the level-level equations Bhalla assumes β to remain the same for both periods. There is no reason what-so-ever for this to be the case. In fact this could be shown by a simple 'F' test. Consider equation (f); if we assume $a_1 = 1$ and do a F test for the restriction $a_2 + a_3 = 1$ we find that this restriction does not hold. (The same could be shown for the modified form using equation (3) and a general equation of the type (f) with initial conditions incorporated). This clearly shows that there is a change is β with time. One only has to see equation (1) and (2) in Section 1 to observe this change in coefficient. A simple Chow test shows that the change in coefficient from 1960 to 1978 is significant.

The absurdity of equation (d) can be shown by a simple country comparative analysis too. For this purpose we select a sample of nine countries of which three followed an equity-based strategy (Sri Lanka, Tanzania and Egypt); three which followed a growth-based strategy (S. Korea, Taiwan and Brazil) and another three which performed quite poorly in terms or Basic Needs since 1960 - Ivory Coast, Zambia and Ethiopia. (see Stewart (1985) for case studies of these countries). Now we perform outlier tests for this sample of countries using equation (4). The results we obtain are striking.

Table 3

Country	*Forecasiing Interval*			*Actual value*	*Outlier Status*
Sri Lanka	0.20699	—	0.12893	0.10697	-
Tanzania	0.20790	—	0.12984	0.19416	W.I.
Egypt	0.19847	—	0.12040	0.16034	W.I.
Brazil	0.18756	—	0.10946	0.08408	-
Taiwan	0.16893	—	0.09072	0.11778	W.I.
S. Korea	0.17173	—	0.09354	0.15415	W.I.
Ivory Coast	0.20170	—	0.12364	0.21772	+
Zambia	0.22240	—	0.14433	0.18232	W.I.
Ethiopia	0.21404	—	0.13598	0.08004	-

W.I. = Within Interval.
The difference equation used is (4).

As shown in Table 3, Ivory coast is the only positive outlier while Sri Lanka, Brazil and Ethiopia are negative outliers. Tanzania, Egypt, S. Korea, Taiwan and Zambia performed in an average manner (here 't' tests were carried out to confirm the significance of the outlier status). Among the very poor performers only Ethiopia comes out as a negative outlier. A detailed study of Ivory Coast since 1960 clearly indicates that its performance was below that of an average LDC.[9] Further from the available statistics we know that Taiwan and S. Korea performed better than an average LDC.[10] Therefore these comparisons clearly show the misleading results that can be given from an incorrect equation.

To substantiate his results Bhalla compares the Kravis $ per capita incomes for Sri Lanka for 1978 and 1960. The large decline in the Kravis $ per capita income from 1960 to 1978 for Sri Lanka is observed as an indicator of its average performance in relation to Basic Needs for that period. This (see Table 2) too is not correct. One only has to observe the Kravis values for the three countries (chosen earlier) which performed poorly in terms of Basic Needs after 1960, namely, Ivory Coast, Zambia and Ethiopia. All three show an increase in the Kravis values for this period and in fact Ivory Coast has almost

doubled its Kravis values. This clearly indicates that one cannot make general-conclusions about a country's living standards by comparing Kravis values.

Thus we see that Bhalla's analysis is totally misleading. Whatever advanced statistical techniques he uses such as use of tolerance intervals, weighing for initial conditions or the use of logistic equations is of no use under the framework of analysis. Hence Bhalla's econometric analysis could be dismissed as a meaningless exercise.

Section 3

In this section a new and a simple method is introduced to evaluate Sri Lanka's achievements in living standards from 1960 to 1978. The methodology here is to use the level-level equations for both 1960 and 1978 and carry out an analysis such that the country specific factor is eliminated. This is achieved by finding the difference between the actual and predicted values of LE for Sri Lanka for 1978 (d_2) and for 1960 (d_1) and then estimating the difference between these differences. ($d_2 - d_1$). Further a comparative analysis is carried out in order to find Sri Lanka's relative performance. (By comparing Sri Lanka's ($d_2 - d_1$) value with the corresponding values for the country sample chosen in Section 2). The magnitude ($d_2 - d_1$) would indirectly indicate the effectiveness of either the direct approach or the indirect approach followed by the country concerned. However, there needs some caution in interpreting this magnitude ($d_2 - d_1$). Due to the very shape of the fit at the bottom end of the scale, poor performers can give positive values for ($d_2 - d_1$); which would imply that they were good performers. (see Stewart (1985)). In this context a large negative value (of d_1) becoming a small negative value (of d_2) should be interpreted with caution.[11] An illustration of this method is given below. The regressions used to construct Table 4 are equations (1) and (2) from Section 1.

1960; $\text{Log(LE)} = 3.04 + 0.157\ \text{Log(GDPpc)}$

1978; $\text{Log(LE)} = 3.139 + 0.156\ \text{Log(GDPpc)}$

The general equation from Section 2 is,

$$H_{it} = \alpha_t + \beta Y_{it} + \delta E_{it} + \lambda_i + U_{it}$$

If $D(oL)_{i,t}$ represents the Distance between the predicted and the actual value of H_{it}, then we get the following

$$D(OL)_{i,78} = d_2 = H_{i,78} - \hat{H}_{i,78} \text{————} (i)$$

$$D(OL)_{i,60} = d_1 = H_{i,60} - \hat{H}_{i,60} \text{————} (ii)$$

H_{it} = actual value

$\hat{H}_{it}$ predicted value

(i) —(ii) gives $\triangle D(OL)_{i,T} = d_1 - d_2 = \triangle H_{i,T} - \triangle \hat{H}_{i,T}$; T = A general suffi

Now $\hat{H}_{i,78} = \alpha_{78} + \beta' Y_{i,78} + \delta' E_{i,78} + \lambda_i + U_{i,78}$

$\hat{H}_{i,60} = \alpha_{60} + \beta'' Y_{i,60} + \delta'' E_{i,60} + \lambda_i + U_{i,60}$

$\therefore \quad \triangle \hat{H}_{i,T} = \alpha_{78} - \alpha_{60} + \beta' Y_{i,78} - \beta'' Y_{i,60} + \delta' E_{i,78} - \delta'' E_{i,60} + U_{i,78} - U_{i,60}$

Clearly $\triangle \hat{H}_{i,T}$ is independent of the country specific factor λ_i. Since $\triangle H_{i,T}$ is a constant for a given country and for a given time period,

$\therefore \triangle D(OL)_{t,T} = (d_2 - d_1)$ would be free from the Country Specific factor.

Table 4

Country	1960 *Forecasting interval* 1978		1960 *actual Value* 1978
Sri Lanka	4.14546	—	3.83459	4.23411
	3.98295	—	3.64251	4.12713
Tanzania	3.99471	—	3.68195	3.93183
	3.83600	—	3.49419	3.73767
Egypt	4.18272	—	3.87127	3.98898
	3.99097	—	3.65048	3.82864
Brazil	4.28726	—	3.97205	4.12713
	4.05659	—	3.71525	4.04305
Ivory Coast	4.17650	—	3.86517	3.82864
	3.99579	—	3.65527	3.61092
Zambia	4.14615	—	3.83528	3.87120
	4.03585	—	3.69485	3.6888
Taiwan	4.27353	—	3.95899	4.27667
	3.97983	—	3.63940	4.15888
S. Korea	4.26802	—	3.95374	4.14313
	3.98397	—	3.64353	3.98898
Ethiopia	3.93942	—	3.62420	3.66356
	3.80101	—	3.45824	3.58352

Country	*Difference between actual value and predicted value 1978 (d_2)*	*Difference between actual value and predicted value 1960 (d_1)*	*change in magnitude (d_2-d_1)*
Sri Lanka	0.24408	0.31441	—0.07
Tanzania	0.09349	0.07257	
Egypt	—0.03801	0.00791	
Brazil	—0.00252	0.15713	
Ivory Coast	—0.19219	—0.21461	
Zambia	—0.11952	—0.17648	
Taiwan	0.16041	0.34927	—0.18
S. Korea	0.03226	0.17524	—0.14
Ethiopia	—0.11825	—0.04610	

Table 4 clearly indicates that there has been a decline in Sri Lanka's outlier position in 1978 compared to the outlier position in 1960. (The result is consistent with Bhalla's conclusion, however, this does not by any means justify his methodology).

Table 5 :

Sri Lanka's Basic Needs performance

Basic Needs Indicator	**1946**	**1953**	**1963**	**1973**	1978
Adult literacy (%)	58	65	72	78	85*
School enrollment (% ages 5-14)	41	58	65	86	100*
Life expectancy (years)	43	56	63	66	69
Infant mortality (per 1000)	141	71	56	46	37
Death rate (per 1000)	19.8	10.7	8.6	7.7	6.6
Birthsate per 1000)	37.4	38.7	34.3	27.9	28.5

Source : Isenman (1980) and Statistics Dept, CBC—1984
* figures for 1980

The data on Table 5 would help us to understand this result. Clearly the fall in infant mortality and death rate and the increase in life expectancy has been less sharp over the 1963-1973 and 1973-78 periods than in the 1953-1963 period or the period before that since 1946. However, it is also interesting to note that the social welfare programmes have also been going through ups and downs and some retreat after the early sixties (see Table 6). The percentage of GNP publicly expended on health fell from 2.4 in 1960-61 to 1.7 in 1977, and that of education from 4.8 in 1960-61 to 3.3 in 1977. The total percentage of social welfare expenditure (including food subsidies) in GNP went down

rather drastically from 11.8 in 1960-61 to 8.7 in 1977. Besides in the period 1970-77 there were a series of events beyond the government's control such as a serious drought in the early seventies, insurgency in 1971, the oil price hike in 1973, the deterioration of terms of trade in 1970-75 pcriod and the low level of foreign asssistance. These factors contributed to distort the welfare side of the economy to a great extent. Therefore the result we obtain is consistent with Sri Lanka's social welfare expenditure and the economic circumstances over this period.[12] An interesting point to observe here is that neither has this magnitude (d_2-d_1) of S. Korea, Taiwan and Brazil (countries which followed growth-based strategies) improved over this period (Table 4). In fact the decline of this magnitude of the above mentioned three countries is much more than that for Sri Lanka. **Thus we cannot by any-means say anything about the excessiveness of Sri Lanka's equity-based strategy or that there were diminishing returns from Sri Lanka's social, welfare programmes after 1960 onwards.**

Table 6 : GOVERNMENT EXPENDITURE AS A PERCENTAGE OF GNP

Category	1951/52	1956/57	1961/62	1966/67	1973	1977	1978	1980
1. Social Services	6.0	6.6	7.9	7.4	6.5	5.5	5.4	5.6
Education	—	3.6	4.8	4.4	4.0	3.3	2.8	3.0
Health	—	2.4	2.4	2.3	2.0	1.7	1.7	2.2
2. Economic Services	8.0	4.7	5.8	5.2	3.9	3.4	3.8	5.1
Agriculture and Irrigation	—	2.9	3.4	1.9	1.6	1.5	1.2	1.9
3. Transfer Payments	8.5	5.5	7.8	13.9	15.4	13.8	22.6	22.5
Food Subsidies	5.5	1.0	3.6	5.6	4.6	3.6	5.4	0.5
Total	25.7	24.5	28.5	30.4	31.3	28.4	44.0	46.2

Source : Bhalla (1986)

This approach too is an indirect approach like the previous two methods- The results we obtain from such an approach are always doubtful and debatable. The best method to assess the impact of social welfare programmes on Basic Needs indicators is to adopt a direct appraoch, that is to do a time series analysis (from 1960 to 1978) for Sri Lanka using SWE as an additional explantory variable to the level-level equation used earlier. But this is not possible due to the lack of SWE data for all the years in the period under consideration. Now cross sectional data on SWE is available for certain countries and for certain years.[13] But a cross sectional regression analysis with SWE as an explanatory variable would not give us any insights in to the effectiveness of Sri Lanka's SWE. It may only indicate whether SWE is a significant explanatory variable of the Basic Needs indicators for a selected country sample. An analysis of this kind undertaken by the author showed that for some country samples SWE comes out

as a significant explanatory variable, where-as for some other country samples it shows out to be an insignificant variable.[14] The reason for not getting a strong relationship between LE and SWE in some of the regressions and the general intricacies of econometric methods used so far in such analysis could be explained along the following lines.

Firstly, the variables for which statistics are available are aggregates. These aggregates can conceal important aspects; one aspect that gets concealed with aggregation is the distribution of goods and services. Clearly, for example the impact of food on LE will be heavily influenced by its distribution. Another element that is concealed is the precise nature of the good, or service: for example health expenditure includes doctors and nurses, hospitals and medicines, curative and preventive medicine. The same aggregate figure could involve different proportions of these elements, as well as different distribution as between urban and rural areas, rich and poor. As the research progresses, there is a tendency to break the aggregates down into more relevent items, (just as Basic Needs approach itself may be viewed as a breakdown of aggregate income into finer and more relevent categories), but we are still at a very early stage in this respect, and the non-availability of statistics limits greater break down.

Secondly, there are complementarity and substitution relations between many of the variables, such that there is unlikely to be any simple relationship between SWE and Basic Needs achievements. The relationship will depend then on the presence (or absence) of other variables being considered. An instance is food supply. An increase in food supply *per se* could be totally ineffective if the poor had no money with which to buy the extra food, or if there were no way of transporting the food to where it was needed. In some situations, improved methods of food conservation would be far more effective than increased supply, but in other situations the opposite might apply. There may be no general relationship between particular variables across countries because of these complementarities / substitutions; and also because the same set of variables may have different effects according to social/political economie milieu.

Thirdly, the difficulty in identifying the full-life indicator to be used as a criterion of success. I have used LE at birth as an indicator of Basic Needs achievements. This approach is shared by some[15], but others[16] adopt multidimensional indicators, encompassing some non-material aspects, thus greatly complicating (but also enriching) the results. Thus the use of single indicator has the considerable advantage of simplicity. But it means non-material aspects have to be considered separately, while at higher income levels the LE indicator may be too simple sufficiently to measure the material aspects. However, where more complex and multidimensional indicators are used, the meaning of any results depends on the nature of the output indicator, so that for interpretation one has to get back to relationships with simple indicators.

Fourthly, non-linearities are probable: for example a certain amount of food is required for health, but beyond that more may actually reduce health. In other cases, there may be sharply diminishing returns to a particular variable, or a need for a change in the type of approach adopted. For example, the balance between preventive and curative medicine and the effects of each seem to change sharply as development proceeds.

Fifthly, many of the variables move together- in particular most of the social variables increase as income increases. Hence simple correlation analysis is unlikely to capture the true relationships. Multicollinearity among the variables reduces the value of multiple correlation analysis. Some sort of an analysis of deviations (i.e.relating deviations from performance on the variables to deviation from the predicted Basic Needs performance) is there fore most likely to capture the presence of significant relationships. But such an analysis is heavily dependent on the normal relationship adopted since deviations are measured as the difference between actual performance and normal.

These factors cannot be accounted for in the econometric studies. Hence comparative micro studies are likely to shed more light on some of the relation ships than cross country aggregate studies.

Section 4.

Microeconomic study of Sri Lanka's Social welfare programmes.

So far we had attempted to evaluate the effectiveness of Sri Lanka's SWPs via econometric relations. Based on simple assumptions Sen's analysis leads to the conclusion that Sri Lanka 's high living standards are due to its SWE and his analysis shows how much a country could achieve in a short period via an equity-based strategy. Although we have dismissed Bhalla's econometrics and shown comparative evidence in favour of Sri Lanka's performance since 1960, we have yet to investigate what impact a growth-based strategy would have on Sri Lanka's Basic Needs indicators. The post-1977 period provides a rich arena to study the effects of such a strategy. But before going into the post-1977 period we shall summarise the social welfare policies under the equity-based strategy of the pre-1977 era and their impact on certain economic indicators.

Part 1.

(*a*) *The food subsidy programme*

A food rationing programme which included rice rations and substantial rice subsidies was introduced in 1942. In the forties roughly 20% of the government's current expenditure was on food subsidies. The available statistics for certain years would permit us to make the following observations. About 14% of income of low income earners (income below Rs.400 per month)

amounted to food subsidies in 1973, about 20% of calorific intake of such low income families were provided by the ration in 1969-70. Only about 5% of the population had calorific intakes below 1700 calories a day. In contrast in Bangladesh, 25% of the population consumed less than 1700 calories a day. The significance of the rice ration for the nutrition and mortality was indicated by the effects of the cuts in 1974 when the death rate increased from 7.7 to 8.9 per 10000.[17]

Agricultural production normally tends to go down as a result of food subsidies as it (food subsidies) is not an incentive for farmers for increasing production. But this did not happen in Sri Lanka due to the timely measures taken by the government; in particular in 1960, rising the price of rice and subsidising the inputs like fertilizer provided an adequate incentive. Further the worsening balance of payment put pressure on the government to increase the domestic food production.[18] However, a minor disincentive effect worked on the minor cereal crops, where there was no price support system. In fact the growth of agricultural production in Sri Lanka was 3.0% per annum from 1960-70 compared to 2.5% per annum for low income countries as a whole[19].

(*b*) *Education*[20]

Compulsory primary education was introduced in 1901. Enrolment in government schools increased from 216,067 (39% of total enrolment) in 1931 to) 378,861 (44%) in 1945 and the number of government schools almost doubled from 1341 to 2391 over this period. Due to the inability of some private schools to pay their teachers during depression, the state also took on the direct payment of the school teachers. High expenditure and high enrolment rates at all levels of education contributed to raising adult literacy from 58% in 1946 to 78% in 1971[21]. The open access to education also contributed to social and economic mobility and, thus, to a weakening of the political and economic power of the traditional landed elite. In fact the education system appears to have contributed to the country's health, fertility reduction and agriculture (see Isenman, Linkages among Basic Needs indicators).

(*c*) *Health*

The foundation of todays western medical care system and its basic structure was laid out in the pre 1931 period. Medical treatment was provided free, subject to an income limit, in all hospitals, clinics and dispensaries, but the income limit was rarely enforced as there was no adequate machinery for investigation of income. A Malaria eradication programme was introduced in the mid thirtees and the crude death rate fell from being around 20 or 21 per thousand in the mid forties to the internationally respectable figure of 8.6 by 1960.[22] During the decade of the early thirties, there was an increase in the number of health institutions, hospital beds and health personnel provided throughout the country[23]. In the early forties there was a move

away from the ambulatory curative care provided by central dispensaries towards more comprehensive treatment provided in hospitals and by 1950 the number of hospitals had virtually doubled and the bed strength had increased by about 9000. At present more than two thirds of the births take place in maternity clinics. Sri Lanka had both extensive coverage of population through primary health care facilities staffed by para-medical workers and a strong back-up 'referral' system of clinics and hospitals manned by both physicans and para-medical workers. The need for the former has been neglected too often in most other LDCs.

(*d*) *Income distribution*

Primary income distribution in Sri Lanka (before allowing for taxes and subsidies) was not especially equal in 1963, with a Gini coefficient of 0.49, but over the next ten years although economic growth was slow (2% per annum) it was egalitarian so that the incomes of the bottom 60% rose by 4.6% per annum and the Gini coefficient fell to 0.40.

The food subsidy programme had a significant equalising influence on incomes. Although these programmes extended to the rich as well as the poor, they had the greatest proportionate significance for the poor, the post tax and post subsidy distribution must have been significantly more equal than the primary distribution. Thus social programmes substituted to a great extent for a more radical redistribution of assets and incomes which some economists have hypothesised to be essential to meet Basic Needs in low income countries. Food subsidies also have the effect of improving the nutrition of the poorer section of the population. This is partly because it is an income supplement, but also because offering income supplement in the form of food does typically have the effect of increasing food consumption rather more than the same amount offered through direct income grants. This effect has been particularly studied in the case of Kerala state in India[14]. (One would expect such an effect on theoratical grounds as well, since the subsidy on food changes relative prices adding a substitution effect to the income effect, and also because transaction costs would push the consumer in that direction).

The egalitarian nature of Sri Lanka's economic growth between 1963 and 1973 was such that while Sri Lanka ranks bottom in GDP growth among a group of thirteen countries, it comes fifth in growth of incomes of the bottom 60% with a growth of twice as much as Peru, Brazil, Philipines and India, each of whose overall growth rate was above that of Sri Lanka. As far as meeting Basic Needs is concerned, it is the growth in income of the bottom 60% rather than the aggregate growth which is more relevent. (Also see, comparison of relative equalities of income distribution using Lorenz and Borda method - Sen (1981)).

The post 1977 period.

part 2 a.

In 1977 there was a marked turning away from SWPs. The main focus of reforms was dismantling the extensive subsidies. While in 1977, food subsidies amounted to nearly 24% of governments revenue, the proportion was almost halved in 1980 and the estimate for 1984 is merely 4%. (see Table 8) Total expenditure on food subsidies alone fell from 6% of GDP in 1979 to 1.3% of GDP in 1984. The food subsidy was withdrawn from almost half the population as a part of the initial policy package in 1978. This was subsequently replaced by a non-indexed Food and Kerosene stamps scheme in 1979. Further under this scheme the subsidised prices of all food articles were abolished and replaced by full cost pricing.

Table 8

Food Subsidies as a percentage of Government Revenue and Expenditure.

	1948	1950	1960	1970	1975	1980	1981	1984
Government revenue	12.9	5.2	13.7	12.0	24.2	12.9	7.9	4.0
Government Expd.	11.7	4.1	10.6	8.9	17.1	6.4	4.0	2.9

Source : Central Bank of Ceylon.

Net Food Subsidies and Food Stamps, and Kerosene Stamps Expenditure as a percentage of GDP.

1978	1979	1980	1981	1982	1983	1984
5.0	6.0	3.0	3.0	2.0	1.6	1.3

Source : Central Bank of Ceylon.

The intention here was to induce twin effects: firstly, safeguarding consumption standards of the poorest sections of the population and secondly, expanding employment and income generating opportunities through higher farm gate prices. The effects of these actions came to be felt in the early eighties. They did not turn out to be in accord with expectations. When the producer's price was raised, the immediate direct result was the gain to large farmers with a marketable surplus. The small farmers, whose output is niether entirely or substantially consumed by his own household, did not gain anything from the higher prices. Further since supply response to higher prices takes time, the only gainer was the large farmer. (Even when supply responds to higher producer prices the small farmer is still not much of a beneficiary). Second order effects of increased employment induced by higher labour demand in agriculture may have materialised as a part of the supply response to higher farmgate prices. However, a large number of agricultural workers were faced with an erosion in their purchasing power,

which was not compensated either by the non-indexed food stamps scheme or the second order effects of expanded employment and incomes. This was the scenario that developed in Sri Lanka in the early eighties.

The urban poor was also in equal distress. To the extent that their wage incomes were not fully insulated from the effect of the rise in prices, their real purchasing power was adversely affected. Primary income share of the lowest 49% of income receivers was reduced from 15.1% in 1973 to 12.3% in 1978. Between 1978 and 1982 real wages of workers in agriculture, commerce, services and industry fell by significant amounts[25]. (The data on the decline in real wages is understated since realwages are nothing but nominal wages deflated by Colombo Consumer Price Index; the situation would be worse had we deflated the nominal wages by the Central Bank of Ceylon Cost of Living Index, which appears to be a more accurate indicator of price increase). Data on wages show that incomes of these sections of employees did not keep pace with inflation during this period. All categories of employees in urban as well as rural sections suffered real wage declines in 1980 and 1981. There has been some improvement in 1982-84 for some sections, though clerical and skill employees of the government as well as workers in industry, commerce and services never recovered their 1978 wage level. By 1980, increasing reliance on indirect taxes had virtually halved tax incidence of the rich, while substantially increasing the burden on the middle classes. Even for those with eligibility for food stamps, their purcnasing power had fallen with price increases in rice, flour and sugar.

Part 2 b.

Form part 2a we could infer that subsequent to policy changes in 1977, a combination of only limited growth in earnings among the poor coupled with real income losses due to inflation and reduction in food subsidies resulted in an overall decline in the levels consumption of the poorer sections of the population. However, in section 4 (Bhalla 1986) under 'Inequality and poverty' Bhalla addresses the question, 'what did the poor, and the overall population gain to compensate them from the loss of government transfers?' and his final analysis points to the fact that the poor did not lose as a result of these transfers. He says that, income data shows a sharp increase in inequality from 1978/79 to 1980/81 and 1981/82, but the expenditure data from 1980/81 suggests that expenditure inequality was no worse than in 1969/70 or in 1973. He further states that the general pattern suggests that food consumption held steady during the years immediately after economic reforms, and more importantly, following the reduction, or withdrawal, of food subsidies. Although a rigorous analysis of the calorie intake of the botton 30-40% expenditure classes has not been made in this paper the facts presented in part 2a indicates that Bhalla's conclusions are far from reality. In fact Anand and Harris (1985) provides clear evidence against Bhalla's

clusions in a comprehensive analysis of Sri Lanka's Consumer Finance Survey Data.[26] By using two different poverty lines they find an increase in rural sector poverty from 1978/79 to 1981/82. Here All Island Poverty lines have been specified in terms of per capita monthly food expenditure, at Rs. 70 and Rs 60 in 1978/79 prices. Their results on poverty are consistent with changes in aggregate food consumption per capita. A worsening in the share of the bottom deciles of the rural sector in the rural food consumption is observed and the magnitude of this decline in average food consumption is found to be 6.3% for the lowest decile and 1.1% for the second lowest decile.

In regard to Employment although the Consumer Finance Surveys of 1978/79 and 1981/82 are not comparable[27] and accurate figures on the whole country's employment situation are not available there is no doubt that there has been an increase in employment since 1977. However, this increase has to be seen in the context of

(1) Emigration of nearly 200,000 workers to the Gulf since 1977;

(2) Repatriation of 337,000 persons of Indian origin from the estate sector to India;

(3) Demographic factors leading to a slight aging of the population[28].

The impact of these factors will be to reduce the participation rates and hence of labour force. Viewed against this background, the increase in employment creation seems to be of modest proportions. This in turn, further supports the findings about the erosion of purchasing power in the lower deciles and above all, the failure to generate the warranted twin effects.

In addition to the cuts on the food subsidies, expenditure on health, and education was curtailed. Current expenditure on these programmes fell from 21% of total government expenditure in 1977 to 11% in 1980[29]. As a result of cutting down subsidies and shifting away from Basic Needs emphasis there are already indication of some decline in Basic Needs indicators. The estimated LE fell between 1977 and 1980[30], while in other low income countries there were large improvements during these years; malnutrition rose significantly[31]. The number of doctors per person fell, so has the number of central dispensaries[32].

The following are the latest avavilable figures for Basic Needs indicators; ycar = 1983

Adult literacy (%)	85
Schooll enrollment (Primary)	103
Life expectancy (years)	69
Infant mortality (per 1000)	37
Death rate (pep 1000)	6
Birth rate (per 1000)	27

Source: World Development Reports, 1980-85.

Compare the above figures with that of 1978 in Table 5 to see the poor performence of Basic Needs indicators after 1978.

Comparison of the Sri Lankan experience with some country experiences.

In order to obtain a basic frame of reference to analyse Sri Lanka's post 1977 era certain country experience (especially the exceptional performers) in relation to Basic Needs would be useful. It would be useful in two respects, firstly in giving some indication at a broad level, of the type of political and economic framework that tend to be successful and those that tend to be unsuccessful; secondly, in permitting rather detailed analysis of particular variables (eg: Public expenditure) that tend to be associated with good performance. Among the good performers it is possible to pick three major types.

1. Socialist countries - this category includes China, Cuba, Albania and Mongolia. These countries have succeeded, in relation to Basic Needs, by planning production to meet Basic Needs, by egalitarian income distribution and by rationing/allocating Basic Needs - goods to reach all the people, irrepective of income. Education tends to receive high priority in such countries partly for political reasons.

2. Market-oriented mainly capitalist countries, with rapid labour absorbing growth. This category includes Hong Kong, South Korea, Singapore and Taiwan. These countries have succeeded in Basic Needs primarily through raising the incomes of the poor, as a result of labour-absorbing growth. Whereas the primary emphasis among the socialist countries tends to be on planning production (and consumption), among these countries production has been broadly left to the market to adapt to the demands generated by the economic growth process. In the planning frameworks of these countries the income have been the 'moving' sector, with production adapting.

3. The third category are the mixed economies, which have succeeded in Basic Needs by welfare state-type government interventions as in Sri Lanka (Jamaica and Costa Rica fit broadly in to this category). Here the government provision of health and education services, plus extensive rice subsidies have ensured high achievements in Basic Needs despite very low income levels. In this case, secondary transfers and government expenditure provided the main impetus, not the income levels generated by the economic process (the primary income distribution), not production planning.

In the post-1977 era the East Asian success model was emulated (particularly Singapore) in formulating the development strategy in Sri Lanka and therefore a comparison of its post-1977 experience with the 2nd category above would be worthwhile.

Firstly in the capitalist success economies the success of food production sector ensured that the rises in food prices did not exceed the rise in real incomes of the poor. This did not happen in Sri Lanka; although the income had been 'moving' as in the capitalist success economies-the production sector was not adapting. The service sector was growing more rapidly than the production sector and the movement of income was not uniform among the populace[33]. As mentioned earlier for the lower strata of the population there was no increase in real income although the nominal income increased. For the fixed income wage earning government employees there was no income gain at all. In fact their previous (pre 1977)purchasing power was considerably eroded.

Secondly in the capitalist success economies the low value of capital output ratio related to the investment pattern made the accumulation of capital unusually effective and thereby induced growth in the industrial sector. In contrast Sri Lanka had a very high capital output ratio which worked against capital accumulation[34]. The share of value added accruing to the manufacturing sector declined from 14.6% in 1978 to 13.8% in 1984. In the East Asian success stories the process of structural change was initially manifested in the larger growth of the industrial sector resluting in a rise in its share in the GDP. This did not happen in Sri Lanka in the post-1977 period.

Thirdly in Taiwan and South Korea the expansion of export industries led to an employment oriented fast growth which ultimately led to income enhancement and income distribution. In contrast Sri Lanka's export expansion was slow and much of the employment came from the service sector and public investement programmes. Further the expansion of these investment programmes were curtailed by the early eighties due to the government's weak revenue performance. Thus an employment oriented fast growth could not be achieved.

While these were the major differences there remained many other specific policy differences. Now learning from the experience of the capitalist success stories need not necessarily take the form of seeing virtues in export expansion. To what extent fast growth is possible with export industries taking the lead, is a question that can be answered for any particular country only with reference to its domestic and external circumstances.

Those who implicitly claim that living standards would have enhanced had Sri Lanka forgone the SWPs for a growth-based strategy after 1960 would need to make heroic assumptions in regard to the induced acceleration of

policy reforms, elasticity of supply response for export incentives, domestic political situation and external circumstances. In fact many countries (other than the capitalist success stories) that followed growth-based strategies since early 60's have so far not been able to achieve the living standards of Sri Lanka inspite of achieving high income levels. A brief look at some country experience would highlight this fact. Libiya, Iran and Saudi Arabia all of which followed a growth-based strategy have not produced high Basic Needs indicators as that of Sri Lanka in 1977. The main reason for this is that the income tends to be concentrated in these countries while public expenditure is primarily directed towards the upper income groups. Nigeria is an example where a growth-based industrialization produced an inequalitarian income distribution and failed to meet the Basic Needs of the poor. Even agricultural growth may not extend its benefits for the most deprived; Ivory Cost provides an example of economic growth based on both agriculture and industry with more emphasis on agriculture. Its performance in terms of social welfare clearly indicates that the strategy did not make a significant impact on Basic Needs indicators. (see Stewart).

Therefore we see that, while a growth-based strategy could alleviate Basic Needs indicators under a certain framework of policies as in the case of the capitalist success economies there are many cases where it has totally failed to make an impact on Basic Needs indicators. The same applies to the possibility of delivering provisions through SWPs. For eg. the per capita availability of food in Sri Lanka (uptill 1978) was not significantly different from that of low income countries (WDR 1979, page 168). Indeed according to some estimates (WDR 1979, Table 2, also Richards and Gooneratne (1980) page s 10 & 11) the calorie per head and the propotion of the averag daily calorie requirment met by average availability of food are virtually the same for Sri Lanka as for the low income countries taken together. The relative absence of under-nourishment and the high longevity in Sri Lanka compared with conditions in other poor countries is the consequence of a better delivery system towards specific goals which was it self a part of the Sri Lanka's SWPs. Thus lessons to be drawn from success stories have to concentrate on understanding the functional roles of various policy instruments rather than on proposing blind imitation of the instruments themselves[35]. This is because the way of achieving widespread living standards differ, and while different economic strategies have things in common both in terms of ultimate consequences as well as in underlying causation, the precise combination of instruments and policies varies tremendously with the conditions in the different economies.

The failure to bring about a proper combination of the instruments and policies in the post-1977 period was the main cause for the existing trend in Basic Needs indicators. In fact the post 1977 experience of Sri Lanka illustrates the vulnerability of Basic Needs programmes which are heavily reliant on government intervention, as compared with Basic Needs achievements

which are a more intrinsic aspect of the economic system, as in Cuba and Taiwan. The problem is not that the government cannot finance such programmes. One only has to look at Sri Lanka's public expenditure - which was modest-13% of the GDP went to public consumption in 1960 and by 1977 this dropped to 10%, the former being a bit higher and the latter a bit lower than among low income countries on average. Nor is it the case that this approach to Basic Needs be at the expense of economic growth (Cuba is an example where the GNPpc growth rate was 4% per annum (1960-78 average) inspite of high levels of SWE). With a fairly low level of GDP going to public consumption, it is hard to believe that investment would be adversely affected.

Those who argue in favour of a growth-based strategy claims that the rate of domestic investment in Sri Lanka during the 1960 to 1977 period was lower than an average LDC. But this was not an outcome of government policy towards maintaining SWPs. This low value was mainly due to the decrease in foreign aid and foreign investment. It is interesting to note however, that Sri Lanka's ratio of gross domestic savings was comparable to that of average LDCs - 11% in 1960 compared to 11% in average LDCs and 20% in 1977 compared to 18% in average LDCs. It is therefore by no mean obvious that a reduction in SWE would have raised Sri Lanka's saving rate.

The share of GDP going to SWE was severly cut down by the post 1977 policy makers because they were of the view that consumer subsidies discouraged production and thereby discouraged investment. This is not so **in fact consumer subsidies can be designed to encourage, discourage or be neutral, vis-a-vis production.** Richards and Gooneratne's (ILO, 1980) research finds no evidence that the net effect of government subsidies on consumption and production was to discourage production[36]. The growth in agricultural production being 3.0% per annum from 1960-70 compared to 2.5% in low income countries as a whole and the average growth rate of GNPpc during 1960-78 being 2% per annum which was above that of an average LDC further substantiate the above finding.

The above microeconomic study illustrates what econometric relations fails to highlight. It exemplifies how much that can be achieved by a determined effort towards social welfare, sensibly directed towards specific goals. So if we are to cast light on a general hypothesis in regard to Sri Lanka's Basic Needs we could say that largely because of SWPs Sri Lanka has the best Basic Needs indicators compared to its income and compared to other LDCs. As far as Sri Lanka's performance since 1960 is concerned there is no evidence to state that, 1) SWPs were not particularly effective, 2) the appropriate strategy after 1960 should have been a growth-based strategy. Further the study of post-1977 period suggests that the benefits of economic growth have not trickled down to the poor and that there has not been an overall improvement in the living standards of the population.

CONCLUSION.

This paper has highlighted the effectiveness of the two different approaches (direct and indirect or welfare-based and growth-based) towards social welfare in Sri Lanka as implied in Sen's (1981) and Bhalla's (1984 and 1986) methodologies of assessing Sri Lanka's social welfare programmes. The paper has strongly emphasised the intricacies of econometric methods and the need for microeconomic studies when measuring the effectiveness of the two different approaches towards social welfare. We have argued that due to the effectiveness of the direct approach Sri Lanka was able to attain the best living standards among developing countries, there-by stengthening the conventional wisdom in relation to Sri Lanka's living standards put forward by Isenman (1980) and Sen (1981). Our investigation of Bhalla's analysis reveals that his methodology is defective and therefore his results are not meaningful from an econometric point of view. In particular, it was found that the premises on which his difference model is based is not supported by econometric theory. Moreover, there is no microeconomic evidence which according to Bhalla would suggest that commitment towards equity had become excessive in the 1960 - 1978 period. While econometric evidence here shows that Sri Lanka was not an exceptional performer after 1960, comparative analysis reveals that its performance was better than that of those countries which were considered to have successfully followed an indirect approach. Besides there is no evidence to suggest that an indirect approach after 1960 (or after the mid sixties) would have been welfare wise more rewarding than the direct appraoch followed. It has further been shown that the experience of the post-1977 period does not provide any evidence which supports the effectiveness of the indirect approach as claimed by Bhalla. The paper has shown that during this period there were no significant changes in the living standards of the poor and the Basic Needs indicators in general. In actual fact a declining trend is observed in both cases in the period under study.

APPENDIX

Sen (1981) obtains the 58 years in row 3 of Table 1 in the following way.

From Sen (1981), page 303 we have,

$$(GNPpc)_B = US\$\ 2{,}684, \quad (GNPpc)_A = US\ \$130$$
$$1 + X_{60-77} = 1.0537$$

By substituting these values in equation (b) we get t = 58. Thus t = 58 is the number of years needed from **1975** to match the Social Welfare achievements of **1975** through the growth of income (X_{60-77} = Average growth rate of 1960-77 in the absence of that period's Social Welfare Expenditure) from1975.

For the comparison I have made using equatio (2) the methodology used is as follows:

Since we are using the average growth rate of 1960-78 in the absence of Social Welfare Expenditure (here I assume that $X_{60-78} = X_{60-77}$) it would make more sense if we rewrite equation (a) in the following way:

$$(GDPpc)_B = (GDPpc)_{1960} (1 + X_{60-78})^t$$

$$= (GDPpc)_{1960} (1 + X_{60-78})^{18+T} \quad \text{where } t = 18 + T$$

$$= (GDPpc)^{Expected}_{1978} (1 + X_{60-78})^T \text{ ——————(C).}$$

Here $(GDPpc)^{Expected}_{1978}$ is the (GDPpc) that we could have expected in 1978 had the equity-based strategy of 1960-78 was sactificed for an extreme growth - based strategy.

$$\text{Now } (GDPpc)^{Expected}_{1978} = 152 (1.0537)^{18} = 389.72 \text{ US\$.}$$

(If Sen's method was used we would have used 226 US$ (the actual value of GDPpc of 1978, from Table 2) for the first term in the right-hand side of equation (c)).

Now from equation (2)

$$\text{Log } (69) = 3.139 + 0.156 \text{ Log } (GDPpc)_B$$

$$\therefore (GDPpc)_B = 118.69 \text{ US\$}$$

By substituting in (c) we get T = 20.

Here T = 20 is the number of years needed from **1978** to match the Social Welfare achievements of **1978** through the growth of income (X_{60-78} = Average growth rate of 1960-78 in the absence of that period's Social Welfare Expenditure) from **1960**.

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FOOTNOTES

1. Our intention here is to show that Sri Lanka is an exception among LDCs that have income levels close to that of Sri Lanka rather than try to show that it is an exception among an arbitrary set of countries.

2. Since 1978 is close to 1975 we assume here that the figures are roughly comparable.

3. See Sen (1986).

4. See Isenman (1980).

5. Bhalla (1986) uses the term initial conditions for both country specific factors and technological advantage factors. According to his definition technological advantage is itself a country specific factor. However, for the purpose of clarity I shall make a distinction between country specific factors and technological advantage factors. I shall define Climate Diet, Ecological conditions and other Natural endowments as country specific factors (or rather as existing conditions) and technological advantage factors (e.g. A Malaria Eradication Programme) as initial conditions. If this definition is followed then in Sen's analysis the country specific factors are not accounted for, but the **initial conditions are accounted for** as his (Sen's) analysis is for **levels** and not for **changes** in living standards.

6. The logistic equation used by Bhalla is intuitively appealing. However since it gives more favourable results for Sri Lanka's performance than the Log-Log form (Bhalla (86), page 23) it would be appropriate to concentrate on the equation which gives the worst results for Sri Lanka. Thus we concentrate only on the Log-Log form.

7. See Koutsoyiannis, Chapter on Lagged Variables.

8. See Koutsoyiannis, page 208.

9. See Stewart (1985).

10. See Stewart (1985).

11. In particular, for Ivory Coast and Zambia $(d_2 - d_1)$ comes out to be positive. This should be interpreted in the context of $d_1 < o$ and $d_2 < o$. One way to overcome this problem is to use Logistic equations instead of Log-Log equations.

12. In fact, it is hard to see why it would be at all expected that a high level of social welfare programmes, even if not expanded much, would continue to cause rapid increase in Basic Needs indicators from the exceptional position already achieved by Sri Lanka by 1960.

13. These are available only in the World Development Reports (WDR) after 1983, under the heading Central Government Expenditure.

14. See Kelegama, S. (1986) on SWE.

15. See Hicks (1979) and Stewart (1985).

16. See Hopkins and Sheehan (1979)

17. See Isenman (1980)

18. See Isenman (1980).

19. See Stewart (1985) and Sen (1981) page 303.

20. This account relies heavily on Alailima (1985).

21. Sen (1981) argues that Tanzania was able to raise its literacy rate from around 10% in the early 60s to about 66% by 1977 due to the government's National Literacy Programme in 1970 and Musoma Resolution in 1974-page 307. This clearly indicates the role a government can play in raising the literacy rates.

22. See Sen (1986).

23. See Alailima (1985).

24. See Sen (1981).

25. See Kelegama, J. B., (1986).

26. See Anand and Harris (1985).

27. See Anand and Harris (1985), Appendix G.

28. See Korale (1984).

29. See Review of the Economy (1985), CBC, Table 90.

30. WDRs estimate LE as 69 for 1977, where as the Department of Census and Statistics-Statistical abstracts estimate for 1980 is 66.

31. See Kelegama, J. B., (1986).

32. See Table 10.4 of Economic and Social Statistics of Sri Lanka, Statistics Department-CBC, Volume 7, December 1984.

33. See Kelegama, S., (1985).

34. See Kelegama, S., (1985).

35. Here **policy** and **policy instrument** (or instrument) means two different things. For eg. in South Korea the policy was promoting export oriented industries and the instrument was high employment at reasonable wages. Whereas in Sri Lanka the policy was Social Welfare Programmes and the instrument was the public distribution system.

36. See Richards and Gooneratne (1980).

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