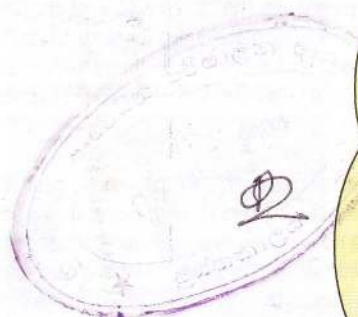


ECONOMIC REVIEW

JAN/MARCH 2004

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HOUSING:

Policy Issues & Challenges



Diary of Events

January

Denkoteva Foreign (LPL) has been granted a further 7-year tax holiday, beginning in November last year, by the Board of Investment of Sri Lanka (BOI). The extension comes as a result of the Company achieving specified levels of exports within the first five years of its initial agreement with the BOI, and also expanding its production capacity.

Sri Lanka Airlines new ticketing office is now opened at Trincomalee - a new major town in Sri Lanka. The fully computerized office, which is operated through St. Lourdes Travels, provides all facilities and services of a Sri Lankan Ticketing Office, says a release from the national carrier.

February

12

The Government of Japan has contributed US\$ 143,400 towards the Programme for Public Administration of the Colombo Plan for the financial year 2003/2004. The main purpose of the PPA is to enhance skill development and capacity building of public officials in policy formulation in the Developing Member countries of the Colombo Plan.

March

A memorandum of understanding has been signed between the Institute of Personnel Management of Sri Lanka and the University of Southern Queensland, Australia to commence a Masters Degree programme in Human Resource Management, from July this year.

6

Pakistan and Iran signed a series of agreements to enhance economic cooperation, improve communication and boost bilateral trade.

The national airline of the United Arab Emirates (UAE) is now operating its first route outside the Middle East, flying to Sri Lanka. Colombo was chosen as a destination because of high demand for service from Abu Dhabi.

10

Election monitoring NGOs, Centre for Monitoring Elections Violence (CMTEV) and People's Action for Free and Fair Election (PAFFEL) have been funded to the extent of 7 million rupees (US\$ 71,500) by the Canadian High Commission in Colombo, a press release from the High Commission said.

13

Australia has provided funding to assist efforts to monitor the Sri Lankan Parliamentary Elections scheduled for April 2. Rs 6 million have been contributed to the Centre for Monitoring Election Violence to support the deployment of local monitoring personnel during the election campaign and of ballot boxes across the country.

The United Nations World Food Programme welcomed a donation of US\$ 35 million from the Japanese Government for 20 countries around the world to refugees, internally displaced persons and victims of natural disasters and poverty. A further US\$ 14.7 million will go to Asia in order to support WFP operations in Cambodia, Bangladesh, Sri Lanka and Laos. The Sri Lanka

operations will receive a total of US\$ 1.8 million (approximately 6,000 metric tons of food).

16

Iran has agreed to buy Sri Lanka tea under a Memorandum of Understanding, signed by the two Governments. The MoU provides for granting of technical assistance to Iran to produce and blend quality tea since tea produced in Iran is of inferior quality. Iran has assured that the technical assistance programme needed by the MoU will not be a threat to Sri Lankan tea exports to Iran.

19

President Chandrika Kumaratunga reduced the non-cabinet Ministries by a special Gazette notification published on 17th and has amalgamated the Ministries of Parliamentary Affairs, Home Affairs, Provincial Council and Local Government, Urban Public Utilities Ministries with the Western Regional Development Ministry. In accordance with this Gazette notification the functions of the Ministry of Water Management, Parliamentary Affairs, Housing Development, Assisting Foreign Affairs, Home Affairs, Provincial Councils and Local Government, Samurdhi, Irrigation, Urban Public Utilities, Tourism Development, Agriculture Technology and Productivity, Paddy Cultivation Land Tilling Science and Technology have been abolished.

The United States will file its first formal complaint to the World Trade Organization against China, alleging its offering of unfair tax breaks to its semiconductor makers. International semiconductor companies, have been complaining for some time about a Chinese practice of granting tax rebates of up to 14 percent to local chip manufacturers.

20

The private sector business development organizations have agreed to establish a network of six Regional Business Development Centers to support the growth and expansion of the small and medium enterprise sector in Sri Lanka. The Sri Lanka Business Development Centres, the Industrial Services Bureau and the Sarvodaya Economic Enterprise Development Services Ltd. signed an inter-organizational Agreement to create the network of business centers in five economic zones throughout the country with offices to be located in Jaffna, Trincomalee, Kurunegala, Kandy, Colombo and Matara.

21

The Cabinet has given approval to sell the Mineral Sands Company a 100 per cent Government owned company, to a foreign firm in addition to selling 40 per cent of share of the State Petroleum Products Corporation to the private sector. It is estimated that the Pujerudi's Mineral Sands Grid contains 15,000 million tons of best kind of mineral sands in the world and 93% of the composite consists of valuable varieties.

22

Expo Lanka (Pvt) Ltd. in a joint venture with Global Gas Alliance Sdn Bhd in Malaysia will break into the Sri Lanka gas market with a US\$ 15 million initial investment. The new Company formed as a result of the joint venture will operate as Expo Gas (Pvt) Ltd. Branding its products with "Expo Gas". The firm will set up its new bottling plant at Sapugaskanda.

23

In response to the request made by the Sri Lankan government the Japanese Government decided to provide Rs 480 million towards the project for the Mannar District Rehabilitation and Reconstruction through Community Approach.

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

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HOUSING AS A FUNDAMENTAL RIGHT & SECTOR POLICY

HOUSING A FUNDAMENTAL RIGHT

It is an accepted phenomenon that the standard of housing reflects the socioeconomic performance situation of a country or a society. For instance 51% of the Colombo's total population live in such conditions. Moreover, 44% of the total housing stock of Sri Lanka is temporary or semi permanent structures (2001). Addressing the issue of sub-standard housing is one of the most serious development challenges in the next decade. Therefore, provision of better housing, improving the quality of the national housing stock, ensuring security of tenure, improvements to infrastructure and creating sustainable environmental conditions are the major challenges that the economic development of Sri Lanka has to be addressed today.

The country's ecological resources and the biodiversity have to support the needs of the existing population of 18.7 million and maintain the sustainable levels, without compromising the ability of future generations to have free access and use of its natural resources. The national population growth rate was comparatively low in Sri Lanka, and it is on the decline (1.2% - 2001). But the urban population growth shows a tendency to take over the national growth rate marginally. Urban population consist of 30% of the total at the turn of the new millennium and according to the projections it will reach 45% by 2015, and 65% by the year 2030 respectively.

Since the adoption of the Universal Declaration of Human Rights in 1948, the right to adequate shelter has been recognized as an important component of the right to adequate standard of living. The UN declaration of Human Rights says in its article 25 (1): "Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing, medical care, necessary social service etc.". The government of Sri Lanka has endorsed the right to shelter in its Constitution in Chapter VI - Section 27 (c) as "the realization of all citizens of an adequate standard of living for themselves and their families, including adequate food, clothing and housing. The continuous improvement of living condition and the full enjoyment of leisure, social and cultural opportunities". Housing as a fundamental can be viewed under 5 main aspects as follows:

Security of Tenure

Sri Lanka is a basically home owning society

where the occupants themselves privately own about 80% of the National Housing Stock. This ratio in the urban areas is comparatively low as about 80%, due to high land values and usage of large stock of rental housing. However, as a result of the war in the Northern and Eastern provinces of the country, nearly 500,000 people are still reported to be displaced. All the other categories of tenure are around 15%, which includes purchasing, social housing rent free, squatting, etc.

In the modern-day economics shelter is not only a fundamental need but also a bankable asset that can be traded off in the secondary housing market. However, larger stock of the government built schemes as well as the privately owned in the urban and semi urban areas have serious legal problems due to lack of proper tenureship with the occupants. Moreover, the occupants of such schemes are not in a position either to make any investments to improve the condition of their houses/apartments or to dispose them in the market as and when required, due to above situation.

During the past twenty five years many state sponsored housing schemes were built on properties without getting them fully vested with the authorities. Today it has become a serious constraint for the COSL to implement its policy to transfer full tenureship to the occupants of such housing schemes. Actions have been initiated to complete the acquisition/vesting processes with a view to remove all legal impediments. However, the spirit of the land law of this country is geared mainly to protect the state lands, but not to alienate them for development. As a result the process of ownership transfer to the occupants of the government built housing schemes is painfully slow. This problem is becoming more serious among the condominium properties of Colombo and other urban areas where the both state and the private developers have ignored to comply with the particular law. The Condominium Plans of majority of government owned apartments are still not completed. As a result, not only the process of execution of Condominiums to occupants has become a problem, but also establishment of management committees in such places have been delayed. The recently introduced (2003) Condominium Management Authority is having an uphill task addressing this issue associated with over 75,000 "corco" properties in Colombo and urban centres elsewhere.

Right to Adequate Housing

Since the adoption of Universal Declaration of Human Rights in 1948, the right to adequate housing has been recognized as an important compo-

Dr. Krishan Deheragoda

Head, Dept. of Geography
University of Sri Jayawardenapura

nent of the right to an adequate standard of living. This does not necessarily mean to create direct and instant provision of adequate housing to all. The Habitat Agency does, however, create an obligation for governments to create necessary conditions for all realistic achievement of this objective. A number of measures have been initiated in Sri Lanka to facilitate this process, such as regularization of existing human settlements, adoption of planned urban and human settlement development approach, implementation of planning and building regulations etc. The concept of adequate housing is not referring only to a spatial dimension of a house, but also to other aspects such as aesthetic beauty, access to utilities and basic services, community and social needs etc. The Urban and Local Authorities are mainly entrusted with the regulatory functions with regard to implement this policy while number of other agencies like NERF, NHDA, Provincial Councils are playing complementary role. However, this basic human right has been ignored by some of the housing programmes of CMC, NHDA, LDA and some NGOs operating in Colombo which are advocating "on-site" slum and shanty development and alienation of "two perch" land lots to squatters in the underserved settlements in Colombo, with total disregard to urban development regulations and laws. Decay of the urban development process on one hand and perpetuation of poverty on the other, is inevitable. The conditions in which slum and shanty dweller lives neither provide him with dignity nor with security and adequate housing. They have neither status nor rights. A bold policy is needed to attack urban poverty and not the poor, to get rid of slums and not dwellers; to remove squatting but not squatters while creating a "Win-Win Situation" for both slum and shanty dwellers on one hand and the main stream of the urban human settlements development process on the other.

Equal Access to Land

Access to land may be understood as a condition of a particular socio political process that enables individuals and organizations to own, use, and disposed resources within a legal framework. The government is the biggest landowner in Sri Lanka holding over 62% of the total land (National Science Foundation,

1999). However, in the cities like Colombo the private freehold ownership is as much as 78%. Also when considering the land use pattern in the island almost 25% are home gardens.

Moreover, the land-man ratio in the country is on the decrease, where it was 1.84 at the turn of the last century (1901). This was reduced to 0.44 in 1961, and it has been projected to a further reduction to 0.31 by year 2001 (Loges - 1991). On the other hand this has resulted in restricting the ability of the people to gain fair access to land market due to ever increasing land price structures. The Land Price Income Ratio (LPIR), which is calculated on the basis of Median Income Ratio to 10m² land area is very high in the urban areas as against rural. This ratio (for 10m²) for Sri Lanka in general is 28% of the per capita income in the highly developed areas and 8% and 2% in Intermediate and Rural areas respectively. When the same is cumulated urban areas, the corresponding figures are 351% for the Highly Developed Lands (City-core areas), 140% for the Intermediate and 53% for the Rural areas (Sri Lanka Country Report - 2000). In order to create conditions to ensure easy and fair access to the land market and to have a level-playing field for end users, the government has to implement an effective development oriented land allocation policy.

Equal Access to Credit

Housing is an expensive commodity beyond the reach of the majority of the Sri Lankan families. The availability of mortgage facilities forms a necessary function to ensure access to owner occupancy. When such credit is not adequately available to particular groups, housing ownership will severely be restricted. The mortgage housing market of Sri Lanka is limited only to those who possess bankable assets and collaterals. In promotion of the enabling housing strategies, particularly the Rural Housing Programmes of NHDA, a scheme to disburse small housing loans up to Rs. 50,000 is currently under implementation. However nearly Rs. 1 billion is remaining unrecovered from the beneficiaries due to politicization of this programme. The mortgage housing credit market of the country is small and basically catering to the needs of the upper and middle income bracket clients while excluding larger portion of the demand sources. The specialized housing bank HDFC is envisaged to cater the housing credit market, but it is also developed on the same lines as the conventional commercial banks thus not open for the poorer families. Therefore, the success of the housing credit will be depending as to which extent these institutions are capable of introducing pro-poor lending and recovery mechanisms while deviating from the conventional loan approving practices.

Access to Basic Services

The private sector can bring in investments for urban basic services. Its role has expanded in recent years in the water and transport sectors. However, its participation in the extension of services to urban poor remains a controversial issue, interrelated with pricing and cross-subsidy policies. Lack of innovative market based financing policies for provision of basic services to the underserved areas of the City of Colombo have restricted the shelter development approaches to conventional "on-site upgrading" and supply of unaccounted services to them at the public expense. However, if the state and the service providing agencies could offer a special tariff regime for both water and electricity for those urban poor families who are willing to live in condominium apartments in the City of Colombo and other urban places in Sri Lanka, the programmes to relocate slum and shanty dwellers in high rise apartments will be most effective. Adoption of such a policy will not only bring additional revenue to authorities but also enable to liberate enough land for urban renewal process of Colombo. Right now, living in high-rise is comparatively expensive as the pricing structures for water and electricity tariffs are designed ignoring the comparative advantages and the benefits of the vertical structures from the urban development, management and revenue collection perspectives.

Supply of clean water is necessity of life and health, yet 1.4 billion people lack access to adequate water supply world over. In Sri Lanka the access to water gradually improved during the past two decades both in City (80.2%) and none urban areas (70.6%), this trend can be observed. However, nearly half of the Colombo's city population that live in under-served settlements consumes water, which is unaccounted.

The percentage of pipe borne water connection has increased from 8.5% in 1997 to about 14 by now. Although some improvements to the Colombo's sewage system have been done recently, this 120 year old system requires a major refurbishment and expansion to meet the demand of a threshold population of one million by 2010. Pipe-sewerage infrastructure facilities are limited in the country and cover a few sections of the Greater Colombo Area.

Provision of sewerage disposal facilities is a devolved function. However, no systematic approach has been taken by local authorities for the construction of adequate infrastructure to facilitate sound urban growth. Lack of sewerage facilities in the urban centres is a serious constraint for Sri Lanka to go into high-density housing development. Assistance to local government institutions in terms of finance, cost effective technology, operational arrangements etc. may generate sufficient interest to actively involve them in the provi-

sion of sewer disposal facilities. The government intervention is necessary to provide adequate sewerage disposal infrastructure and treatment facilities as a social obligation since investment by the private sector in this area is very lean.

In relation to the household connection in electricity a remarkable improvement in the coverage can be seen in urban areas particularly in the city of Colombo (97%). The rural electrification programme requires greater attention as nearly half of the country's population still do not have access to electricity. The cost of electricity in Sri Lanka is supposed to be among the highest in the world. Moreover, the coverage of telecom facility has shown even better performances in Sri Lanka during the past ten years. The major policy change on this was the privatization of land-based telecommunication system in the country and the fast growth of the cellular phone networks operated by the private sector.

SHELTER POLICY

Rationale for a Shelter Policy

Provision of affordable quality housing and human settlements within a planned, sustainable and healthy environment while integrating the existing natural features into future human settlement development strategies, should be given a top priority in the development approach of the GOSL. In the light of the above, a 'National Physical Structure Plan' has been prepared to draw up policy guidelines for the geographically balanced settlement structure for the country with special emphasis on protection of the environment. The process of preparation of Structure Plans for all regions should be completed.

Sri Lanka still does not process national policies for many sectors including a shelter policy. Often many of the current housing and shelter development strategies are non-compatible with the urban, regional environmental laws and regulations. The shelter strategies of Sri Lanka are basically determined rather by individual political interests than the development needs of the country. Thus they are inconsistent, often contradictory, and are handled on "case-by-case" basis with no transparency and integrity. This situation has created duplication of projects, wastage of resources and reluctance from the part of investors to come into the sector.

Role of Focal Points

The Ministry/in charge of the subjects of Housing, Urban Development, Public Utilities and Construction shall be considered as the focal points. These stakeholders are mainly responsible for formulation of national policies and their implementation to ensure improvement in the

physical quality of life and the living environment of people in a sustainable manner through a network of agencies under their portfolios. The focal point/s shall mobilize agencies under them to ensure effective implementation such policies with reference to housing and urban development, water supply, sanitation, sewer and surface drainage, regulating the construction industry, securing building materials for the construction industry, promoting research and training in on housing and building construction, land and property alienation, housing finance and physical infrastructure development etc.

Policy Development Initiatives

In the absence of a policy construct, the common practice in Sri Lanka is to introduce new concepts, plans and policies by each new government. Also the emphasis given to certain aspects of housing i.e. urban, rural, plantation, etc. are tend to change from one to another minister, even within the tenure of the same government. While all consecutive governments have considered housing as one of the most important vehicles to outreach every corner of the country, lack of vision and policy had often led to discontinue some of the key programmes due to political envy. The most significant attempt to identify a housing policy for this country was made in 1996 with the appointment of Presidential Task Force on Housing and Urban Development (PTFHUD).

The Presidential Task Force Report on Housing and Urban Development (1998) has laid down the basic guidelines and directions under six major thrust areas such as: Urban development, Physical Planning, Environment, Human Settlements Development, Water and Infrastructure Development, in compatible with the HABITAT Agenda 21. Accordingly, then Ministry of Housing and Public Utilities had been renamed as the "Ministry of Urban Development, Housing and Construction" as per the recommendations of the PTFHUD and empowered it to execute the above thrust areas. Further the required institutional and coordination mechanisms were created to facilitate the objectives of the Presidential Task Force. Number of legal and institutional impediments that caused hindrance to fast track implementation of Housing Policy introduced by the PTFHUD in 1998 was addressed. As a result; the Regional Structure Plans including Colombo Metropolitan Structure Plan (1998) and the City of Colombo Development Plan (1999), were introduced. The National Physical Planning Department (NPPD) was formally established in 2001 and its "National Physical Planning Policy" was released in 2002, after long years of consultations (1998-2001) with all the stakeholder agencies.

However, the ministry created to implement the Presidential Task Force recommendations was dismantled with the change of ministerial portfolios followed by the general elections in 2000. As a result the emphasis that was given to the Construction Industry by renaming the ministry in 1998 as "Ministry of Urban Development, Housing and Construction" was once again changed to the dis-appointment of many professional and other institutions that have really supported the initiatives of the PTFHUD. Nevertheless, the same recommendations were continued to implement in the years beyond 2000.

The spirit of the Presidential 1998 Task Force on Housing and Urban Development was completely ignored by the new government elected to office in 2002. Many policies and plans developed in line with the PTFHUD recommendations have been kept aside and more emphasis was given to revert back to 1977-1994 era housing development strategies. Also a new planning and development approach was adopted for the Colombo Metropolitan Region by re-hiring some of the experts who were already been involved in preparation of PTFHUD and subsequent plans. A Singaporean Consultancy Group was appointed to carry out this task ignoring the local expertise in this field. Accordingly, a new development strategy for the Western Region Megapolis was introduced in 2002.

Those who have initiated the PTFHUD - 1998 are once again in power since April 2004. The challenge ahead of the new government is simply to carry forward the policies identified in 1998 rather than falling into the hands of another set of consultants, who would possibly offer their services to do everything from the beginning.

Policy and Legislative Changes

During the past decade the focal point ministry/s have been able to remove number of legal impediments and institutional bottlenecks to enable to transfer the ownership of a large stock of government owned houses to the respective occupants. Act No. 2 of 1999 was enacted to amend the *apartment ownership Law* No. 11 of 1973 enabling the occupants in government owned apartments to become owners.

Act No. 30 of 1999 was enacted to amend NHDA Act No. 17 of 1979 to made provision in the principal act to *regularize unauthorized occupants* in government owned housing units by converting them as legal occupants by offering absolute ownership. Housing schemes built on privately owned lands were acquired/vested with NHDA with a view to transfer absolute ownership to occupants.

Easy payment terms offered to all occupants in government owned housing units irrespective of their legitimacy.

Occupants in the Underserved Settlements encumbered in government owned lands are offered

an opportunity to "trade-off" the block of land on which they sit through the REEL programme with either relocation or compensation options. Tenureship of all occupants in government owned low-income urban settlements were secured having granted long-term leases for 50 years for them.

The process to establish the *Management Corporations* in the government owned condominium housing schemes has been initiated with a view to enable the occupants to manage their complex by themselves.

Increased the availability of funding in *housing finance* market enabling the individual house builders to have access to the housing finance assistance at reasonable cost:

- ◆ Reducing the lending rates by 25-45% for housing loans provided by the commercial banks.
- ◆ Mobilizing funds of ETF and EPF into the housing finance market,
- ◆ Introduction of secondary mortgage market system,
- ◆ Conversion "Housing Development Finance Corporation (HDFC)" into a specialized housing bank.
- ◆ Enhanced the lending capacity of NHDA.
- ◆ Reduction of lending interest rate of NHDA, from 20.5% to the range of 10 to 15%.
- ◆ Increased the NHDA given individual loan amount from Rs. 25,000 - 50,000.
- ◆ Mobilizing resources through the provincial councils and co-operatives to grant more credit facilities to low income needy families. Mobilization of "Samurdhi" poverty alleviation programme to grant more credit facilities to improve the shelters of "Samurdhi" beneficiaries,
- ◆ Relaxation of loan approval processing procedure of the low-income families through acceptance of their land permits issued under land development and crown land ordinances as co-laterals by NHDA and HDFC, etc.

Incentives given to *private sector* were unfortunately most inconsistent. They were changing from one budget to another. As a result, expected private sector investments were never in place in the housing and urban development sectors. All they required was constant plans and regulations; clear tax policy; transparent land pricing policy and efficient land alienation methodology; well documented incentive package; quick planning approval process; access to funds; effective and affordable housing loan schemes to home buyers and corruption free,

fast track, decide on making process by the authorities.

Some of the incentives offered to encourage private sector developers from time to time include: access to ETF funds in the case of construction of Low Cost Housing on the condition that the minimum investment should be Rs. 50 million and 50% of units to be made available to employees; 7 years tax holiday for construction of over 100 housing units in not more than 3 locations with minimum investment Rs. 50mn., and 10 year tax holiday in case of over Rs. 100mn. investment; duty free imports; reduction of stamp duty and conveyance fees; exemption from the custom duty for importation of project related items; provision of state owned lands to BOT approved property developers at special rates; tax concessions and full off-site infrastructure by the BOT for the private sector developers who opt to construct over 800 units of middle class housing in a single project; Public-Private partnerships in urban renewal projects; incentives to private sector in venturing into environmental management and infrastructure development; management of the human settlements; invite Private-Public sector participation through removal of legal impediments and unnecessary administrative procedures; Privatization of management of the urban services including water, sewerage, road development, building material supply etc.

With a view to increase the supply into the housing market the following concessions and incentives have been offered to domestic construction contractors to bring down the cost of construction: reduction of income tax from 35 to 15% for domestic construction firms; set up a guarantee fund by GOSL for the benefit of domestic contractors; control the price of the building materials etc.

In order to encourage individual house builders the following policies and strategies have been adopted during the recent past: provision of NHDA land at 50% of the market price to government employees/artists/scientists etc. to construct their own houses; supply of state lands that are under Land Commissioner for housing of low income needy families upon recovery of land value through rent purchase basis within 30 years; basic supply of building materials such as roofing sheets and tiles to low-income needy families on a free grant basis; special housing loan schemes to vulnerable communities such as fishermen, plantation workers and the displaced including material assistance; exclude the value of land in pricing of housing units constructed by UDA & NHDA to vulnerable groups; waive off the land price by 50% of the sale price of housing unit constructed by NHDA to government

employees, artists, scientists and professionals; 10 year income tax exemption against revenue of any person who have constructed such residential houses for the rental market; GST exceptions for the supply, sale, hire, rent of residential houses; tax exemptions for the rental incomes arising from conversion of a single unit house into two or more residential units.

Recommendations for Policy Development

Policy Consistency

It is essential firstly to promote a policy to create a "Home Owning Society" in Sri Lanka. In order to achieve this vision, a consistent policies and strategies has to be in place for implementation. A public owned institutional setup for the monitoring of implementation of such policy should be introduced. This will provide all stakeholders not only to monitor the GOSL housing policy but also to see as to which extent the other policies, laws, programmes etc. will or will not contributing to achieve the objective to create a Home Owning Society in Sri Lanka. The government of Sri Lanka should consciously create an enabling environment, by implementing appropriate policies, introducing necessary institutional and participatory structures, removal of legal impediments, including regulating the market, construction industry and financing opportunities and thereby letting all forces freely to add their bit of contribution to attain this objective across the country.

Enabling Shelter Strategies

House is a basic human need everywhere. However with the countries where the market places are developed and its mechanisms are influencing every spheres of life, house has become a marketable asset than a mere basic need. Nonetheless, a "house" is still not being considered mainly as a commodity in the market in Sri Lanka, particularly in the rural settings. However this scenario is fast changing in the urban areas and a "house" is considered primarily as an asset and commodity that can be sold, transfer, mortgage, exchange and even use as a collateral to raise capital for investment, rather than a mere basic need, where market factors have a bearing on all elements related to shelter development, particularly in Colombo. Therefore, it is of vital importance to make sure that the urban shelter strategies are compatible with the market mechanisms, if at all to see their sustainability. This is something that Sri Lanka has learned through its own experience in the City of Colombo during the past two decades, through implementation of on-site slum upgrading programmes.

Housing for the Rural Poor

During the past few decades the conventional shel-

ter development approaches such as on site upgrading and provision of site and services etc. have failed to give expected results in the urban settings. As a result, settlements of the urban poor becoming slums and fragmented on one hand, and deterioration of quality of life and perpetuation of poverty among them on the other, had been an inevitable phenomenon. Most of the enabling strategies were very successful in the rural areas. The reason may be that in the rural areas shelter programmes could still exist outside the mainstream of the market forces, where land, material and labour that are the basic ingredients to build a house are not considered very much as scarce resources, when comparing to cities or urban areas. Further, through creation of micro mechanisms to increase access to credit and technical assistance with mobilization of communities, most of the rural shelter programmes were very successful and became a viable enabling strategy for shelter development, with a proven track record in Sri Lanka. For an example, the One Hundred Thousand, Million and the One and Half Million Housing targets implemented through the Village Revivalising Programmes during 1980s through 1990s and the Jana Udana since the middle of 1990s were based on enabling approaches and had gained momentum in the rural areas, bringing Sri Lanka into an international route.

Housing for Urban Poor

The urban problems between the developed countries and the poorer countries deferent to each other. In the Third World Cities, the main physical issues are the lack basic infrastructure, expansion of slums and shanties and ad-hoc urban development, while the social issues are characterized with homelessness, urban poverty and hyper-growth. But in the Cities of the developed countries, the main physical issues are not related to the infrastructure but to management of environment, while the social issues are due to urban lifestyles and urban stress. Furthermore crowding and environmental pollution are aggravating the urban issues in the third world cities while safety, and health issues including violence and crime are dominant in the Cities of the developed countries. Therefore addressing the issue of infrastructure development in the Third World Cities is the key to ensure sustainable urban shelter development.

The enabling incremental housing approaches have been adopted in the non-urban areas where the affordability is low, while market based trading-off housing strategies are introduced to urban areas. Due to lack of new shelter strategies for the urban poor, many of the housing strategies that have shown remarkable suc-

cesses in the rural areas have been transplanted into the hard-core city areas as a temporary solution to the critical housing issue. However, these have created a negative impact on the sustainability of such settlements as well as the urban environment, creating hindrance to desired urban development. To co-op up with this situation new strategies have been worked out.

The Sustainable Township Programme (STP) was implemented by Real Estate Exchange (Pvt.) Limited or REEL (See Box) with a view to provide adequate housing for the encumbered families in the underserved settlements within the Colombo city, enabling them to trade-off the value of the land on which they sit either against a cost free new apartment or compensation, without being a burden neither to them nor to the government. This new strategy in right direction which is yet to receive policy recognition from the government before embarking on a comprehensive implementation within Colombo (See Box).

There are some serious constraints with regard to identification of feasible market based alternatives as against the conventional on-site-upgrading approach by the authorities. Mainly, most of the slums and shanties are located on State lands, thus the authorities cannot just give away such assets to the encumbered families just next to nothing, whose majority are illegal occupants. Further, land in Colombo is most expensive, scarce and urgently needed for its development. Therefore authorities are very careful not to promote shelter strategies that would encourage further squatting and illegal in-migration into the urban lands. Also the authorities cannot just evict these encumbered families just by use of law due to social, political, and above all for humanitarian reasons. As a result, on-site upgrading, site and services, supply of infrastructure etc. while retaining the right to take back the land from such families when and where necessary, were the commonly adopted approaches in Colombo, to bring temporary relief and to defuse the social pressures of the urban poor. Accordingly it is of vital importance to identify forward looking and innovative shelter strategies for the urban areas where both rich and poor are competing sustainable future.

Individual House Builders

In addition to the existing state sponsored programmes and schemes, it is important to create enabling environment to encourage the individual house builders. They account for the largest share of the national housing stock. Often, the housing and construction sector targets are being declared in the annual budgets. But

they fail to maintain conducive market supply of building materials at affordable price for the house builders. The frequent price fluctuations of the building materials particularly of cement, timber, iron, steel, roofing materials and other local supplies such as bricks and sand tend to overrun the budget estimations on bill of quantities, posing severe hardships for the homebuilders with limited financial resources. Therefore, housing policies become meaningless unless they are supported with the price and tax structures of the building materials.

Displaced

Further, due to the ethnic conflict in the past 20 years nearly 500,000 people in the country is still displaced. The government of Sri Lanka and many relief organizations of both National and International are helping them to provide shelter and basic services including health, cloths, food and education. Now with the peace truce between LTTE and GOSL Forces, resettlement of these displaced communities and assisting them with rehabilitation and reconstruction of their homes and settlements is a task ahead of us.

Supply of Land

There is no constant policy to increase access to land at affordable prices for housing in both rural and urban areas. Individuals and private property developers are not only manipulating the land market with speculation of prices but also violate the law of the country including CEA, UDA, SLLRDC etc. In the case of urban areas the laws pertaining to minimum plot sizes and fragmentation are openly violated by both state and the private sector. Land alienation process is very cumbersome thus become very vulnerable for inefficiency and corruption. There should be very clear policies on land supply, alienation, transfer, market, and utilization.

The squatting process and illegal in-migration into the city lands is much more than a spontaneous process. It is often an easy way of grabbing the valuable public properties by the organized groups. Also patronizing the process of land encroachment and providing protection to elements involved in such activities has become a lucrative black-business for all involved. Strong policies are required to arrest these trends.

Housing Finance

Due to lack of sufficient long term housing financing funds the lending rates offered to homebuyers and for the mortgages are very high. However, during the past 2-3 years these rate have been come down by 25- 45% which is very much essential to revitalize the housing, construction and urban development sectors by both private and the individual homebuilder sectors. However, this

can be a temporary phenomenon if there is no policy and strategy to maintain these lower lending rates exclusively for this whole sector.

Housing Markets

No formal markets existing for housing finance, secondary mortgage, real estate and housing in this country. Most of the transaction pertaining to housing taking place at private level. It is necessary to introduce the concept of one-stop markets and exchanges where homebuyers can buy, sale, exchange their houses and properties or obtain services on land and property titling, transferring, valuation including development plans and regulations. In modern day economics, houses and properties are considered as a tradable commodity, bankable asset or collateral that will provide access to finance and credit. However, still there are no inbuilt capacities among many financial institutions to do a quick valuation of a property as they do against motor vehicles. For an example one can buy a millions worth of a motor vehicle through lease purchase basis within few hours in this country. However to conclude a similar deal in housing sector a minimum of two months is needed even if all the documents are in place. Also the whole process is very tedious and costly due to unforeseen hidden expenses, payments and fees. This is an area where very straight forward policies are required if we are to achieve our national shelter objectives.

Private Sector Investments

There are very few developers in Sri Lanka who could possibly invest in projects of their own. All others are contractors of various categories with proven capability to perform jobs of various levels of investments. Even today, we do not have a construction industry in this country. What is there is a small construction sector. Therefore it is very much necessary to strengthen a construction industry of this country, if we are serious about achieving a rapid economic growth. It is essential to offer a clear cut policy package for the private investments coming into this sector. Further, strategies have to be adopted to enable local contractors to bid directly for big jobs by changing the existing procurement procedures, while safeguarding the best interests of the project owner.

Supply of Infrastructure

Availability basic off-site infrastructure (water, sewerage, electricity, telecommunication, access roads etc.) is an essential pre-requisite for promotion of foreign/local private capital into human settlement and urban development sectors. However, there is no clear cut policy on this even for the BOI approved projects. Capi-

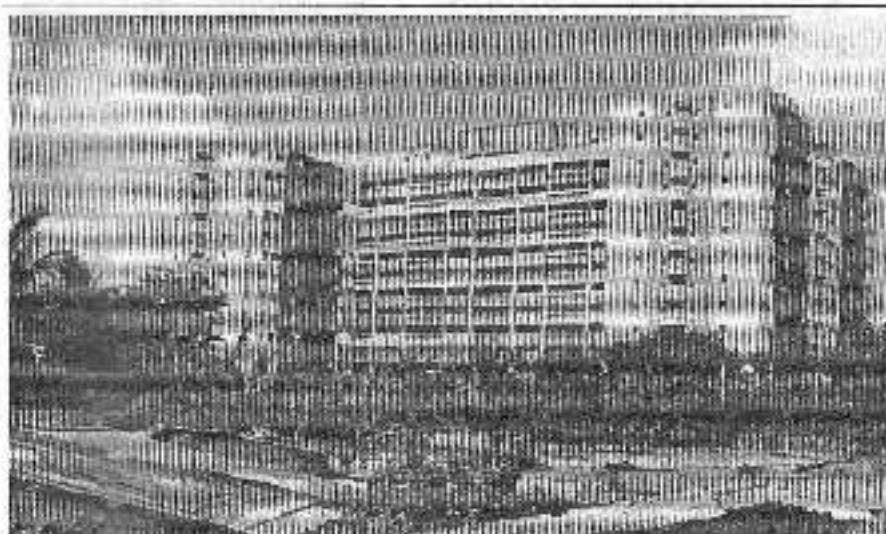
tal expenditure on supply of infrastructure can be reduced if large scale human settlements and urban development projects are promoted in planned locations as in the case of free trade zones. Also such expenses can be accounted to the developers if the cost of off-site infrastructure is embedded into land cost at the point of valuation of the land. Unfortunately most of the Colombo's lands are being priced on arbitrary and ad hoc basis without considering the availability of the infrastructure. Sometimes, even the Chief Valuer's valuation is being given without considering the availability of off-site infrastructure of the particular site. In some countries including India, a system called "Land Price Index" is in place to decide the tentative land values of different zones of the cities. These indexes are based on many factors such as land betterment values and status of infrastructure

etc. A common policy for supply of infrastructure is very vital for the development of this sector, particularly the construction sector.

At present, only 20% of the urban population receives a 24-hour water supply service. Of all the Water supply schemes, only one third has the capacity of providing a 24-hour water supply. At present 82% of the total population has access to safe drinking water. However, the coverage of pipe borne water supply in terms of regional distribution is inadequate and heavily skewed to a few districts in the country. The demand has been increased from all user groups for water supply services. During the past decade piped water supply has been growing at an average annual rate of 5.5 for domestic use and 4.5 for non-domestic use. The GOSL is committed to achieve the goal of providing safe drinking water for all by

the year 2010. To meet this objective an annual investment of US\$ 130 millions per annum is required during this decade. However, such kind of an investment is a difficult task for the government, hence private investment into the sector is most essential.

The problem of sewage disposal in Colombo is compounded by the inadequacy of urban infrastructure for the city's poor residence. The waste along with storm water and some industrial effluent is discharged directly into canals. Organic pollution from sewage accounts to 50% to 60% of the total waste load (10,000 kg BOD per day) discharged into the canal network in Colombo. Serious problems pertaining to untreated open discharge of wastewater are observed in all major Coastal Tourist Resorts (CZMP-1997).



Solution for the Urban Poor
"Rehousing from the Mass of Slums and Shanties in Mahabharata" (First REEL Project)

Sustainable Townships Programme implemented by the Real Estate Exchange (Pvt.) Limited or REEL will offer the urban poor in the City of Colombo an option to "trade-off" the encountered land on which they live without a title against modern flat in high-rise apartments constructed in fully developed Compact Townships within the City. Once they moved into these new flats as a community, the settlement they have been living is liberated and disposed for the private sector based housing and urban development projects, and thereby generate capital to finance the rehousing programme, making the whole process a fully self-financing and market based one. Taking into consideration the lack of financial instruments available for housing finance, this new approach of the Sustainable Townships Programme is to endeavour to introduce market forces and new financial mechanisms into the process of shelter development.

REEL Programme, is based on series of new pro-poor shelter strategies that are compatible with prudent market economic principals within an overall urban and sustainable shelter development context. These new concepts are relocation instead of forced eviction; rehousing instead of onsite upgrading; bottom up instead of top down approach; market based instead of provider and welfare approach; self-financing instead of state funding; enabling the urban poor instead of comforting; full ownership instead of conditional tenureship; household centred instead of chief accountant centred. This package is offered to all households living in one particular selected settlement rather than selecting few beneficiaries among them on political, ethnic, or other considerations etc. This programme by giving freehold house worth over US\$ 13,000 will widened home ownership and strengthens the asset base of the beneficiaries. This innovative programme is in full compliance with the HABITAT Agenda - 21 on one hand and bringing the capital market home to the urban poor on the other.

Municipal solid waste and industry related effluents are becoming a threat to maintaining a healthy environment in urban areas. It is estimated that per capita generation of solid waste is around 600 grams per day in the city of Colombo. The city of Colombo generates an average of 1,000 tons of solid waste per day. In the Colombo Metropolitan Area over 2,500 tons solid waste is generated per day, of which 50% is not collected (PTFR -1998). Solid waste in most areas is dumped indiscriminately in low lying wetlands or thrown into canals or streams (CZMP -1997). An average of 95% solid waste in the Colombo Metropolitan area is dumped openly without any treatment. Only 5.5% of garbage generated is recycled in this region.

Effective handling of solid waste has been hampered due to several constraints encountered by local authorities. Amongst most challenging are the lack of collection equipment, transport vehicles, sanitary disposal methods and sites, and particularly the poor knowledge know-how on effective handling and management of solid waste. The Central Government has taken steps to assist selected local authorities in the acquisition of solid waste collection and disposal equipment, and vehicle.

North & East Reconstruction & Rehabilitation

Since 2002 to date the government of Sri Lanka (UNF-2002-2004, & UFFA 2004 April onwards) has given top most priority to address grievances of the inhabitants in the north and east provinces. Accordingly the ceasefire between the government and the LTTE is continuing while peace negotiations are set to be resumed. However, the rehabilitation and reconstruction

tion of North & East is needed more attention to address felt needs of the people. Also the removal of over one million land mines from the war-affected areas has to be accelerated to enable quick resettlement of the displaced. The GOSL and the LTTE are expecting a greater partnership from State, private sector, donor agencies and NGOs to re-build north and east of the country. New policy initiatives are required for the selection of contractors and to monitor the performance of the development work carried out by the private companies with a view to assure quality of the work and the accountability of the contractor/s. Resettlement of about 500,000 displaced families in these areas with sufficient personal, food, social and economic security is one of the biggest challenges that Sri Lanka have faced with. The task of reconstruction is becoming more serious as there is no local construction sector with capable contractors, skilled workers, and technical capacities in these areas who could undertake bulk of the reconstruction and rehabilitation work in these areas. As a result, most of the jobs done in these areas are of poor quality and sub standard, hence are unsustainable in the absence of regulations and performance monitoring due to some practical reasons.

Planning and Regulations

Implementation of constant plans, unbiased compliance of building and zoning regulations and non politicization of development programmes are the most important considerations for the investors in housing construction and urban development sectors. Further it is necessary to adopt a market based, self financing, voluntary rehousing processes in urban areas for encumbered families living in slum and shanties while putting end to ad-hoc and unplanned shelter approaches carried out by the authorities without a clear vision for Colombo. It is also important to address the community issues, concerns of disabled persons and other groups with special physical requirements in the design of built environment and housing neighbourhoods. Nevertheless, empowerment of the user communities to ensure effective maintenance and management of newly created neighbourhoods is vital to ensure sustainability of such settlements. The recently created Condominium Management Authority should have to step into this important area of management. A strong set of policies based on these concerns can definitely create an enabling environment in this country not only to achieve the shelter aspirations of the society but also to create a strong construction sector that will lead this country into the 21 century.

The *Urban Development Regulations* in the City of Colombo requires a minimum plot size of six

perches to build a home. But the shelter strategies adopted for urban poor, such as "site & services" and "land regularization", have allotted two perch blocks of land to the encumbered families in slum and shanty settlements, deviating from the law, thus excluding such plots from the mainstream of market process. Since most of these lands are belongs to the State, the encumbered families are given either conditional deeds or temporary certificates instead of outright deeds, preserving the right of the authorities to take back such lands, when and where necessary for urban development projects. Due to this situation, such beneficiaries are becoming more vulnerable to carry under hand illegal land transactions. In this context land fragmentations is continuing as opposed to the land assembling which is the most important pre-requisite for urban renewal in Colombo. Therefore, it is essential to have some consistent policies at least in the major human settlement areas particularly in the City of Colombo where all the players of different sectors are strongly presence in an environment of stiff competition. Also it is essential to adopt an integrated development approach in the process of development where all sector players shall complement and supplement each other instead of competing.

Some Policies for Housing & Urban Development

1. Promote enabling shelter strategies in rural areas.
2. Promote vertical residential development in prime urban areas to ensure optimum land use.
3. Encourage modular housing technology and densification housing strategies particularly in the urban areas to maximize land utilization and reduce unit cost.
4. Designate highly potential but encumbered prime lands in the core of the City of Colombo to be liberated through implementing market based re-housing programmes.
5. Implement Land assembling shelter strategies instead of fragmentation in urban areas.
6. Strict compliance of minimum plot size rule in relation to construction of buildings including housing in Colombo and other urban areas.
7. Increase the land under open space, playground, and recreation for the community from 10 to 40 % over long term through application of high-density housing development strategies.
8. Open easy access to EPF and ETF funds for housing.
9. Enable HDFC to participate along with SMIB to mobilize ETF and EPF funds to commit for Housing Finance.
10. Encourage securitization of lands as a means of financing condominium housing and real estate development financing.
11. Assisting Local Authorities (LA) to deal with the solid waste management problem in a most innovative and cost effective manner.

12. Encourage foreign and local private sector investment and participation in shelter development sector.
13. Establish and enforcing required measures for the supervision and maintenance of environmental quality.
14. Strengthen regulatory and institutional mechanisms of local authorities and government agencies to arrest the problem of encroachment of land and squatting.
15. Improve the Physical Infrastructure related to water, sanitation, sewerage, electricity, roads etc. by the state with the partnership and participation of the private sector.
16. Offer incentives for betterment of the construction industry.
17. Encourage innovative projects that improve the efficiency, productivity and the competitiveness of the construction industry.
18. Promote innovative, affordable and environmentally friendly building technologies.
19. Foster the production and supply of environmentally friendly building materials and research on such materials.
20. Offer special concessionary rates for electricity and water bills of the condominiums of low and middle income families with a view to promote high rise living in urban areas.
21. Decentralization of planning and regulation functions of the central authorities into the Five Development Regions and thereby to respective Provincial Councils (PCs) and Local Authorities (LAs).
22. Provision of adequate staff-cadre to enable LAs to increase resource mobilization, successful implementation and management of projects and to ensure their sustainability.
23. Improvement of the professional and managerial skills of the cadre attached to PCs and LAs; and other relevant regional development agencies.
24. Implementation of structure plans for each development region including North & East.
25. Encourage local construction sector by enabling them actively to engage in the nation building process.

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ISSUES & INITIATIVES RELATING TO HOUSING IN WESTERN PROVINCE

Piyal Hemantha
Ganepola *

General Manager
National Housing Development Authority

INTRODUCTION

House is anybody's dream in the civilized society. In the traditional perception, the house, not only fulfils shelter needs but also symbolic to social status, personal identity and other psychological sentiments. For many, building a house is a life time investment and is an incremental life long process.

Housing, in the meantime, is essentially an important element in the process of urbanization. In the current context, where every household requires services such as electricity, telecommunication, pipe borne water, motorable roads and easy access to social infrastructure, housing cannot exist in remote isolation and should be looked upon as an integral part of urban development. It is a known phenomenon that perception of a house too would change from its sentimental form to a state of marketable commodity with the process of urbanization.

Owing to comparatively high degree of urbanization resulting in availability of economic opportunities and services, the Western Province is the most demanded region in the country, in terms of housing. At the beginning of 20th century the whole country had a population of 3.588 million only. In 2001, the Western Province alone, which occupies mere 5.7% of the country's land area, has a population of 5.361, with the country bearing 18.732 million people. As a result of this population growth the land man ratio of the country has dropped from 1.82 ha to 0.34 ha during the century.

Considering the fact that land is a resource that doesn't grow and in the context that the land to man ratio is dropping rapidly, housing cannot be left to 'happen' in the traditional way. Housing should not be left to happen at the choice of its users but be developed in a planned manner to form composite human settlements. Traditional form of housing in Sri Lanka had been a single-family individual unit either single or multi-storey with an attached compound, consuming considerable land area. Areas with high urban potential like Western Province cannot anymore accommodate such traditional forms of housing due to the land scarcity. As a result of this, housing development in the province should take the form of human settlement development

with combinations of different forms of housing (apartments, attached houses, individual units), to suit different segments of the society, equipped with modern community utilities to save space and environment. As such, it needs corporate mechanisms to create such settlements contrary to the traditional individual way. The State therefore has an important role to develop housing sector policies to form such strategic corporate mechanisms. In the present context where market based economic policies are given preference, corporate mechanisms among the government sector (both central and local), private sector and communities will be more desirable.

In sharing different roles in the development strategy the State may take a planning & regulatory role, formulation of housing financing mechanisms and provision of lands & infrastructure. Priority attention is needed to the neglected infrastructure areas such as waste disposal systems, both solid and liquid waste needed for environmentally healthier human settlements.

Investment and direct involvement in projects by the private sector, operation & maintenance of infrastructure systems through public-private partnerships are some vital areas that private sector could participate.

Getting the participation of communities in management of settlements they occupy would lead to cost effective outcomes with better user satisfaction.

This report gives a narration on the housing situation in the Western Province with issues and initiatives and finally recommends some future actions for the development of the sector.

WESTERN PROVINCE

Western Province comprises of three Districts namely Colombo, Gampaha and Kalutara. It covers a land area of 3,654sqkm with a flat terrain towards the sea coast and undulating terrain in eastern and southern parts. It is the most populated province in the country accommodating 5.4 million people (2001). Commercial capital Colombo, which is the provincial capital, too has a population of 0.65 million.

The province constitutes only about 5.7% of the

land area of the country, but accommodates 28% of the total population. 42% of total urban population of the country live in the province. 23.3% of the country's urban land area is located within the province. Out of the three districts, over 60% of the lands in the Colombo district are under urban uses, with corresponding area of the Gampaha district being 40 to 50 %. Kalutara, which is comparatively less urbanized, contains less than 20 % lands under urban uses.

MAP OF WESTERN PROVINCE

The province accommodates over 80% of registered industries. In terms of GDP contribution, Western Province produces more than 40% of the total GDP of making it the highest contributing province. With the majority of Administrative head quarters, industrial, commercial and educational centers located within the province it occupies the leading position in the hierarchy of provinces in the country. The ongoing mega polls master plan study envisages a population of 8.4 million by the year 2050 in the Western Province.

Housing Situation in the Province

The province being the most urbanized region in the country, housing is in high demand. The Province accommodates largest number of administrative, commercial, industrial and service institutions and as a result a large number of working population live in it. In 1930's the Government commenced construction of Public Housing projects, in the form of flats, which were allocated on rent basis. This programme was intensified in late 1970s benefiting the urban population of the Western Province largely. Under this programme, which went on till 1983, over 10,000 apartment units were added to the housing stock of the Province. Under the Hundred Thousand Houses Programme implemented through the National Housing Development Authority (NHDA) during the period 1978 to 1982, the Province was provided with several large housing estates such as Pabodagama, Ranpokunagama, Mallegoda, Jayawardenagama, Meddumagewatta. These programmes could not be continued after 1983, due to economic recession created by the war erupted in 1983. Government had thereafter changed the housing strategy from its earlier 'Provider' role

* Sec. (Gen.) E.S. Dissanayake, Chief M.O.C. (Gen.) E.S. Dissanayake

Table 1 : Population & Housing Data in the Western Province (2001)

	Colombo	Gampaha	Kalutara	Total
Population 1981	1,699,241	1,390,862	829,704	3,919,807
2001	2,234,289	2,066,096	1,060,800	5,361,185
Population increase	31.48 %	48.55 %	27.85 %	36.77 %
Annual growth rate	1.3 %	1.9 %	1.2 %	
Area (Sq. Km.)	699	1387	1598	3684
Population density 2001 per sq km	3,305	1,541	673	
No. of housing units*	516,155	528,025	270,904	1,315,084
Av. size of household	4.3	4.2	4.3	4.3
Permanent units	86.8%	80%	78.5%	82.4%
Semi permanent	11.2%	17.7%	20.1%	15.6%
Improvised	0.3%	1.1%	0.4%	0.64%

to a 'Facilitator' role and accordingly subsequent interventions were mainly on self-help or participatory basis. Over 15,000 families living in low-income settlements in Colombo were benefited under the Urban Low Income Housing Programme conducted by NHDA. This programme assisted the low-income communities to upgrade their housing and living environment by providing financial & technical assistance with basic infrastructure facilities.

Again, in 1990, an effort was made by the Government (through NHDA) to commence construction of flats for public housing in Colombo, under the caption '5000 Houses Project' but could achieve only a fraction of the targeted number. Around 1996, NHDA commenced two parallel programmes, one for the low-income sector namely 'Urban Relocation Housing Programme', and the other aiming at middle-income sector namely 'Pre-sale Housing'. Under the former one, several slum/shanty

Wevsiri Uyana, Pattiwila in Gampaha District and Diyawanna Gardens, Manikka watta, Himbutu Uyana, Simondale in Colombo District and several apartment complexes in Colombo City. Two housing projects exclusively for public servants namely Edmonton Road scheme in Colombo (272 units) and Jaltara Project in Kaduwela electorate (352 units) are nearing completion.

Though the problem of housing, in Western Province as the most urbanized region, is not very acute compared to the other urban agglomerations in the South Asia, it shows signs of developing into an uncontrollable problem before too long, if not tackled in a planned manner. Despite the above-described housing programmes conducted in the past for the benefit of the Colombo City, half of the Colombo city population lives in under-served settlements conventionally termed as slums & shanties. Encroaching the reservations of roads, canals and riverbanks in the absence of affordable housing solutions for low-income categories those migrate to the urban areas for economic opportunities and for extended families is on the increase.

Some important data to visualize the housing situation in three districts in the province are presented below: (Source: 2001 Census)

The above statistics reveal reasonably good situation relating to housing and basic amenities. Average household size of 4.3 is acceptable when compared to many cities in the region. (How-

settlements were replaced with 'Walk-up Apartments' (or in few cases with attached 2 storeyed houses). Number of units produced under these programmes, in the Western Province is 2,700. Under the Pre-sale programme, several medium scale housing estates have come up such as Siyane Uyana, Polhenawatta, Ranpokuna Stg.II, Medalandu Watta,

ever, the per capita floor area occupied would be a better index to judge the situation, though not derived in the census). It indicates that the present requirement is more than in number of units but in qualitative terms. About 18%, i.e. 235,000 units are either semi permanent or improvised. Nearly 20,000 units are on encroached lands.

Thanks to many initiatives taken in the past in the sanitation sector, the number of households without toilet facilities is very small. However, these statistics do not reflect the situation in qualitative terms, especially the situation of pipe borne sewerage, which is a very important requirement for high-density urban areas. The existing sewer system of Colombo, which had been built between 1906 and 1920 is overloaded and not augmented to meet the present day requirements. Sri Jayawardanapura and some areas in Kolonnawa and Dehiwala- Mt. Lavinia areas are yet to be covered by pipe borne sewerage. (Fortunately Asian Development Bank and Danida have agreed to fund the expansion of sewer system to the above areas and the projects are in the pipeline) Attention has not yet been drawn to the same requirement of other fast developing townships like Maharagama, Panadura, Kalutara, Moratuwa, Gampaha etc.

It shows a significant number of households drawing water from unprotected sources especially in Kalutara and Gampaha Districts. These two Districts are yet to receive pipe borne water to majority of population. Rapid urbanization of the province poses a threat of ground water contamination and contamination of natural water causes creating a need of treated pipe borne water for such areas.

Nearly 230,000 households in the province are yet to receive electricity.

Outright ownership of the shelter they occupy is a cultural requirement of any Sri Lankan family, but 12.5% of housing units are on rent or lease basis. Nearly 20,000 units are on encroached lands posing a potential of rapid increase, given the high land prices unaffordable to migrating families and extended families.

MASTER PLAN ATTEMPTS

Considering the fact that housing or Settlement development is an essential ingredient of the urban planning, it is relevant to examine the Master Plan attempts in the urban development sector for the Western Region. Some of the Master Plans devel-

Table 2 : Basic Amenities - Colombo District (2001)

	Colombo	Gampaha	Kalutara
Toilet facility :			
Exclusive to house	74.9%	78.9%	82.1%
Sharing with another	12.7%	17.9%	13.4%
Common/ public toilet	10%	0.9%	0.4%
No toilet	0.2%	0.8%	2.1%
Drinking water source :			
Pipe borne	64%	23.9%	18.3%
Protected well	31.2%	67.3%	65.4%
Unprotected source	1.2%	6.7%	13.6%
Lighting :			
Electricity	86.9%	83.4%	72.5%
Kerosene	10.4%	14.7%	25.8%
Cooking fuel :			
Gas	49.3%	24.4%	5%
Fire wood	32.0%	65.7%	81.5%
Kerosene	14.4%	6.8%	1.5%

Table3 : Tenureship Pattern of Housing

	Colombo	Gampaha	Kalutara	Total
Self owned	72.3%	77.8%	84.4%	77.0%
Rent free	4.8%	4.8%	6.2%	0.51%
Rent/Lease	17.5%	11.4%	4.9%	12.5%
Encroached	1.5%	2.4%	0.7%	1.44%

spec in earlier times cover only the parts of the province depending on the situation prevailed at that time.

There had been many Master Plan attempts relating to the development of the Western Province in the past. The first attempt was by Sir Patrick Geddes in 1921, on the concept to make the City of Colombo 'The Garden City Of the East'. The tree lined, grid laid roads and parks remaining in some areas of the City are results of this plan.

The next significant effort was in 1948, when Patrick Abercrombie developed a plan to decentralize economic and trade activities out of the city to the surrounding region covering areas, in the North and Moratuwa, in the South and 14 miles into the East. Introduction of Satellite Towns in Ratmalana, Homagama and Pajera and inception of zonal planning were the key elements of the proposal.

In 1978 UNDP funded Colombo Master Plan Project was developed covering the area then termed as Colombo District, the area now covered by Colombo, Gampaha and part of Kalutara District. The area was divided into a central sub region and outer region aiming at balanced spatial development. Establishment of the Urban Development Authority was an outcome of this plan.

The City of Colombo Development Plan prepared by UDA in 1985 was the basis of zoning and building regulations that enabled UDA to regulate development within the City. Housing related areas of Colombo Metropolitan Structure Plan (1998), which is still in force, and the Western Region Megapolis Plan, which is still under preparation, are described below:

Colombo Metropolitan Regional Structure Plan

CMR Structure plan developed by the Urban Development Authority in 1998 (CMRSP), is still valid in terms of the period of the plan, which goes up to the end of the year 2010.

Western Province is identified as Colombo Met-

ropolitan Region (CMR) for planning purposes. The plan identifies a Core Area and six growth centers as prime areas for urban development. The core area consists of the City of Colombo, Sri Jayawardenapura-Kotte and Dehiwala-Mt. Lavinia Municipal Councils and number of local authorities adjoining these municipal councils. The growth centers identified are Negombo, Gampaha, Biyagama, Homagama, Horana and Matugama. The structure plan conceptualize a zonal land use structure for different urban activities. The zoning of the growth centers will consist:

- ◆ Residential Zone
- ◆ Commercial Zone
- ◆ Industrial Zone
- ◆ Recreational Zone
- ◆ Transportation Zone
- ◆ Institutional Zone

The regulated development plan proposed by the CMRSP envisages the following picture in terms of population, in the Growth Centers and Core Area by the year 2010.

The area outside the Core Area and Growth Centers termed, as Low Density Development Area will consist the Following Zones.

- ◆ Rural Residential Zone
- ◆ Agricultural Zone
- ◆ General Industrial Zone
- ◆ Special Industrial Zone
- ◆ Environmental Zone

Housing Strategy proposed in CMRSP contains the following key features:

- ◆ Development of Housing Estates with all facilities and common amenities within Growth Centers.
- ◆ Make available large extent lands for housing by the State.
- ◆ Reduce cost of housing by providing common facilities and new low cost housing technology.
- ◆ Redevelopment of old housing schemes.
- ◆ Increase housing densities.
- ◆ Provide tenure ship rights to low income settlers on state lands.
- ◆ Provide incentives to private sector.

- ◆ Promote Urban Renewal Projects in slum areas.

Western Region Megapolis Plan

The plan is being developed by the Board of Investments under the vision to transform the Western Region 2030 to be an oasis of aspiration, heritage, recreation and gracious living.

The master plan is aimed at transforming the whole Western Region from a semi rural area into a modern mega polis, an urban agglomeration, to accommodate about 8.4 million population with the city of Colombo as the nucleus.

Based on their roles they perform, the megapolis is organized in 3 layers:

1. The Colombo Core at the heart of the Western Region, as the centre of the megapolis, where major facilities and amenities will be located. The Colombo Core Area is defined within the municipal councils of the City of Colombo, Dehiwala-Mt. Lavinia, Sri Jayawardenapura-Kotte and overlaps the boundaries of Kolonnawa, Kaduwela, Maharagama, Ratmalana and Kesbewa, similar to the CMRSP.
2. The Inner Necklace Townships, medium density residential townships along the inner ring road and immediately adjacent to Colombo Core as self-contained townships where most of the population will be accommodated.
3. The Outer Necklace Townships, self-contained low-density residential townships along the outer ring road, on the uncultivated areas further away from the Colombo Core.

While the area outside the Colombo Core is mainly allocated for residential township, the Colombo Core as the capital city of Sri Lanka will accommodate main facilities at country level such as the Federal Administrative Centre, the Central Business District, the main hospitals, cultural and sport facilities as well as the regional level facilities.

To have a better population distribution and to avoid over crowding within the Colombo Core, the population growth is distributed as follows:

As shown in Table 5, the Colombo Core will accommodate about 1.9 million population, a 50% increase of its current population, while inner necklace townships will take the biggest load of about 4.8 million and outer necklace townships that are within environmentally sensitive areas will accommodate the least population of about 1.1 million.

Table 4 : Projected Population & Proposed Densities in Growth Centers by 2010 (CMRSP)

Name of the Growth Centre	Extent (ha)		Project Population By 2010	Proposed Densities Persons/ha
	Total	Areas Available for Development		
Negombo	13,500	2,800	429,500	47.0
Gampaha	8,500	3,410	274,000	28.8
Biyagama	10,000	4,500	205,000	30.6
Homagama	10,000	2,210	287,000	26.7
Horana	7,500	4,585	21,500	18.2
Matugama	2,000	500	40,000	20.0
Core Area	18,800	2,000	2,000,000	120.0
Total	66,100	21,335	3,503,000	

Issues Relating to Master Plans

Despite several Master Plan efforts in the past, unchecked urban sprawl continues within the Province.

The recent Master Plan efforts have failed to deliver the desired results. Cause of failure can be attributed to both inherited problems within the plans themselves and political reasons. Glaring defects in the recent efforts are as follows:

- ◆ Top down approach resulting in failure to get consensus of different levels of implementation agencies (Central Govt., Provincial Govt, Local Govt levels).
- ◆ Lack of participation by stakeholders there by failure to get their commitment to adhere to the plan.
- ◆ Mismatch between the rate of economic development and that of the envisaged physical development. It has often been ignored the fact that planning for economic development and physical development should be mutually complementary.
- ◆ Conflicts in priorities of the economic policy authorities and those of physical planning / development authorities.
- ◆ Lack of coherence among different sectoral development plans owing to compartmentalization of sector organizations.
- ◆ Lack of proper monitoring arrangements and important follow up arrangements such as framing necessary regulations to provide legal strength to facilitate implementation.
- ◆ Inherent weaknesses of the plans such as ignorance of local social & cultural behavior patterns of people in trying to import western concepts directly and inappropriate technical options.
- ◆ Failure to attract political attention resulting in poor political commitment.

RECENT POLICY INITIATIVES AND LEGAL REFORMS RESPONDING TO KEY SECTOR ISSUES

Provision of affordable housing for the increasing population, maintaining and improving the quality of the existing housing stock, ensuring security of tenure, improvements to infrastructure and creating sustainable environmental conditions are the major issues within the Province requiring policy attention. Some of the recent initiatives taken by the government are

aimed at meeting the challenge of resolving the above issues and are listed below. Intention of promoting participation of private sector and user communities is a notable feature in several recent initiatives.

Amending the National Housing Development Authority Act (NHDA) to promote financial assistance for further improvement and free transaction of properties

Section 10 of the NHDA Act contained several inhibitory provisions, which hinder the purchasers of properties developed by NHDA to dispose such properties without prior written consent of the NHDA and to register the property as security for credit facilities. This was identified as an issue restricting refurbishment of NHDA produced properties.

National Housing Development authority Act has been amended in the year 2003 to repeal the section 10 of the NHDA Act with a view to eliminate inhibitory provisions. Now the NHDA developed properties can be freely transacted by the purchasers in the open market.

Establishment of HDFC Bank

Lack of affordable housing finance has been a major issue in the sector. Creating a healthy competitive environment among the institutions engaged in housing finance is thought to be a strategy in bringing down high interest rates.

Housing Development Finance Corporation Act has been amended to convert Housing Development finance Corporation into a fully fledged housing financed bank with the objective of expanding the housing finance assistance and mobilize capital market resources, to create conducive environment for more affordable financing.

Establish Condominium Management Authority

The Common Amenities Board Act and the Apartment Ownership Act were amended with the objective of strengthening the management mechanism of condominium properties (commonly known as flats) by enabling resident communities to manage them. Management Corporation which is a legal body formed among residents of a particular condominium is given wide powers and revenue generating strategies to function as a private enterprise to maintain the property.

minium projects from financing institutions much easily. This rational initiative will bring in much benefit to the Western Province where the potential for condominium housing is most, due to conducive environment offered to the property developers for the construction of more condominium properties. Together with these changes, a new institutional mechanism known as "Condominium Management Authority" has been created with the objective of coordinating and regulating affairs within the sector, and to protect the rights of all stake holders namely, property developers, lending Institutions, Management Corporations and prospective purchasers/residents. Further, legal provision has been made to implement urban renewal projects to replace existing Condominium properties which are more than 40 years old or those become nuisance to the environment due to neglect of repairs and maintenance, with new modern condominiums. The new institution, "Condominium Management Authority" will ensure proper functioning of management corporations including its supervisions and prevention of unauthorized constructions by the occupiers.

Amendment to the Rent Act

Rent Act was amended by Act No.26 of 2002 by removing inhibitive provisions, which discourage growth of rental housing market in the country. In addition to the above amendments, a new set of regulations were framed exempting premises constructed prior to 01.01.1980 and let before 01.01.1980 owned by Government Institutions or Co-operative Societies or Local Authorities or Companies from the operation of Rent Act.

Strengthening legal provision to protect Low-lying Areas

The draft Bill for the amendment of the Sri Lanka Land Reclamation & Development Corporation Act has been presented to the Parliament. The amended Act will confer enforcement powers on the Sri Lanka Land Reclamation & Development Corporation (SLLR&DC) in respect of areas declared as "reclamation and development areas," as "low-lying, marshy, waste or swampy areas" or as "canal reservation areas." This will confer authority on the SLLR&DC to prevent or control the development of land in areas to which the declaration of "reclamation and development area" applies and to control and prevent indiscriminate filling and development that could lead to harmful consequences including pollution and adverse effect on drainage functions, within such areas. Also provision has been made to keep all canal banks as a reservation free of buildings and structure. This is of particular interest to Colombo and Sri Jayawardanapura area where

Table 5 : Population Distribution 2030 (in Millions)

District	Core	Inner Necklace	Outer Necklace	Rural Area	Total	Present Population
Gampaha	-	2.75	0.48	0.25	3.48	2.06
Colombo	1.94	1.05	0.4	-	3.39	2.23
Kalutara	-	1.04	0.24	0.25	1.53	1.12
Total	1.94	4.84	1.12	0.5	8.4	5.41

The new system of preliminary and partial registration of condominium plans will enable the developers to draw finances to condo-

indiscriminate filling of flood retention areas is a major problem.

Formulation of REEL

Real Estate Exchange (Pvt.) Limited (REEL) is a company established by the government to undertake redevelopment of prime areas covered by dilapidated low income housing, on commercially viable basis. Its business plan for 2003-2008 envisages the liberalization of encumbered lands for urban development, to bring commercially valuable land into profit making ventures and to provide re-housing in new apartments with facilities for sun and shady dwellers in the city of Colombo.

National Water Supply and Sanitation Sector Policy

The Water Supply and Sanitation Sector Policy has already been presented to the government for review. This Policy provides guidance for the National Water Supply & Drainage Board (NWS&DB), Provincial Councils, Local Authorities, Community Based Organizations, NGOs and other External Supporting Agencies involved in supply of water and sanitation services in the design and implementation of programmes, investment strategies to achieve the coverage targets, service quality and cost recovery objectives of the Government of Sri Lanka.

Promote Partnership In Water Supply and Sanitation

In keeping with the National Policy on Water Supply and Sanitation Services and in order to achieve the sector goals, the National Water Supply and Drainage Board Act is being amended to remove existing legal impediments which prevent local authorities, community based organizations and private sector being involved in the provision of water supply and sanitation services.

Establishment of Independent Regulatory Mechanism for Water Supply Sector

Water Services Reform Bill will be tabled before the Parliament for establishment of an independent regulatory mechanism with the sole objective of protecting and enforcing consumer and service provider rights and obligations, establishing and carrying out dispute resolution among consumers, service providers, monitoring and enforcing service quality standards and performance indicators, and for licensing water service providers.

Kelani River Basin to be declared as Environmentally Sensitive Area.

Action has been taken to declare the Kelani River Basin as an "Environmentally Sensitive Area" and to appoint a task force to prepare an action plan to ensure the protection of environment and prevention of pollution.

Regulating the Registration of Property Developers

Action has already been initiated to regulate the registration of property developers, their grading, and raising of their financial, managerial and marketing capabilities compatible with the requirement in the property development market and to meet the requirements of lending institutions, prospective purchasers and the general public. This will ensure the development of a vibrant property development market in the country, dedicated for affordable property development.

Promoting offshore sand mining

In view of the difficulties caused by the construction industry due to the restrictions imposed on sand mining, steps have been taken to encourage private companies and foreign contractors to embark on off-shore sand mining and to convince the Government to consider granting tax exemptions on profits for the first 05 years, customs approval for dredging operations in offshore, duty waiver on importation of sand mining machinery. These proposals, which are now before the Government, will have definite influence to the housing industry in terms of private sector involvement and cost reduction.

Security of Tenure

It is a proven phenomenon in the Sri Lankan context that self initiation of quality enhancement of housing is very much dependent on degree of security of tenure. Certain squatter communities earlier thought to be incapable and not interested in improving their housing conditions showed immense enthusiasm to improve their housing conditions once they were given tenure rights. In many low income upgrading projects conducted by the NHDA, families were seen investing their savings and borrowings in addition to providing their own labour in converting their shacks to permanent houses, when they were assured of tenure rights. Degree of security of tenure is important in securing housing loans from financing institutions.

Following are the important steps taken in this regard :

- ♦ All tenants in the NHDA owned housing schemes have been given an opportunity to become the absolute owners of those units. Many of these schemes are located in the Western Province. As a result a most 80% of the tenants of such housing schemes

have become owners, while the balance is yet to be converted as the owners.

- ♦ Tenureship of occupants in government owned low-income urban settlements were well secured having executed long-term lease for 50 years for the extent of land they occupy. These occupants can now enjoy outright ownership on easy payment terms.
- ♦ Enacted Act No.2 of 1999 to amend the apartment ownership Law No.11 of 1973, enable the occupants in government owned apartments to become owners.
- ♦ Enacted Act No.30 of 1999 to amend NHDA Act No.17 of 1979 to make provision in the principal act to regularize unauthorized occupants in government owned housing units by converting them as legal occupants by offering absolute ownership.
- ♦ Housing schemes built on privately owned lands were acquired/leased with NHDA for granting absolute ownership to occupants.
- ♦ Establishing Management corporations have been initiated in all government owned apartments to enable the occupants to manage the housing complex by themselves.
- ♦ Easy payment terms were offered to all occupants in government owned housing units for obtaining absolute ownership.
- ♦ Many squatters occupied in government owned lands were relocated on newly built walk-up apartments. The value of the property they occupied was set off against the value of new apartment allocated.

MAJOR PROJECTS RELATING TO HOUSING SECTOR

A list of major projects currently in operation, within the housing sector including complementary infrastructure, with a brief description on each project is given below:

Housing Project for Public Servants in Kaduwela - Jaffara

A special housing project is being implemented by NHDA in Kaduwela, Jaffara area for Public Servants. Number of housing units being produced is 352 and are in the form of modern apartments. This will cater for the pressing need of housing for public servants who are working in Colombo and suburbs. The project is implemented with the financial assistance of the Government of Republic of Korea and the total

estimated cost for this project is Rs.954 Mn. The project is scheduled to complete in year 2004.

Housing Scheme for Public Servants in Edmonton Road

The first stage of the Housing Scheme for Public Servants in Edmonton Road Kirulapone is scheduled to be completed in mid 2004. The second phase of the project will commence immediately afterwards. These two projects are expected to benefit 416 public servants working in Colombo. Implementation is by NHDA.

Special Housing Loan Scheme of the Government (2003)

Under the Budget 2003, the GOSL announced a special housing loan scheme for the lower income segments of the society, at interest rates around 9% per annum. A sum of Rs 3 billion was allocated to be given as housing loans through the Banks with HDFC bank acting as the apex lending institution.

Urban Development and Low Income Housing Project

The Asian Development Bank funded Urban Development & Low Income Housing Project aims at promoting development and management of infrastructure of the urban human settlements in a sustainable manner and improving low-income settlements in urban areas through direct intervention by way of providing basic infrastructure. It also creates greater access to housing for the poor promoted through affordable low income housing finance at market rates. The strategy adopted by the project is sector approach and it has proven to be successful. The project operates at a TEC of Rs.7000 Mn. and supports the government's commitment to devolve the responsibilities to local authority level. The project provides assistance to develop 27 towns in the Western, North Western, North Central, Central, Uva, Sabaragamuwa, Southern and Eastern provinces. Implementation is by the Ministry of Housing.

Lunawa Environment Improvement & Community Development Project

The objectives of the LEI&CDP is to improve the environment and to uplift the quality of life of people in Lunawa lagoon catchment area (in Moratuwa and Dehiwala - Mt Lavinia Municipal Councils) by alleviating flood damage through improvement of storm water drainage system, including the rehabilitation of existing canals and streams, creating a hygienic and pleasant environment through improvement of storm water drainage systems and, upgrading the living condition of the communities identified

for resettlement (450 households) and underserved communities in the inundated area. It is estimated that the Project would bring direct benefit to about 18,000 families (About 100,000 people) living in Lunawa Catchment area. This project will be implemented over a period of 7 years at an investment of Rs.7200 Mn., and is funded by the Japan Bank for International Cooperation. The project stands to ensure the well-being of the community affected due to intervention of this project by providing an appealing resettlement package and an entitlement package. These have been developed in keeping with the GOSL policy on National Involuntary Resettlement (NIRP). This package will include the full replacement cost of the house acquired, the market value of the land acquired, the full replacement cost of the physical structure acquired, offset resettlement allowance or an off project area resettlement allowance. An Initial livelihood restoration grant and the provision of facilities and assistance (financial, technical and others) for the restoration of income and establishment of livelihood and community integration have also been included. Implementation is by the Ministry of Housing.

Greater Colombo Flood Control And Environmental Improvement Project - Phase III

First two phases of the Japanese assisted Greater Colombo Flood Control and Environmental Improvement Project were completed to reduce the incidence and level of flooding in the areas within Colombo Municipal Council limits. Phase III of the project, which will be commenced this year covers 7 basins under the Attidiya scheme and 4 basins under the Kawudana scheme and involves development and improvement of drains, culverts, bridges and open channels. This is yet another project funded by the Japan Bank of International Cooperation and the total estimated cost is about Rs.4925 Mn. Implementation is by National Water Supply & Drainage Board.

Industrial and Residential Wastewater Collection and Treatment System for Moratwa/Ratmalana and Ja-Ela/Ekala Areas

The project is planned to serve 24 square kilometers covering industries, institutions and residence in Moratuwa - Ratmalana area and also serve 14 square kilometers covering industries, institutions and residences in Ja-Ela Ekala area. The estimated cost of this project is Rs.7, 263 million and the implementation is planned for 2004 - 2007. Implementation is by NWS&DB.

Kalu Ganga Water supply Project

The project covers the towns in the southern part of Colombo, namely Keselwatta, Hokandara, Mattegoda, Athurugiriya, Godogama and

Madapatha, which are presently served through the Ambathale water intake. Under this project 400 Km long Main Distribution lines will be constructed to serve Horana, Bandaragama, and Panadura and Moratuwa towns with intake capacity of 126,000 cubic meters per day. Project includes construction of a water treatment plant with a capacity of 60,000 cubic meters per day and pump houses. With the successful implementation of this project the volume of water now supplied to the southern towns of Colombo could be diverted to the northern towns of Colombo and provide new connections and improve the service levels in the areas of Ja-Ela, Ekala and Mahara. Total estimated cost of the project is Rs.6200 Million and scheduled to complete in the year 2005. Implementation is by NWS&DB.

NRW Reduction Project for Greater Colombo Area

The main objective of this project is to reduce non-revenue water in the Greater Colombo area, which is now accounted for around 50% of water production. The projects include rehabilitation of Water System in Colombo, Reduction of non revenue water (NRW) in Greater Colombo and Augmentation of Water Supply in Kotikawatta-Mulleriyawa area. The total estimated cost of the project is Rs.3, 500 million and funded by Japanese Bank of International Corporation and the Government of Sri Lanka. The project is expected to be completed in middle of year 2007. Implementation is by NWS&DB.

Improvement Of Infrastructure And Service Delivery In Uss In Colombo (Phase I)/ Primuss

The main activity of the project, which is implemented by the CMC with German funding (GTZ), is facilitation of access to improved basic municipal services for the residents of underserved settlements in Colombo. Project is now operated with a grant of 2.55 million Euros and expected to generate more funds under the Phase II, which will continue till 2009.

Urban Settlement Improvement Programme (USIP)

The main activities of the project, which is implemented with JBIC and local funding, are provision of water supply and sanitation infrastructure and environment improvement. Sub projects are implemented in Colombo Metropolitan Region and other selected towns. Donor funding is limited to 0.4 million US\$ and local fund allocation is Rs.40 million. Implementation is by the Ministry of Urban Development.

Urban Settlement Development Project Phase I

300 apartments are planned to be constructed at Bareilly, with US\$ 15.0 million funding from China. UDA is the implementation agency.

Greater Colombo Waste Water Management Sector Review

Main activities of this ADB/IDA funded project are institutional development and rehabilitation and extension of sewerage areas. The project has secured US\$ 160.0 funding. Implementation by NWS&DB during 2004 to 2009.

3rd Water Supply & Sanitation Sector Project

The project is jointly funded by ADB and GOSL. Fund allocation US\$ 120.0 million and in addition US\$ 4.0 million is expected as community contribution. Activities relevant to the WP are institutional development of NWS&DB and Greater Colombo digital utility mapping.

Small Scale Infrastructure Rehabilitation & Upgrading Project (SIRUP I)- Sub Project I

Under this project US\$ 6.79 million has been allocated by JBIC to rehabilitate Greater Colombo sewerage system. Implementation by NWS&DB.

Economic Reform Technical Assistance Project

Ministry of Economic Reforms, Science and Technology is implementing this project with IDA funding amounting SDR 11.4 million. Kalutara and Galle towns are identified for improving access to safe water with private sector participation.

Sri Lanka Land Reclamation And Development Corporation Projects

SLR&DC has taken several initiatives to create flood free environment in Colombo and suburbs. One such initiative is Mudun Ela Development Project at a total estimated cost of Rs.4.725 Million. This project involves following components:

- Develop 136 ha. of low lying marshy land in Peliyagoda area by filling with sea sand to create buildable land just outside Colombo city.
- Storm water drainage and environmental improvement in Woraganga sub catchment of Beligoda basin based on the recently formulated Storm Water Drainage

Master Plan for Colombo Metropolitan Area.

- A study has been planned to minimize pollution in Colombo canals with the ultimate objective of storm water management, flood control and improvement of water quality & environment.
- The quality of water in Colombo Canal System has led to severe health implications. The proposed Colombo Canal System Water Quality Improvement Project aims at improvement of living environment & health condition of the population in the project area and the tentative estimated cost of this project is Rs.365.25 Million.

Real Estate Exchange Ltd.

The REEL is a company owned by the GOSL dedicated to redevelop under served areas in Colombo on commercially viable basis. The company has embarked on a programme of constructing 17 housing projects, providing re-housing to 85,800 slum and shanty dwellers in Colombo at an investment of Rs.19,569 Million. According to the company's business plan for 2003 - 2006 and the Cabinet Paper approved on re-formulating the activities of the company, this programme is expected to be implemented in the following manner.

- Obtain the legal ownership of carefully selected 257 acres of city land occupied by slums and shanties. At present the ownership of these lands lies with the Commissioner of National Housing, NHDA, SLR&DC, Port Authority, UDA and CMC.

- Raise the funds required for re-housing through an Initial Public Offering of Shares of REEL.
- Construct 17,160 housing units to provide re-housing to 85,800 slum and shanty dweller

Sewerage Projects

- The existing sewage disposal system which was built between 1906 and 1920 within CMC area comprising 300 km sewerage pipe line, 18 mega pumping stations and several smaller pumping stations at strategic points and sea outfalls at Wellawatta and Muluweli will be rehabilitated with donor assistance. In addition to the areas of CMC, parts of Kolonnawa, UC and Dehiwala - Mt. Lavinia MCs under the existing system, initial steps have been taken to extend the sewage disposal system to cover rest of Kolonnawa LC and Dehiwala - Mt. Lavinia MC areas. The Asian Development Bank has agreed to provide technical assistance for the project preparation in 2004.
- The total estimated cost for rehabilitation of the

existing sewerage system, expansion of the service coverage and the new sewerage system for Sri Jayawardanapura Kotte MC would be Rs.24 billion. As an urgent measure in addressing the problem, Donor funding of Rs.960 Million will be provided for the rehabilitation of Sewerage pump houses, cleaning, repairing and re-laying sewerage pipe lines in some selected areas and testing cleaning mechanism in the SMC area.

RECOMMENDATIONS FOR FUTURE ACTION

Priority Infrastructure Areas

Infrastructure areas like water, electricity and roads, which are of very basic nature in facilitating housing sector development, are reasonably covered within the Western Province and projects already in the pipeline will further improve the situation. In addition to the above infrastructure, urban forms of human settlements cannot exist without waste disposal facilities. Sockage based sewage disposal systems such as septic tanks are not feasible in high housing densities due to technical and environmental reasons. Therefore pipe borne sewerage systems are a compulsory requirement for high-density housing. No plans are so far worked out to provide pipe borne sewerage schemes to suburban townships. Solid waste disposal even in Colombo is in very primitive state. Immediate attention in developing sewerage and solid waste disposal is strongly recommended.

Development Master Plan

Housing in the Western Province should be one of the most important activities in the development agenda of the whole country. Considering depleting land resource in the Province, the continuing ad-hoc sprawling of housing by way of land speculation or alienation of economically productive agriculture lands must be regulated. This could only be achieved through implementation of a Development Master Plan for the Province. It is unfortunate to note that the authorities have failed to manage the previous Master Plan but embarked on a new planning venture repeating the same mistakes. Master Planning process must start from local levels and not to be imposed upon. Both physical planning and economic planning inputs from topmost authoritative levels, adequate consultation with all levels of implementation & important sectors and securing political consensus and commitment of Central Government, Provincial Government and Local Government levels and all stakeholder organizations must be ensured. Corporate plans of stakeholder organizations should be in accordance with the Master Plan. (Refer Sec.3.3)

Sector Coordination

Up to mid 1990s the subjects of housing, urban development and water supply were assigned to one Ministry, which helped to maintain consistency in policies and coordination among programmes. Coordination with other infrastructure agencies was ensured by appointing the senior members of such agencies to the Director Boards of housing organizations. For example, a senior member of Ceylon Electricity Board (CEB) was appointed to the NHDA Director Board, which worked well in coordination of activities in two organizations. Splitting the above sectors to different ministries has created unhealthy situation relating to consistency among policies and coordination among programmes. If it is not possible to bring the relevant agencies under one Ministry, at least composition of Board of Directors should be in such away to ensure required coordination. For example, Director Boards of NHDA, UDA, NWS&DB and CEB should have a mutual combination of representatives from each of the organizations.

Different Approaches to Different Segments of Society

The Western Province accommodates a wide spectrum of social segments living in urban, suburban and rural areas, belonging to different economic levels. Housing strategies for these different segments also should differ depending on their economic levels and social & environmental factors. When it comes to urban core areas housing should be through corporate arrangements (mechanisms) as desirable type of housing should be multi-storied apartments, which cannot be left to individuals. Corporate arrangements could be public bodies or public-private partnerships or private companies, but direct State intervention to deserving segments must be ensured. Participatory approach with state assistance in the form of land alienation, small loans and technical assistance programmes in low cost technology should be strengthened in areas where settlements with individual housing units are permissible.

Over Dependency on Private Sector

Housing is a high capital consuming activity. Type, quality, mode of production of housing, therefore is very much dependent on the level of economy of the individual beneficiary. Considering the average economic situation of Sri Lanka, given the parameters such as high building cost, low family income levels and high cost of borrowed finances, private sector participation in housing will be limited to affluent segment of the society in general terms. Recent policy statements of Financial Authorities

show over dependency on private sector on public housing. This attitude within the financial bureaucracy seems to be a cause for reducing public funds drastically for the housing sector. Housing should be looked upon as an investment on society, which would yield long term returns, as done by several developed countries in the region when they were in developing stage. State must directly intervene in the housing sector and ensure financial and institutional assistance to needy segments of the society.

Role of NHDA in Non-Bankable Segment of the Society

NHDA, as the main implementation arm of the Government in the housing sector has immensely contributed to the sector in the past. Investment to the sector by NHDA in the past is around Rs. 17.5 billion and around 2.5 million families had been benefited. In the participatory housing programmes implemented by the NHDA, the value of house produced out of small seed money given as a loan, was several fold of the amount given as loan. The value addition was a result of beneficiary contribution inspired by the loan and other factors like tenure security and social recognition. New settlements created under those programmes have now developed into popular residential areas. NHDA's experiences over 25 years of implementing housing programmes should be harnessed for the benefit of the future programmes.

NHDA has a vital role to play in direct assistance to a large non-bankable sector, both in urban and rural areas. Under the Special Housing Scheme of the Government announced in 2003, which was implemented through Banks, loans were issued between Rs. 100,000 to Rs. 500,000, but takers for Rs. 100,000 range were few. Main reason seems to be the inability to provide mortgage required by banks, as lower income segment cannot fulfill the perfectness in titles of their properties. Another fact is that within the requirement of formal Bill of Quantities based estimate, in conventional terms, no complete housing unit can be constructed for Rs 100,000. High professional costs involved in preparation of drawings, estimates etc. and bureaucracy involved in obtaining clearances are also some reasons preventing lower income segments entering into bank schemes.

NHDA small loan schemes operate without land as collateral and therefore more appropriate for low-income segment. The application procedure is also much simpler to suit the low income categories. Government must consider strengthening the NHDA loan schemes for the benefit of large non-banking segment of the society.

Renewal of Slum Areas

315 Acres (128 Ha) of prime lands in Colombo

core area is covered by old slums. About 55 % of these slums are vested under NHDA and another 25% owned by the CMC. Majority of slum dwellers are of moderate income levels but unable to demolish old units and rebuild due to legal and technical impediments. The old slum structures are attached rows of units structurally not independent and the land spaces are lower than minimum extent requirements by CMC by-laws. Considering the high land values there is a strong potential to redevelop these areas with private sector participation. Project proposals for redevelopment of selected slum areas should be prepared for inviting private sector to participate. This could be undertaken by REEL & NHDA jointly.

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NEW TRENDS FOR THE CONSTRUCTION OF COST-EFFECTIVE HOUSING UNITS

G.A.P. Ganepola *

Director/Head
Project Management Division
National Building Research Organisation

Housing is one of the basic needs of a civilized human society. The traditional house that has existed in Sri Lanka for more than two thousand years, was an outcome of a strong philosophy of Buddhist life – i.e. Simplicity and impermanent nature of life. The house was part & parcel of nature; the materials were borrowed from the nature and returned to nature. The traditional concept was to live in and around the open areas of the house and not within the enclosed compartments. Tradition is not static, it is the product of the functional demands adopted with the nature & environment, favoured with culture and belief. It was developed with certain value systems, anything that was not acceptable to the society was gradually rejected, only what was proved useful for people were retained and adopted. The outcome of confidence and the human satisfaction experienced by the ancestors, formulated and precipitated the tradition.

However, today it is assumed that the ultimate objective of modernizing development is the Urbanization and Industrialization. Whilst ownership is an undeniable human right there is a strong desire of our present hectic & fast moving society for ownership of good-looking, maintenance-free and long lasting houses and the same are finally valued as status symbols of the individuals.

A recent survey done in Sri Lanka reveals that around 105,000 housing loans have been granted in 2001 by housing and finance institutions including some commercial banks when compared with around 82,000 in the previous year. With the Government initiatives, banking sector in the country also implemented special housing loan schemes to cater to the increasing needs of the society, specially the working class. As a result, the banks have released large amount of funds as housing loans. A developing country like Sri Lanka cannot afford to utilize these resources allocated for housing inefficiently and wastefully. But with the introduction of open market economy to Sri Lanka where a

vast variety of building materials, finishes, fittings, etc. are available to try out enhancing of our standard & quality of life through the housing unit also. The house owner would naturally be desirous to have as much materials/finishes as possible in order to make his house a symbol of self without a proper awareness of the cost implications, time delays, suitability for living, etc. Sometimes the owner tries to implement some of his pre-conceived ideas collected from various places or magazines, local or foreign, which are totally out of context and not affordable.

Approach towards cost-effectiveness (An Attitude)

The term "Cost effectiveness" is a relative term and highly personal depending on one's aspirations and attitude towards life. The person may sacrifice one thing to get another for his own satisfaction within the resources available for him. But when his personal context changes later on he may not be satisfied with what he has got and starts looking for changes which is a natural phenomenon. Hence, Cost-effectiveness is always related to time, cost and quality of product. For instance, a speedy construction system may be more cost-effective to be adopted for the construction of one's house based on his urgent construction time requirements although the traditional construction system is less expensive. On the other hand, nobody seems to accept our traditional earth work construction system as cost-effective for house building today in spite of their valuable contribution for eco-friendly living.

Within this comprehensive and complicated house building scenario where too many elements are competing with each other, most of the house builders who are not far sighted and unable to prioritize their housing needs, end up with partially completed or sub-standard housing units of their own without achieving their original dream of making the house a status symbol of self perhaps during their lifetime even. In the end, their housing investment will never be cost-effective.

Therefore, it is very important to study the reality in detail in order to make the society aware and direct on cost-effective construction.

Trends and possibilities of Cost-effective Housing (Towards a compromise)

Majority of our society tends to believe that cost-effectiveness begins with the construction of house and therefore, highly concerned about the use of low cost building techniques, low cost building materials, cheap labour, etc., out of the several options presently available in the market.

The house builder should be aware of the cost-effectiveness right from arriving at his decision to build a house. He should make his mind very clear on the boundaries of this housing project, i.e. the accommodational requirements, the budget and the construction period mainly. He should be convinced that the house he is getting within the above limitations, will satisfy his main housing needs and he will not get into a mess financially as well as psychologically in the end. But of course, there should be an affordable margin of flexibility as working context changes with time. If the owner is not confident of himself to plan out the above comprehensive process he should be humble enough to consult a qualified person/s in the respective fields. A very common misconception is that employing a qualified person will not be necessary as the house building process is very simple exercise of cement, sand & bricks and therefore, the money otherwise spent on professional fees, could be better utilized in purchasing the necessary building materials. But the owner does not and cannot assure of whether his investment on the building materials will be efficiently utilized to the maximum.

If a house builder wishes to make his house building exercise a cost-effective venture he should give due consideration on the following:

* Architect, R.A.(S), F.R.A.

(a) During Selection of the land;

- ◆ Locality, neighbourhood, access to utility services, title clearance, land price, ground conditions, etc. should be studied and analyzed in detail under necessary professional advice prior to purchase the land. If the site is found to be problematic selecting another land would be cost effective;

(b) During Preparation of the House Design-

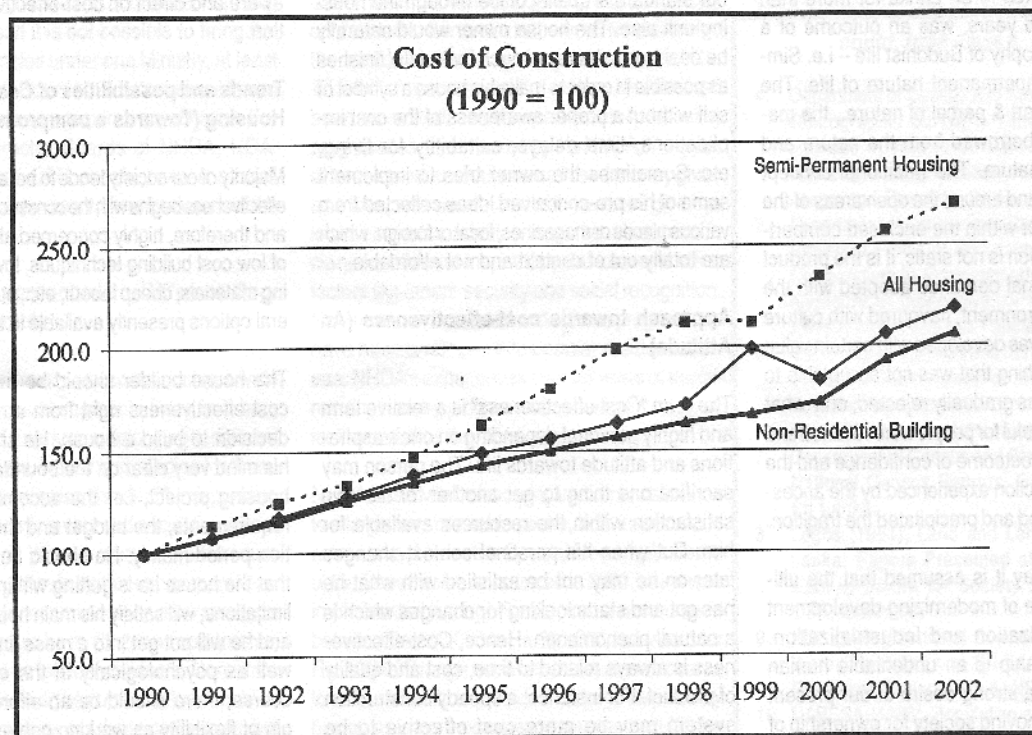
- ◆ It is always advisable to get the House Design prepared & finalized by qualified

- ◆ Use of inappropriate technology and materials lead to unnecessary cost over runs during construction. In cost-effective designing minimizing the quality of materials or choosing those with minimum cost, is not the criteria. It is the proper evaluation and use of suitable materials in the right context and use of their characteristics & properties to the fullest advantage. It is wasteful to specify and use materials with qualities/ strength over & above what is required in the given construction. For instance, in a two storeyed house handled by a non-qualified person, concrete & reinforcement steel may have been specified and used much below their full capacity.

- ◆ The need for financial control and the building to be completed to the required quality within a definite cost & time framework, is due to continuously rising cost of building, restraints in the money borrowed and high interest rates. When work is handled by skilled people and monitored & supervised by professionals repetitive breaking & making can be avoided and wastage on materials, quality & time can be reduced drastically.

Concluding Remarks -

The ability to build cost-effective houses lie



persons mainly the Architect, the Structural Engineer and the Quantity surveyor in order to make the same cost-effective.

- ◆ This is the most crucial stage where the owner should seek and rely on professional advice.
- ◆ The owner must have a very clear picture of the nature of accommodation required and the price he is prepared to pay but the requirements may tend to be more expensive than what is affordable due to having pre-conceived ideas of decorative features collected from various magazines etc. without being aware of the cost implications of such changes during the construction stage.

Today, we can find lot of similar examples on how the properties and characteristics of building materials have not been fully exploited.

- ◆ A competent Designer will be able to advise the owner at the Design stage itself on the alternative design proposals (Architectural), building systems, materials, fittings, fixtures, etc. to suit his actual housing context so that he will be within his budget as well as get the best value for money.
- ◆ However, **one must not aim at a champaign product for a beer budget.**

(c) During construction -

in higher professional skills become employed. Appropriate skills must be correctly employed. Far too many unqualified and inexperienced persons today attempt to cover the area of building that they have no training or experience to provide. A frank and realistic look must be made into the way which professional skills become at present, employed and necessary changes made for the overall good. The Architect's skill and training are different to that of the Engineer. It would be nonsense to accept a situation where these skills should be interchanged or denied. They must become employed in a manner in which they become complementary so that the feeling of cost- effectiveness can be eventually achieved.

HOUSING STRATEGIES IN THE PLANTATION SECTOR ADDS DIGNITY & CONFIDENCE TO THE PLANTATION WORKER

The plantation industry is 180 years in existence. Although writers have filled many pages on this subject, there is yet a distorted view of what life is on the plantations.

Toil and tears have all been part of development of the estates. In 1824 the first coffee estate was planted in Sinhapiliya a narrow Village on the outskirts of Gampola by George Byrd. To him would go the distinction of having started the plantations in Ceylon (then), which has continued to develop and what we see today is a vibrant industry which influences the lives of over 3 million people, directly and indirectly.

Coffee became the major crop and to work these new holdings the British turned to South India for their requirement of cheap labour. The tragedy that unfolded left a trail of hardship and death even before these people arrived at their destinations. They were quartered in rows of housing which eventually earned the dubious title of line rooms, at best single or double rooms which at the time were temporary living accommodation.

Over the years these line rooms became permanent structures. There were labour laws enacted to provide basic facilities for plantation workers. These were only basics which Planters did provide. But with the passage of time, and worker population increasing, these line rooms took the form of over crowded ghettos. Long after this period when Tea replaced coffee, and even as recently under Nationalization there was hardly any change.

Growing of tea at that time progressed and developed to be the industry it is today. One that all Governments would turn to sustain growth with the clear assumption that the Plantation industry would settle most of their bills.

Contrary to the perception that garments have displaced Tea as the leading foreign exchange earner, Tea is still the largest net contributor to the GDP, and continues to function on its own without the paternal benevolence of BOI assistance, or tax holidays. Notwithstanding its importance, there was hardly any

reference to living conditions of the most important factor of plantation production. The Workers.

James Taylor, when he planted the first 19 acres in Tea on Loorcondara coffee Estate, in Pupunusa, in 1887 may perhaps never have realized the progressive step he took then would grow to be the vast industry it is today, directly responsible for the lives of just about one million people who would live and work on these Plantations.

In 1939 with the out break of the 2nd world war, influx of Indians stopped. 1939 was also a historical year for the plantation worker. The CWC was formed that year by Souyamoorthy Thondeman who immediately commenced discussions with the Planters' Association of Ceylon, for better living conditions, but he was not taken seriously, till the memorable strike on Kottiyagala estate, also in 1939, when he demanded better living and working conditions for his workers. (This was the first industrial dispute in the Estate sector, which eventually spawned countless others. The main demand being better housing, water and sanitation.).

Since then periodic turmoil has always been the hallmark of the plantation sector, till the Plantations were nationalized in 1976 through the Land reform law. Land reform was not aimed at the Plantation worker but more to solve the problem of landlessness among the hill country peasantry.

At this point, the world bank stepped in, and through the Plantations Rehabilitation And Diversification Project, (TRAD) of 1978, put in place a comprehensive program for worker housing through construction of twin cottages. The TRAD project did have its salutary impacts, but the financial implications were so big, that they realized that even after targets were met, which was a mere 15% of housing stock, there was a deficit quotient to solving this social problem. Although World Bank funds were disbursed under other aid headings as well, notably the Medium Term Investment Programme (MTIP) of 1982, which were totally State controlled, lacked sensitivity and imagination to stabilize those gains. Humanitarian problems were not addressed.

Ranjith Ellegala

Chairman, Central,
Plantation Human Development Trust.

The end results were that trauma and frustrations of the past continued. State control ended in 1992 when the Estates were re-privatized. (Perhaps the only re-structuring exercise that was implemented with no industrial upheaval).

The Plantation Housing & Social Welfare Trust (The Trust) or as it is now known, **The Plantation Human Development Trust**

The mandate of the Trust was housing, water, sanitation, family health, child development, human resource development, and allied areas of importance. The Trust was formed after privatization of the Plantation Industry to handle social development work which at time of State control was implemented by the Social Development Divisions (SDDs) of the Janselva Estates Development board (JEDS) and the Sri Lanka State Plantations Corporation (SLSPC).

Housing was recognized as the main item for attention under the Social Welfare Program II (SWPII) of 1993. The Netherlands and Norwegian Governments through a grant aid program funded the totally different concept of self - help housing, and implemented support services to realize these objectives. The Estate Worker Housing Co-operative Society (EWHC) was formed on each Estate to take on a participatory role, to popularize the new concept of the self - help housing.

Special emphasis on health conditions, which included safe drinking water, gender concerns, and overall family development were ancillary services which received colored attention. This led to settlement development planning to give adequate weight to self help, not only in housing but to make it attractive for workers to also espouse the village concept. And leave behind the stigma of the line rooms.

In the formalized Estate sector, that is

Estates managed by Regional plantation Companies (RPCs), there are 449 estates with a total work force of little over 310,000 persons. The land extent under Tea and Rubber is 121,606 hectares.

The resident population numbers just about 834,000, occupying 163,580 line rooms, including twin cottages. Additionally there are also structures referred to as temporary (Sheds) housing which is 14301. (temporary sheds became a feature of housing because of inadequacy of State agencies to satisfy all housing needs).

From 1993 to 2003 the social welfare projects continued, with completion expected by end 2005. SWPII was completed in 1998, which gave rise to the Plantation Development Support Program (PDSP). Simultaneously, The Asian Development Bank, too funded the Plantation Reform Project (PRP), which concentrated on upgrading line roofs, and extensions to existing houses.

By end 1999, 13,024 self-help houses were completed. The overlap housing construction from that year to end 2003 recorded completion of 8,408 new units, which gives a total upgraded and self help houses numbering 21,432 units, in a space of ten years.

Needless to say this achievement needs to correlate to improvement in life styles of the plantation population.

Quality of life of the plantation worker is changing, and he could now stake his claim that he too does not need to live within the estate concept, but take his place among peers, that he is not second to any.

SWPII had a financial outlay of one thousand million. PDSP which followed had enhanced donor funding which amounted to two thousand million, which when considered in its entirety was endorsement that the Trust had fulfilled its role, and was perhaps one of the few entities which fulfilled project requirements. The carry over percentage was negligible, in early years. Recent performances have recorded surplus achievement levels, and it came as no surprise that effective 2001 expatriate funds supervision was withdrawn, because of efficient performance of the Trust. The Trust was directly responsible to the Netherlands and Norwegian Governments through the Government of Sri Lanka.

Improvement in health parameters parallel to other project activities gained equal promi-

nence, through the construction of maternity wards, and crèches or day care centers and dispensaries. Additionally project funds were also provided for safe drinking water, and construction of toilets.

Physical achievements in these activities contributed to uplift of the worker population. The period 1993 to 1999 witnessed the completion of 42,935 toilets. That number increased by end 2003 to an additional 29,568, giving a total achievement of 72,503 toilets constructed, this too was under the self - help scheme, and proved to be efficiently handled. The number of water supply projects completed to end 2003 is recorded as 1,355 schemes.

Although the social welfare projects for the estate sector concentrated on physical achievement in the overall assessment, impact of these programs on life of the plantation worker was recorded as growing improvement in social levels and expectation. Opportunities for family advancement opened with greater mobility, more importantly they were no more the captive labour force that worked on estates even as recently as ten years ago.

This came about because of improved housing which gave them dignity and self assurance.

The introduction of the EWHC, was a new concept in mobilizing worker responsibility to take charge of their own future. There are now well managed and fully operative EWHCs on estates. Up to end 2003 there were 113 fully developed EWHCs. By this is meant that these institutions now disburse small loans, for building, and a variety of other activities. In fact it could be said that housing, education, gender development could all be considered success stories because of the EWHC schemes started on Estates. Development of these institutions is ongoing, and recorded responses have been positive.

The sequence to improvement in housing and development of settlements, land use and self improvement have become features of the trust programs. Through the EWHCs self employment has been encouraged, with the ultimate goal of reducing construction costs. Young people have been trained in various building trades, to promote self reliance and less dependence on contractors.

The EWHCs have become the best CBO team for guidance and dissemination of information. The off shoot in some instances was that they promoted worker - management relations, which in consequence has reduced industrial disputes. The role of the EWHC has grown with the de-

mands of the job. What will happen next is that this institution, would be in a position to recommend to the Banks to identify with the Trust to collaborate in these loan releases.

A further laudable act is the granting of loans to poorer families, with the re-payment period stretched to 20 years.

These achievements have been made possible, because of the Housing standards and improvement in their life styles.

In the health sector, Plantation health has seen the active involvement of the department of health, who are now coordinating their work to ensure that plantations in the Hill country will receive the full benefit of medical care, through training of midwives, and Estate Medical Assistants. Medical services have been uplifted to be in line with recent advances of general health, to ensure that estate workers are cared for.

Women on plantations have always been harassed and abused both in their homes, and work sites. To counter these unacceptable practices the Trust has implemented a series of gender related programs which has concentrated on women's rights, through encouragement to have them accept positions of responsibility within their community. Plantation Companies have implemented their own innovative plans to give them greater responsibility, in appointing them field monitors, or gang supervisors. This is a completely new concept in work site supervision, which hitherto was a male domain. The women are proving equal to the task. They are now asserting their place in the community and have defined their role in the household, and at their work sites.

The housing strategies in the Plantation sector have made a significant impact on the plantation worker, and he has gained in prominence, dignity, and standing.

His children are better educated, and could aspire to hold high positions within the sector. His contribution to the routine operations in the estate he works, does not go unheeded. His future is secure, and above all he is free from the deadly intervention of the money lender. Self help housing has caused this improvement. He is also free from debt, and can put away a little for a 'rainy day'.

The Trust continues to be effective in their work and their contribution will be measurable in time.

ROLE OF CONSTRUCTION SECTOR IN THE SRI LANKAN ECONOMY

An Input-Output Analysis

Input output analysis has a long history in assessing sectoral performance and interdependence of economic sectors in any economy. This study is based on the input-output analysis to analyze the economic significance of construction in the 52-sector economy of Sri Lanka for 1994. It was observed from the research that construction sector is strong backward linkage sector, occupies the 15th place in the 52 sector economy. It has backward linkage of 1.61, above the average. In terms of forward linkages, it is insignificant as the 96% of construction output goes to final demand as capital formation. Detail analysis of construction linkages show that construction is highly dependent on manufacturing followed by services sector for its inputs, while construction output is mainly consumed by services sector.

Key words: Input-Output analysis, Construction, Backward and Forward Linkages

In formulating economic development policies, both the assessment of sectoral economic performance and production interdependence are very important issues to be addressed. A large and strongly interdependent sector may be seen as a good regulator for the economic development of a particular country (Karagiannis and Tzouvelekas, 2002). Sri Lankan economy consists of three major sectors such as agriculture, industry and services contributing 18%, 27%, and 54% to the economy in 2001 respectively (Central Bank of Sri Lanka, 2002). Industrial sector is comprised of four main sectors such as manufacturing, construction, electricity, gas & water supply and Mining & quarrying. Construction is the second highest industrial sector contributing around 6% -7% to GDP during last decade (Central Bank of Sri Lanka, 2002).

'Construction' is the term that is generally used to describe the activity of the creation of physical infrastructure, superstructure and related facilities. It therefore comprises all civil-engineering work and all types of new building projects, as well as the maintenance and repair of existing facilities. Further, construction in any country is a complex sector of the economy, which involves a broad range of stakeholders and has wide ranging link-

ages with other areas of activity such as manufacturing and the use of materials, energy, finance, labour and equipment (Hillebrandt, 1995). The contribution of construction industry to a country's economy may be broken down into following components (Ofori, 1990):

1. Production of specific and national basic needs.
2. Provision of fixed capital assets and infrastructure of a country.
3. Direct contribution to the Gross Domestic Product (GDP), thereby stimulating further growth via its backward and forward linkages with other industrial sectors.
4. Employment generation.

Construction makes a noticeable contribution to the economic output of a country; it generates employment and incomes (Field and Ofori, 1998). Therefore the effects of changes in the construction industry on the economy occur at all levels (Hillebrandt, 2000). This implies that construction has a strong linkage with many economic activities, and whatever happens to the industry will directly and indirectly influence other industries and ultimately, the wealth of a country. Hence, the construction industry is regarded as an essential and highly visible contributor to the process of growth (Field and Ofori, 1998). Further more, Turin (1969) argued that there is a positive relationship between construction output and economic growth and as economies grow construction output grows at a faster rate, assuming a higher proportion of GDP.

An industry that purchases its inputs from other industries in the economy is said to have backward linkages. On the other hand, an industry whose outputs are sold to other industries for production is said to have forward linkages. As cited by Bon, R. (1968), the construction industry is in need of large amount of inputs from other industries such as materials, equipments, personnel, capital and management etc. The construction industry also generates outputs, which are used for economic activities by other industries. This production process reflects the inter-industrial relation with their inputs gained and outputs released. These relationships are identified as backward and forward linkages by Hirschman (1958). One of the main objectives of this paper is to study the importance of construction sector and show how the construction in-

Raufdeen Rameezdeen*

Nisa Zainudeen**

Thanuja Ramachandra***

Industry of a developing country is linked with other sectors of the economy, taking Sri Lanka as the case study.

Methodology

This research was primarily based on Leontief input output model to study the linkages between economic sectors. Analysis deals with input output analysis for construction sector based on the input-output table published for Sri Lanka in 1994. The original table is aggregated to 52 sectors based on the International Standard Industrial Classification (ISIC).

Direct linkage indicators are formed by constructing the direct input coefficient matrix, by dividing each flow shown in input-output table by the column sum. Alternatively, when each flow is divided by the row sum, a direct output coefficient matrix is obtained.

Direct - input and direct-output coefficient matrices are inverted to obtain the total input and output coefficient matrices respectively. The elements of an inverse matrix represent both direct and indirect flows between two sectors. The total input coefficient matrix shows the total impact of changes in final demand on sectoral output, while the total output coefficient matrix shows the total impact of changes in value added on sectoral input.

Significance of Construction sector in the Sri Lankan Economy

The significance of any sector in an economy can be estimated by examining the inter-industry linkage effects. Backward and forward linkages are the measures of the economic interdependence between industries (Frasman, 1996). In measurement of backward and forward linkages there exists two different methods. According to Chenery and Watanabe (1958) backward linkage of a sector is taken as the column sums of the input coefficient matrix (A matrix for aggregated five sectors of 1994 economy). Similarly forward linkage of a sector is defined as the row sums of the output coefficient matrix (B matrix for

* Senior Lecturer, ** Senior Lecturer, *** Research Assistant
Department of Building Economics, University of Wollongong

aggregated five sectors of 1994 economy). The Chenery – Watanabe method, based on direct input (or output) coefficients, measures only the first round of effects generated by the inter-relationships between sectors. Hence called as direct linkages. Rasmussen (1956) proposed to use the column (or row) sums of the Leontief inverse matrix, $(I-A)^{-1}$, to measure intersectoral linkages. The backward linkages based on the Leontief's inverse matrix is simply defined as the column sums of the inverse matrix $((I-A)^{-1})$ inverse matrix for aggregated five sectors of 1994 economy). Similarly, the corresponding forward linkages can be defined by reference to the rows of the Leontief output inverse matrix. Backward and forward linkages used in this study are based on above two methods as Chenery - Watanabe's method shows only the direct effect while Rasmussen method shows both the direct plus indirect effects.

Figure 1 is obtained by arranging the backward linkage indicators of the Sri Lankan economy of 1994 in a descending order. The highest backward linkage indicator is found for Oil and Fats sector while the lowest for Forestry sector. Construction occupies the fifteenth place having total backward linkage indicator of 1.81 within the 52-sector economy. It is also noted that there are

Table 1: Direct backward linkages of construction

Sectors	Direct Backward Linkages
Trade & Other Transport	0.100
Cement & Cement Products	0.098
Wood Products	0.072
Mining & Quarrying	0.053
Structural Clay Products	0.029
Basic Metals & Rolling Mill	0.029
Banking & Insurance	0.026
Electrical Appliances	0.021
Ceramic, Glass & Glass Products	0.019

twenty-three sectors, which are above average (1.57). This value of 1.81 shows the effect of one unit change in the final demand of the construction sector on the total output of all other sectors. Therefore this indicator is used to show the "pull" effect of the construction sector on the rest of the economy at any particular point of time. High amount of intermediate inputs of construction reflects the nature of construction operations involving the assembly of many different products purchased from a large number of industries. Therefore, an increase in final demand of construction output will have a large impact on industries that supply inputs to the construction sector.

Figure 2 gives the relative position of construction in terms of forward linkage indicators. Forestry and Rubber followed by Hotels and Restaurants lead the forward linkage sectors in Sri

Lanka. Construction, which is having a forward linkage indicator of 1.09, occupies the forty-third position and is below average (1.68). This indicates that contribution of construction to other sectors is marginal, limited only to maintenance and repair services. Further, this low value of forward linkage indicator implies that the major part of construction output (about 95%) cater to final demand as new construction. A detail analysis of backward and forward linkages of construction is carried out in the next part of the paper.

Backward Linkages of Construction sector

Direct backward linkage indicators show the proportion of direct inputs from other sectors to construction. Direct backward linkage of construction is 0.53 in 1994 economy. This value shows that construction is directly depended on a large number of sectors for its inputs. Table 1 shows some of the sectors with high direct backward linkage to construction. It has the highest dependence on Trade & Other Transport followed by Cement & Cement Products, Wood Products, Mining & Quarrying, Structural Clay Products, Basic Metals & Rolling Mill, Banking & Insurance, Electrical Appliances, and so on. This highest dependence of construction on the above mentioned sectors are clear as they include wide range of sub sectors as follows: trade and other transport covers whole sale and retail trade, trucking, shipping, bullock carts, and air travel. Cement and cement products covers manufacture of all types of hydraulic cement, such as Portland, natural, masonry, puzzolan, fibro and roman, asbestos cement and cement products such as concrete blocks, decks and pavement slabs, telephone poles, fence poles etc. Wood products includes the manufacture of lath, shingles, veneers and ply wood, articles made of bamboo, cane, household, office, public building, professional and restaurant items are tea chests, packing boxes, ply boards, flush doors, furniture and beams, rafts, pillars for construction.

Mining and quarrying covers extraction of clay, sand, graphite, gems, gypsum, mica, other mineral sands dolomite lime etc. Structural clay products include manufacture of clay products, such as bricks, tiles and pipes. Basic metals and rolling include refinery of metal and its 'manufacturing' through all processes including rolling, drawing and forging of cast iron. Electrical Appliances cover manufacture of household electrical appliances such as switches, plugs, domestic power guards, stabilizers, insulated wire and cable, accumulators. Ceramic glass and glass products include manufacture of all glass products such as glass panes/sheets, bottles,

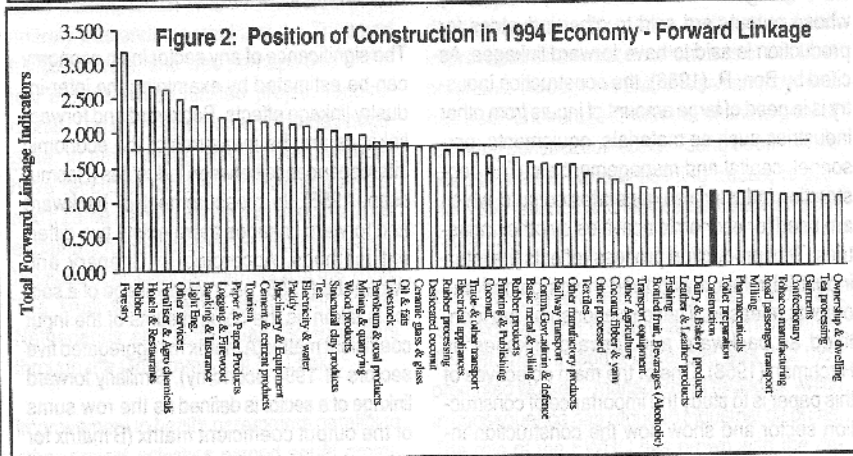
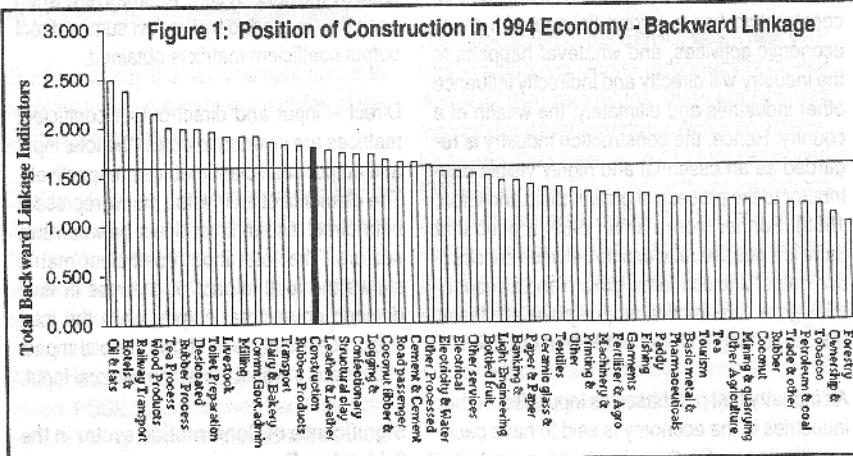
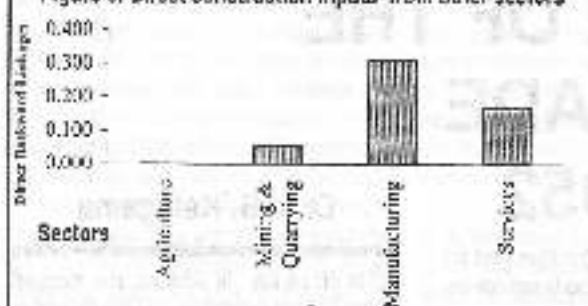


Figure 3: Direct construction inputs from other sectors



plates, cups, bowls, pottery, china and earthenware.

When these sectors are aggregated, it is clear from Figure 3 that construction depends mainly on manufacturing followed by services. The dependence on mining and quarrying seem comparatively low compared to manufacturing and services sectors. The input from agriculture to construction is zero. It is important to note that the share of manufacturing inputs is as nearly double as that of services. Nevertheless, the analysis shows that manufactured goods are not the only significant suppliers of construction. In addition to material inputs, services such as trade & other transport, banking & insurance, electricity and water are important inputs to construction.

Forward Linkages of Construction sector

The forward linkage of construction is not so strong as discussed earlier. A substantial proportion of construction output is to the final demand. Construction industry produces only a small portion for intermediate input since it consists of two sub-sectors; namely, new construction, and maintenance & repair construction. The former produces only to final demand, while the latter produce for intermediate use. In 1994 economy construction has direct forward linkage of 0.05. This lower value represents the insignificance of maintenance and repair construction to total construction, the ratio of which is being 5%. Table 2 presents the direct consumer of repair and maintenance sub-sector outputs of construction. Trade and Other Transport is the main consumer of construction followed by Communication Government Administration & Defence, Hotels & Restaurants, Tea, Banking & Insurance, and so on.

Table 2: Direct forward linkages of construction

Sectors	Direct Forward Linkages
Trade & other transport	0.016
Communication, Government administration & Defence	0.015
Hotels & Restaurants	0.008
Tea	0.003
Banking & Insurance	0.001

Figure 4: Direct construction output to other sectors

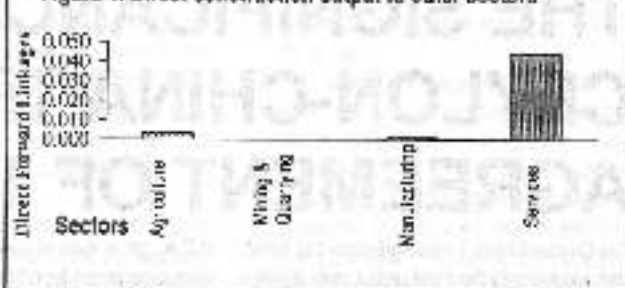


Figure 4 provides the aggregated version of these sectors. Although the construction contribution to other sectors of the economy is insignificant, it is clear that nearly 90 % of the intermediate outputs of construction are directly consumed by the services sector. The consumption by manufacturing and agriculture is marginal while mining & quarrying is zero.

Conclusion

Linkage analysis using Input-Output tables have been historically used to analyze the sectoral interdependence in an economy and to identify the economic significance of particular sector. This concept has been applied to the construction industry of many developed countries by various researchers. Through the literature review it was observed that there is a lapse in terms of research in construction linkages in developing economies. This study focused on analyzing the construction linkages in the Sri Lankan Economy.

In terms of output, construction has strong backward linkages compared to forward linkages in the Sri Lankan economy. When the total linkage indicators are ranked, construction occupies the fifteenth position for backward linkages in the 52-sector economy. The direct and total backward linkage indicator is 0.53 and 1.81 respectively and is above average. Direct backward linkage of 0.53 shows that 53% of construction inputs are directly taken from other sectors of the economy. Strong backward linkages of construction causes a positive effect on trade balance as the imported construction inputs are less than the local inputs.

It is observed that most of the construction inputs are taken from manufacturing and services sectors. Construction input requirement causes output increase in those sectors supplying inputs to construction. In this context, the economic significance of construction is very clear as the services and manufacturing sectors occupies the highest place in the economy. Considering the forward linkages, construction appears to be insignificant; it has total linkage indicator of 1.09, occupying the forty-third position and is below average. Lesser significance in forward linkages is due to the fact that major

part of construction output goes to final demand. Direct forward linkage of construction is 0.048 and insignificant because only the repairs and maintenance sub sector is considered as intermediate input, which is negligible, compared to new construction due to the limited physical capital stock of the country. However this weak forward linkage of construction strengthens the fact that more than 50% of Gross Fixed Capital Formation is satisfied by building and other construction.

Services sector has a significant contribution to the Sri Lankan economy, contributing above 50% to GDP. It is observed that 90% of intermediate output of construction is consumed by services sector. Therefore construction helps to improve the performance of services sector in the economy.

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THE SIGNIFICANCE OF THE CEYLON-CHINA TRADE AGREEMENT OF 1952

The Ceylon-China Trade Agreement of 1952 was undoubtedly the most useful trade agreement negotiated by Sri Lanka and one of the most successful and durable Trade Agreements in the world, having been in operation for thirty years. It is therefore useful to assess the significance of the agreement and to refresh our memory regarding the circumstances that led to it and the person who played the key role in bringing it about – R.G. Senanayaka.

Rice Shortage

1952 was a very bad year for Sri Lanka. Premier D.S. Senanayaka had died and Dudley Senanayaka had just formed a new government when the country had to face a world shortage of rice. The government was committed at that time to provide every adult person with two measures of rice per week at a subsidized price, but rice was not available from the traditional suppliers – Burma, Thailand and Indo-China – and the world market price of rice had risen by 38 per cent between 1951 and 1952. Sri Lanka was therefore compelled to buy 60,000 tons of rice from the U.S.A. and 10,000 tons from Ecuador at high prices, although this variety of rice was not suitable to the Sri Lankan palate. She was however not in a position to buy all the rice she needed at this high price as her foreign exchange resources were limited; besides, distribution of this rice would have pushed the food subsidy bill to intolerable levels.

The country was also facing a foreign exchange crisis in 1952 caused by a dramatic fall in her export prices brought about by the quick end of the Korean War boom. The end of the Korean War and the drastic reduction of commodity purchases by the West – in particular, of natural rubber by the United States – led to a collapse of Sri Lanka's export prices by 23 per cent between 1951 and 1952. The price of natural rubber declined by 36 per cent, of tea by 10 per cent, and of coconut oil by 40 per cent. Import prices increased by 8 per cent and terms-of-trade fell by 28 per cent. The trade surplus of Rs. 345 million in 1951 turned into a trade deficit of Rs. 200 million in 1952 and external assets fell by 30 per cent. In this critical situation Sri Lanka attempted to negotiate with the

U.S.A. for a loan of US\$ 50 million and for favourable prices for rubber exports and rice imports, but failed. The country was facing an unprecedented crisis: she could not find enough rice to feed her people and she had no prospect of a favourable market for her rubber exports.

It was in this grim setting that R.G. Senanayaka, the then Minister of Commerce, played his master stroke. He found that China was prepared to sell rice to Sri Lanka in exchange of rubber. At that time China was unable to obtain rubber as a result of prohibition of rubber exports from Malaya following a U.N. resolution preventing the sale of rubber to China. Thus China wanted rubber as badly as Sri Lanka wanted rice. R.G. Senanayaka was quick to realize the mutual benefits of trade with China, and negotiated the Ceylon-China Trade Agreement or the Rubber-Rice Pact in Beijing towards the end of 1952. He stated in Parliament:

"We waited for foreign aid, foreign assistance. As you know Sir, over and over again, we made appeals for Point Four aid, we waited four long years. We have got in the form of assistance only a cook for the Kundasale Girls' School. Therefore in these circumstances, it was necessary that we should go where it was possible to get our requirements".

Opposition to the Agreement

The Agreement was negotiated in the teeth of opposition from some of his own colleagues in the Cabinet. Indeed, the opposition of J.R. Jayawardene, the Minister of Finance, was well known. The cabinet was advised by the newly created Central Bank under an American governor. Opposition also came from R.G. Senanayaka's predecessor in the ministerial post, from the American government, and from some of the local newspapers which carried on a virulent press campaign against any dealings with Communist China. S.P. Amarasingham's informative book *"Rice and Rubber: The Story of China-Ceylon Trade"* provides a detailed account of the strong opposition R.G. Senanayaka had to face in negotiating the Agreement. The American government invoked the Battle Act which prevented it from giving aid to countries selling strategic materials to Communist countries and cut off

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aid to Sri Lanka. In addition, she stopped selling sulphur needed by Sri Lanka's rubber plantations. This was the price that had to be paid for trading with China.

Prime Minister, Dudley Senanayaka, however, fully backed his Minister of Commerce and was prepared to pay this price; he realized that the benefits to Sri Lanka from the agreement far outweighed losses consequent to the cutting-off of American aid. He argued: "Ceylon's old trade pattern has been knocked out by changes in the world market and we have to seek new markets for our needs of essential foodstuffs and for our exports"

Rebutting the charges that the Trade Agreement was opening the door to communist influences in Sri Lanka, he pointed out:

"Communism thrives in many places not through an understanding of that particular ideology but through poverty and want. I am confident that our Trade Agreement with China will instead of opening doors to communism help us to stand firmer against it".

It is a tribute to the two Senanayakas that they displayed remarkable pragmatism and courage in negotiating the Trade Agreement. They did not allow their prejudices or ideological considerations to stand in the way of deciding what was in the best interests of the country; nor were they intimidated by threats of big powers.

R.G. Senanayaka stated:

"I have always held the view that political ideologies should not stand in the ways of countries trading with each other if that trade is to their mutual advantage".

He foresaw as far back as 1952, the emergence of China as a world power. He stated in a speech:

"Talking of China in particular, it would be unrealistic to ignore a nation of 500 million in our continent with a united and cohesive government for the first time in many centuries. She is bound to be a major factor in world trade".

As he foresaw, China has now become the seventh largest exporter in the world and the largest trader among developing countries whose purchases and sales influence the world markets. In 2000 for instance, her exports were US\$ 248 billion and imports US\$ 225 billion. If we include Hong Kong's trade with China (as the greater part of Hong Kong's trade is entropol trade with China) then China becomes the fourth largest exporter in the world after USA, Germany, and Japan. Its exports amounting to \$ 452 billion.

The Agreement

The Trade Agreement signed in 1952 was for five years and renewable; there was, however, an annual Trade Protocol specifying the quantities of commodities to be exchanged in the ensuing year, which had to be negotiated every year. The trade was based on barter – exports and imports to balance every year; only the outstanding balance at the end-of-the-year was to be settled in foreign exchange. Trade however was rarely balanced in the following years but the outstanding balance was generally carried forward to the next year without settlement in foreign exchange. In the first part of the agreement there were specific commitments by Sri Lanka to purchase rice, and for China to buy rubber; the values were to balance. Thus in 1953, Sri Lanka agreed to buy 270,000 tons of rice from China which in turn agreed to purchase 50,000 tons of rubber; these quantities were exchanged on the basis of world market prices and were equal in value. In addition, China agreed to pay a premium price for rubber over the world market (Singapore) price and further, handling charges for rubber exports in Colombo. Thus in 1953, China paid for Sri Lanka rubber Rs. 1.74 per lb, whereas the average world market price was Rs. 1.05 per lb. This premium varied with every five-year agreement. The handling charge which was fixed at five cents per lb, too varied in subsequent years. China also agreed to supply rice to Sri Lanka below market prices – at \$ 64 or Rs. 720 per ton in 1953. Thus Sri Lanka benefited both ways from the agreement. The second part of the agreement covered trade in other commodities – those Sri Lanka and China wanted to buy and sell – but without specific commitments; the total value of exports and imports however were expected to balance every year.

In view of the substantial mutual benefits, the Trade Agreement was renewed every five years by R.G. Senanayake's successors in his Ministerial post – in 1956, 1962, 1967, 1972 and 1977 – and was wound up, in the sense that the barter element was given up,

in 1982 when it was found that the barter of rice and rubber was no longer in mutual interest. Sri Lanka had almost reached self-sufficiency in rice and needed only very small quantities from abroad while China was able to purchase rubber from several rubber producing countries without restriction and without paying a premium.

R.G. Senanayake paid an important tribute to China after negotiating the Trade Agreement, when he concluded his cabinet paper on the subject in the following words:

"We noted on the Chinese side the absence of the spirit of bargaining and haggling on comparatively small points. On the other hand, they gave us the impression of being large minded and forthright in their dealings".

I can confirm this as I conducted trade negotiations with China over a dozen times.

Benefits from the Agreement

The significance of the Ceylon-China Trade Agreement lies in the positive benefits Ceylon received during the thirty years of its duration. Those benefits exceeded expectation as China expressed her gratitude to Sri Lanka for supplying her rubber when other rubber producers were not prepared to do so and in spite of the opposition and denial of aid by the US government. These benefits are discussed in detail below:

- (1) The premium over world market price for rubber was estimated between Rs. 68 and Rs. 95 million in 1953 alone. It was about 56 per cent more than the world market price in that year. No estimates are available for successive years, but the premium was substantial; for even a ten cents premium meant Rs. 200 per metric ton and Rs. 10 million for 50,000 tons.
- (2) The handling charge of 5 cents per lb. in 1953 was equal to Rs. 100 per metric ton or Rs. 5 million for 50,000 metric tons of rubber. As the charge and quantity varied from year-to-year, the total sum too changed, but it was significant.
- (3) The sale of rice by China to Sri Lanka at prices below the world market resulted in a net benefit of about Rs. 92 million in 1953 alone. Although there was a net benefit in the following years, no estimates have been made. China agreed to sell rice at the same price Burma sold rice to Sri Lanka with certain adjustments for differences in quality and transport costs. China never tried to exploit the rice market to her advantage. Even when she did not have an exportable surplus, she supplied Sri Lanka with rice direct from Burma under a triangular trade arrangement, but charged us only the price

she paid Burma – not a cent more – even when she had reason to charge something more.

- (4) As a result of the agreement a grant of about Rs. 125 million was extended by China during the ten-year period 1958-68 to meet part of the costs of rubber replanting. Thousands of acres of un-economic rubber land were replanted thereby revitalizing our rubber industry.
- (5) China continued to purchase Sri Lanka's rubber at a premium even when other markets were prepared to sell her rubber at lower prices.
- (6) Sri Lanka found an assured market for her rubber and an assured source of supply for her rice and insured herself to a great extent against vagaries in the world market. She also diversified her export and import markets.
- (7) The Trade Agreement benefited the Ceylonese traders as against non-national traders by creating a new market for them. In spite of the opposition from non-national trading establishments – particularly British managing agency houses – R.G. Senanayake reserved the export of rubber to China for the Ceylonese traders. He also reserved China for the Ceylonese importer under his policy of Ceylonizing the external trade of the country.
- (8) The Trade Agreement laid the foundation for expanding trade between Sri Lanka and China even after the barter agreement passed to opera. In 2001 for instance China and Hong Kong (which mainly re-exports China's products) constituted the largest supplier of imports valued at Rs. 64 billion to Sri Lanka.
- (9) Economic Cooperation between Sri Lanka and China began with the Trade Agreement. It was expanded by leaps and bounds with establishment of diplomatic relations with China by S.W.R.D. Bandaranaike and closer relations under Sirimavo Bandaranaike as symbolized by the Bandaranaike Memorial International Conference Hall (BMICH), textile mills at Veyangoda and Pugoda, other grants and interest free loans. Economic cooperation in recent times is demonstrated by the superior courts complex, Gin ganga scheme and assistance to restore Abayagiri dagaba.
- (10) The Ceylon-China Trade Agreement with its price concessions for both Sri Lanka's exports and imports and assistance to rubber replanting by China was perhaps the first instance of a developing country giving economic assistance to another developing country. In other words, it was the first time where Eco-

conomic Cooperation among Developing Countries or South-South cooperation took place.

- (11) Finally, Ceylon China Trade Agreement and closer commercial and economic relations laid the foundations for a firm friendship between Sri Lanka and China, which was strengthened, expanded, and cemented by the Bandaranaike governments. China's friendship for Sri Lanka has been demonstrated not only in trade and economic cooperation but also in times of National crisis. There was only China to warn other countries to "keep their hands off Sri Lanka" at the height of the Indo-Lanka crisis in June-July 1987. This friendship was demonstrated again thereafter by the visit of Prime Minister of China and his offer of Rs. 375 million in economic assistance.

China Today

China today is the world's fourth largest industrial producer behind the US, Japan and Germany. China makes more than 50 per cent of the world's cameras, 30 per cent of the world's air conditioners and television sets, 25 per cent of the world's washing machines and nearly 20 per cent of the world's refrigerators. One private company – Guangdong Galanz Enterprise – accounts for 40 per cent of all microwave ovens sold in Europe and Wenzhou, a city in Eastern China sells 70 per cent of the world's metal cigarette lighters. China is also among the world's biggest producers of aluminum, copper and steel. Nearly half of all goods China exports are made by foreign companies manufacturing in China such as Motorola, Philips, Nokia, Sony, National and Toshiba. China has become the world's manufacturing powerhouse as the world's largest manufacturers are locating their manufacturing bases there or purchasing their requirements from Chinese enterprises. More than 400 of the world's top 500 transnational corporations have invested in some 2000 projects in China attracted by its low costs of production not only due to low wages but also lower non-wage costs and high productivity. China has consequently become the largest recipient of foreign direct investment among developing countries – \$ 47 billion in 2001 and estimated \$ 50 billion in 2002. The US is the second largest investor in China behind Hong Kong; between 1980 and 2000 the US has invested \$ 30 billion.

For decades, China exported mostly low-end products like textiles and toys to the US, but now it is exporting high-tech computers, electrical and electronic products there. Sino-US

trade has increased sixfold over the past decade. China's manufacturing prowess is pushing down prices of a growing range of industrial, consumer and even agricultural products all over the world bringing benefits to the world's consumers. In the US market for example, Chinese kitchen appliances like griddles, tools and metal implements, sporting goods, ceiling fans, light fixtures, TV and audio equipment are so cheap and competitive that the American domestic producers of these goods have been forced to cut their prices. Chinese made shoes account for about 80 per cent of all footwear imports of the US. In Japan Chinese small refrigerators and washing machines are 20 to 30 per cent cheaper than Japanese models and the Japanese manufacturers too have to cut their prices. The rapid increase in productivity in China is illustrated by the decline in price at home of a 21 inch colour TV set from \$ 400 in 1995 to \$ 80 in 2002.

Fears were expressed in some Asian countries particularly after China's entry to the WTO, that rapidly growing China would compete with their exports and also suck in foreign investment from around the world and pose a threat to neighbouring countries. China therefore felt a need to prevent the notion of China as a threat from growing any stronger by proving that its rapid economic growth and opening to the outside world will also benefit the neighbouring countries. The concrete action it took to prove this theory was an agreement with ASEAN to begin talks on a free trade agreement within 10 years; China will thus offer its large and growing market for ASEAN's exports. In the first half of 2002 alone exports of eight Asian countries to China jumped by 50 per cent offsetting the fall in their exports to Japan. Besides, Chinese investments in ASEAN increased from \$ 26 million to \$ 148 million over the last two years. There is no doubt that China has already become the engine of economic growth in Asia.

China will always be a principal trading partner of Sri Lanka. China as mentioned earlier, including Hong Kong which mainly re-exports Chinese products is the largest supplier of imports to Sri Lanka. In 2001 China including Hong Kong accounted for 13.4 per cent of our total imports as compared to 11.1 per cent from India and 6.2 per cent from Japan. As regards exports, however, China and Hong Kong account for only a very small amount – only 1.2 per cent of our total exports. We want to share in China's rapid growth; we want China to buy more of our exports and simultaneously make investments in new industries to expand and diversify our export structure. We must therefore strengthen and expand our existing economic relations, if necessary by a new trade and investment agreement to ensure that Sri Lanka will be in China's

focus in its great march to economic super-power status.

China regards Sri Lanka as one of her old friends with whom it has a special relationship. The first stride to build this friendship was taken by R.G. Senanayaka fully backed by the then Prime Minister Dudley Senanayaka in the face of internal and external opposition. The two senior officers who accompanied R.G. Senanayaka to China – M.F. de S. Jayaratne, the Permanent Secretary and C.E.P. Jayasuriya, the Director of Commerce – told me before they died that full credit must be given to R.G. Senanayaka for successfully concluding the Rubber-Rice pact with China and perhaps no one else could have done it. China is carrying out economic reforms to modernize the country, but whatever economic and social system China may build and whatever changes in leadership and policies it may have, its friendship with the old friend Sri Lanka is likely to remain intact as in the past. This takes my memory back nearly 40 years to a historic statement made by one of China's great leaders. It was in 1964 that I accompanied Dr. N.M. Perera, the then Minister of Finance to meet Marshal Chen Yi, the deputy Prime Minister and minister of Foreign Affairs to ask for more aid to Sri Lanka (Prime Minister Chou en Lai was not in Peking and hence the meeting with the Deputy Prime Minister). Marshall Chen Yi was virtually dying at that time and he was very feeble. When Dr. Perera requested more aid, Marshall Chen Yi stated: "Minister China is still a poor country. You come to Peking through Canton and you would have seen the poverty there. China is the largest county in Asia with one of the oldest civilizations in the world and we have a moral obligation to help smaller Asian countries like yours. We will give you some aid but not very much because we are still poor. However when China becomes a fully developed rich country we will give you all you need to discharge our historic obligation". These words still ring in my years. Within a few weeks Marshall Chen Yi was dead.

I want to conclude by referring to the former Premier Li Peng who underlined the enduring character of our friendship at the banquet given in his honour by the Sri Lanka government in the following memorable words:

"The Sino-Sri Lanka relationship has become a model relationship between States with different social systems. We believe that, thanks to joint efforts of the two governments and the two peoples, Sino-Sri Lanka friendship will surely roll on incessantly like the Yangtze River and Mahaweli Ganga".

ENVIRONMENT FRIENDLY TOURISM

An Alternative Development Strategy

Since the 1980s Sri Lanka and other developing countries have perceived tourism as a panacea for all economic ills and have been formulating policies and programmes to develop the tourism industry (Oppermann and Cron, 1997). It was argued that tourism would enable developing countries to earn foreign exchange, create employment opportunities, increase incomes, enhance public revenue and develop undeveloped areas. As industrialisation is limited and the economies of developing countries are dependent on the export of primary products, it has become necessary for these countries to focus on the development of the tertiary or the service sector. In such a situation it would not be possible to prevent developing countries from looking to tourism, which is not subject to trade barriers to provide a relatively easy source of income.

The tourism industry is fast becoming the lead industry in the world. Developments in technology and transportation, rising levels of income in the developed countries and the increasing amount of leisure at their disposal have in recent years led to an increase in the number of tourists from the developed countries. In 1950 the total number of tourists worldwide was approximately 25 million. Forty years later in 1995, the number had increased 20 fold to reach 567 million. According to the World Tourism Organisation, this number could reach 937 million by the year 2010. One out of every 15 workers is employed in tourism related industries. In such a macro scenario it is not possible for any country to forgo the benefits that would accrue to it from tourism.

However, there are many that do not accept that countries benefit from international tourism (Go and Jenkins, 1997). They assert that the import of raw material to provide services that meet international standard, the import of intermediate goods and food and beverage and payments to skilled foreign workers drain foreign exchange from the country. Further they are of the opinion that jobs created as a result of tourism are at low levels and insufficient. Those who are strongly opposed to the international tourism industry stress that tourism brings about structural changes in the economy that are undesirable. The erosion of social values, and the damage caused to the environment are two adverse effects of tourism. However, the resultant benefits and adverse impacts differ according to the level of economic development and social

and political conditions in the countries concerned.

From an environmental point of view, it can be argued that tourism facilitates awareness raising of society on the need to protect the flora and fauna of a country. However others (Inkeap, 1999) argue that the transport network, the constructions that are designed to attract tourists as well as the activities of the tourists themselves adversely affect the bio-diversity of the country. Consequently, when planning for the tourism industry, there is an emerging consensus that consideration should be given to prioritising sustainable development. This article attempts to discuss how the tourist industry could be developed in an environment friendly manner.

Sustainable Development

It is seen that very often the word 'development' is confused with the word 'growth'. Growth refers to the continuous process of development while development refers to the economic and social goals and values and the institutional and technological changes that people desire along with growth. Some others elucidate the term development as self-reliant development. Others consider development to lead to the eradication of poverty, unemployment and inequalities through the equal distribution of income (Todaro, 1997). However, in short, we can see growth as satisfactory development along with income equality, changes in the physical and social structures and the positive changes that occur within a country.

Modern environmentalists (WCED, 1987) define development as 'a change that would lead to a better future'. This has been identified as sustainable development. In simple terms this means that the ability of future generations to meet their needs are not compromised when meeting the needs of the present generation.

To achieve sustainable development it is necessary to ensure that in the utilisation of natural resources a high per capita consumption is maintained. It is also necessary that an equal expansion and through environmental protection the bio diversity of a country is protected and that in taking decisions the participation of all concerned is obtained.

Sustainable Tourism Development

Many writers have applied the concept of sustainable development to 'sustainable tourism

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development' (Cornils, 1994; Inkeap, 1999). The tourism industry of developing countries is often associated with mass tourism. This type of tourism is organised by tour operators. Many argue that this type of tourism does not allow tourists to interact with local people, that it is unplanned and oriented to the short-term, and that it leads to cultural destruction. Also it is not environmentally sustainable. Therefore, there is a search for alternatives that would reduce negative impacts and maximize the positive aspects of tourism. The alternatives that have been identified are locally owned small-scale tourist activities that would open up job opportunities and increase incomes of local people. It is a tourism industry that would be permeated with the participation of the people and one that would pay more attention to sustainable cultural and environmental development. These types of alternative tourism strategies are embodied in 'sustainable tourism development'.

The natural environment is utilised mainly for agricultural purposes, for construction of the transportation network and for human settlements. The most amount of degradation to the environment has been caused by human activity. Although the flow of tourist to these attractive tourist spots has had a positive impact on conservation such tourist attractions tend to lose their popularity due to the lack of proper management. According to the analysis of the life cycle of destinations (Flog, 1973) those who are willing to take risks go to these destinations in the first phase. When infrastructure and service facilities develop in such tourist areas those who do not want to take risks to visit such areas. They do so in groups. This type of group tourism is not conducive to sustainable development of the tourist area and in fact causes destruction to the environment as well as to the social fabric and cultural heritage of the locality. The resultant impact is that in the third phase the number of tourists to the area declines due to the low value that is now attached to the former attractive tourist spot. Consequently, the loss of popularity of the area reduces the benefits that would accrue from tourism. Therefore, it can be argued that tourism development should be properly managed.

Many point out the need for demarcating areas for tourists (Broadly and Cunningham,

1994). The designation of tourist areas, it is argued would enable the provision of legal protection and prevent unsuitable and unplanned development occurring in those areas. Public investment will lead to the construction of tourist bungalows, rest houses and tourist information centres. Roads and highways, railways and communication centres would develop. Flora, fauna and attractive sites will be preserved for posterity. Those who oppose this point of view argue that by designating areas for tourism the development of local industry, forestry and fisheries will be limited. Further as an increasing number of tourists will be drawn to these exclusive areas they point out that there will be congestion, environmental degradation, erosion of footpaths while fauna and flora will also be adversely affected. The argue that demarcating tourist areas will not lead to increased security or conservation. On the contrary the increase in tourists will harm the local environment, social values and the culture.

Environmental Friendly Tourism

There is no substantial difference between sustainable tourism, eco tourism and nature tourism (de Kadt, 1979). Therefore, eco tourism is sustainable tourism that is based on the natural environment. It is understood that nature tourism depends on natural resources. While the natural environment should be protected and preserved in a responsible manner it follows that the welfare of the local community should be sustained. It implies the development all types of tourist activities that are based on natural or human resources that contribute to sustainable development through sustainable tourism.

Environment friendly tourism or eco tourism is tourism that falls within natural. The World Wildlife Foundation (WWF, 1995) defines eco-tourism as tourism, which guarantees the preservation of the environment and the welfare of the local people. Consequently, eco-tourism is tourism that yields benefits to the local people and custodians and one that minimises the impact of tourism on wild life and the natural environment. Eco-tourism is a small part of the rapidly developing tourist industry.

The development of eco-tourism raises questions regarding conservation. On the one hand, the increase in tourists in protected areas will place a greater responsibility on custodians and policy-makers. They would be required to provide accommodation, construct roads and maintain these facilities. The provision of these services makes the preservation of the environment difficult. On the other hand, when eco-tourism is carried out for eco-

conomic benefit alternatives such as the timber industry, commercial agriculture become more suitable for conservation than for the use of land. When the need for economic growth and development of developing countries becomes more urgent and income sources shrink the adverse environmental impact of tourism is more than the economic benefits that could accrue from it.

Several reasons can be put forward in favour of adopting eco tourism. The need to avoid the type of development that would result in the destruction or damage to the natural and cultural environment is one. The other is the necessity to raise the awareness of not only the local communities but also that of the tourists about the importance of conservation. Third, the revenue derived from tourism should be utilised for the preservation of the environment and for the management preservation. Fourth, while tourism should bring economic benefits to the local communities those living in the vicinity of preservations should have a way of deriving greater benefits. Fifth, while the importance of planning for the sustainable development of the tourist industry should be stressed it is also equally important to ensure that tourism development should not exceed the social and environmental carrying capacity. Sixth, it should be possible to retain a major portion of the earnings from tourism in the host country by ensuring the use of facilities and services that are owned by the local people. Finally there should be efforts to minimise pollution by developing infrastructure facilities that would conserve local flora and fauna.

While the strategies of sustainable development will provide current benefits thorough the use of natural, cultural and other resources related to the tourist industry these resources will be conserved for continuous use in the future. This strategy anticipates the participation of the people in decision making and the accrual of benefits to regional communities. The development of sustainable tourism assumes importance because sustainable tourism development is rooted entirely in the natural environment, historical heritage and regional cultural framework and because it is based on activities that attract tourists. What implied in this process is that the tourists will expect to visit areas that have a high quality natural environment. In other words, the protection and preservation of the bio diversity of developing countries should not any way reduce the environmental and economic quality of individuals of developed countries? At the same time the dangerous environmental and social problems arising due to tourism should not be allowed to adversely affect the local people.

Conclusion

There are constant debates over costs and ben-

efits of tourism and conservation. While tourism is a strategy/tool that can be used for conservation and economic development, tourist activities should also be very profitable ventures. For this purpose, there should be strong coordination among conservationists, environmentalists and the tourist industry. While officials charged with conservation should have a clear understanding of the impact of tourism on reservations, the tourist industry should realise that the proper management of the industry and the environment is essential for its survival. All parties should understand the type of conservation that is required and the extent of development that should be aimed at. In addition, the careful planning, implementation and management of environmental friendly tourism to minimise expenditure and optimize benefits are necessary. For this to be achieved the tourist industry, conservation officials, government officers, regional conservation managers and local communities should work together in close cooperation.

If the developing countries could adopt the strategy of sustainable development to develop the tourist industry, it would be possible to reach the goal of environment friendly tourism. This would counteract the wrong perceptions relating to tourism and lead to the maximisation of benefits that could accrue from tourism.

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MODERNIZATION OF RURAL AGRICULTURAL SYSTEM & SOCIAL CHANGES

Chandima D. Daskon

"Social Change" is the process by which alteration occurs in the structure and function of the social system (Rogers, 1963). The modernization which defines as the process of development and social change resulting from the diffusion and adoption of the characteristics of a new and superior society to societies which are less advanced (Gregory, 2000). The introduction of new farm inputs and scientific knowledge about farming may affect peoples' lives by transforming their traditional norms, values and responsibilities. Such changes appear along gender and age structures. Specifically, such innovations are more effective to the communities which have been living in rural areas and dealing with traditional methods as their livelihood activities.

During the 1950s and early 1960s, the modernists view on agriculture's contribution to development was on increasing the supply of food and of raw materials to the agricultural sector of the economy. Therefore, modernizing agriculture sector was seen as an important, not only in terms of food, but also as a source of income and rural employment. With this regards, Green Revolution and its related components provided an example of changing rural society in terms of social, economic and environmental aspects. When we come to the Sri Lankan context, the government has given emphasis to modernize the rural agricultural sector by implementing the package of green revolution and it has unquestionably brought about significant changes into rural communities. These changes could be drawn along social, economic and environmental axis. However, this paper attempts to highlight the social aspect of agriculture modernization with regard to changing the decision making process, sharing tasks and responsibilities among family members and nature of community relationships. Such changes of social system are provided by the various households and group/community statuses of which it is composed. The functioning element within this structure is a role or the actual behavior of the individual in a given status (Rogers, 1963). However, there is no doubt that the use of modern technology and traditional rural society interact strongly, because, the rural communities are normally a closely integrated and has a greater commonality of purposes. It is important to note that, such changes do not occur automatically; they are operated via innovative mechanisms. Once, Robert (2000) stated, that in order to be modernized poor nations have to borrow, import and adhere to scientific principles, which ultimately drive to change peoples' norms, at-

titudes and their roles. Hence, the implementing innovative techniques may influence to change the community members' behaviors, attitudes, responsibilities and relationships at both households and community level.

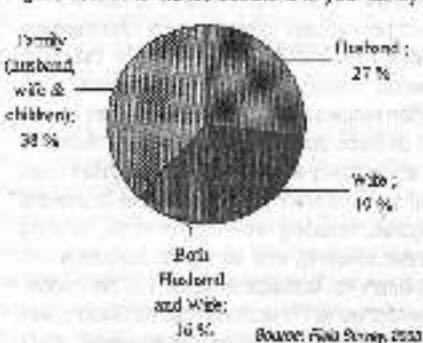
Methodology

Data of this study represents Meegala (Mahaweli system "H") and they were collected via unstructured interviews and structured questionnaires. Respondents were selected by employing a random sampling technique. Sample consists of 105 households. The field techniques that I employed gave more sensible and reliable information concerning the issues which I am specifically looking at.

Decision making process among household members

Generally, each member in a family has a responsibility for decision making, or at least has

Figure 1.1: Who makes decisions in your family?



control over his/her own material prospects. Among the households in the sample, the decision making process could be observed along two axes: decisions on matters related to farming and decisions on family and economic matters. Families in the sample were asked whether

the respective decisions were taken by the husband, by the wife, or by the husband and wife together. Moreover, if they said that decisions were taken by husband and wife together, they were then asked whether the husband or wife was dominant in these decisions or whether both had an equal say.

Figure 1 illustrates the nature of decision making process among the sampled households. As Figure shows, 27% of respondents reported that their family decisions were taken by the husbands, while 19% recorded that, decisions were made by wives. Decision making involving the participation of all members in the family accounted for 38%, while in 16% of families decisions were jointly made by the husband and wife. In general, the involvement of wives in decision-making processes seems quite impressive. However, as

Table 1.1: Nature of decision making, who makes what?

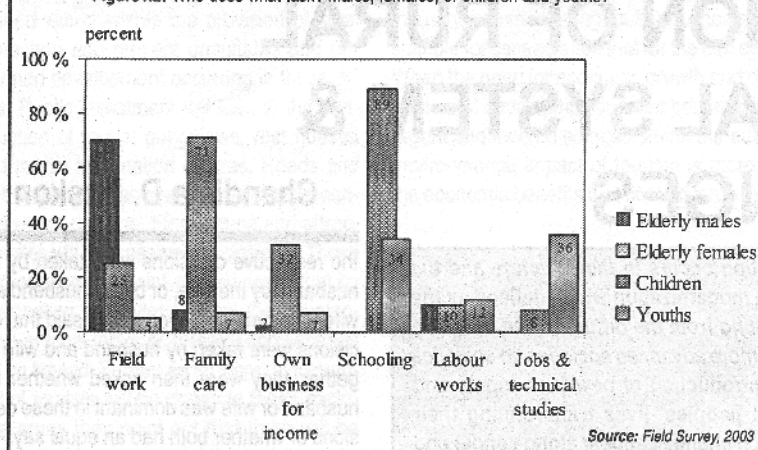
Nature of decision	Male	Female
Decisions in Farming matters	82%	18%
Decisions in Economic matters	45%	52%
Decisions in Both matters	81%	39%

Source: Field Survey, 2003

shown in Table 1.1 the male head of the household is always in charge of decisions regarding farming and family matters.

Normally, males specialize in mechanized farming activities. They take decisions regarding different operations related to agricultural activities, such as implementing farm inputs, hiring labour and related expenses, decisions on marketing produce and about the next growing seasons, etc. As shown in Table 1.1, 82% of families stated that decisions related to farming matters are often taken by men, yet no changes in broader terms have occurred since the introduction of mechanization in roles of males as taking charge of making decisions involving farming activities. However, one specific issue was noted concerning their farming matters, namely that their decisions have become stricter with the time factor than previously. Hence, when farmers are making decisions about cultivation they think about the receiving time of irrigation water, the time of fertilization and harvesting, and also about their paddy market-

Figure 1.2: Who does what task? Males, females, or children and youths?



ing and other entrepreneurial activities, etc. One farmer illustrated this by stating:

... of course, I must decide when I should start my farming, what fertilizers and pesticides should apply ... I have to think about specially water ... because we do not get water throughout the year ... I have to prepare all the things when the water delivery period is starting ...

Contrary to how the situation was in traditional society, women's participation in decision making with regards to farming is quite significant today. Table 1.1 shows that 18% of wives contributed to making farm decisions. As I observed, the wives in these families have control over decision making normally because their husbands are absent, either temporarily or permanently. This could be because their husbands have died, or have moved to the city or have simply left the households. In such cases, the women act as the household's head de facto. This is a marked difference from the past, as far as decisions about paddy farming are concerned because according to Lund (1979), the women in traditional society have no sense of power.

... She has restricted access to land and takes part in farming and economic decision-making only to a limited degree. She has a greater chance to be assertive [but] owing to her restricted mobility, is always dependent on her husband for knowledge regarding all aspects of farming. (Lund, 1979:101)

Today, women have legal ownership of land and therefore can take charge of decisions concerning farming including land preparation, hiring labour and handling their payments, and arranging bank deals. One woman, who is a household head, said:

Of course I take care of every matter in my family because my husband is not living here. He works outside the village and comes once a month. Actually he does not want to have any responsibility about farming. Especially

during the cultivating period I spend more time in our field. I hire labour and tractors ... And I do everything ... even the purchase of fertilizers.

In a similar vein, there is participation by young members, especially by older sons and sons-in-law who hold significant positions within their families when it comes to making decisions about farming matters. They actively participate in discussions with their parents and influence them to make more appropriate decisions concerning farming matters. This is presumably a remarkable change between the generations. Even though family members participate and make decisions jointly, this frequently operates with slight dominance on the part of the household's head, often the husband/father.

Decisions concerning the household's resources, especially family economy, have changed significantly among the family members. This is clearly indicated by the increased participation of women in decision making regarding income earning and expenses, though husbands are still considered as the economic head of the family. In the traditional farm family, women's rights to make economic decisions or to take part in these processes were denied because of their lack of economic self-reliance and poor access to employment opportunities. While most decisions were made by their husbands, women's interests and concerns were often rendered invisible or inadequately voiced in decision making, which effectively excluded them from key decisions that affected their lives. All were inherently involved in the household chores, including firewood collection, fetching water, cooking, and caring for husbands and children. As illustrated in Table 1.1, the involvement of women in economic decision making was reported by 62% of families who responded. While their husbands earn money through modernized farming, decisions about family expenses are often taken by the women themselves. In this regard, the decrease in the number of males involved is quite impressive. One wife said:

When my husband is busy with the farming, he

does not have time to care about other matters in the family. He earns ... but frequently I spend the money carefully on different requirements in the family, especially expenses for children's education, daily requirements like food, cloths, health care, paying bills like electricity and water, etc. Often I am polite by asked from husband concerning some expenses...

Since traditional hard work in the field and household chores no longer preoccupy women today, they run their own businesses instead. Hence, women have become secondary income earners of the family and they are able to handle the family economy. Nevertheless, it was observed that where housewives have emerged as dominant partners within family matters in this manner, male heads keep them slightly under their control in all decision making activities.

Young females and males (younger generation) have gained economic status and they tend to influence economic decisions in the family also. It is interesting to note that decisions concerning household durables, housing constructions and maintenance, purchasing new farm machines, tractors and winnowers, for example, are made by young educated males. This was clearly observed among a few households that were considered modernized. Males who have outside official contacts are employed by government institutions and females such as school teachers and office workers make a greater contribution to their family's decision making process. One elderly farmer said:

... of course, the time has changed, we can't control the young generation, because they know everything about life, we do not need to force them to follow any, they can realise what is wrong and right ... they have better knowledge about the society and what is happening in their surroundings than we did when we were at their age ...

Thus, there has been a greater liberalization of members of the family in participating in decision making in all matters. Wives, children, and often sons-in-law of the parent generation have all become responsible for decision making in the family unit by becoming involved in economic and farming matters.

Division of tasks and responsibilities among the members

While changes in responsibilities are related to changes in decision making, there may be a difference between those responsible for the decision and those responsible for the execution of the decisions. There is an obvious change in differentiating tasks and re-

responsibilities among the sample households. Unlike a formal organization in which the division of labour among different tasks is based on skills, training and qualification, the farm family has an informal system for dividing tasks according to custom, by gender as well as by age. In order to justify the situation the community was asked: "Who does what task: women, men, or youths and children?" This question was asked because age and gender become crucial when sharing family tasks among the members. According to the answers given by the respondents, Figure 1.2 summarizes the nature of different tasks and those members responsible for each. In general, all members in the family have different responsibilities and different tasks in different arenas.

As shown in above Figure 1.2, 70% of cases confirmed that males are responsible for the tasks in the field rather than caring for their family or their business. Although relatively low compared to previously, a significant role (25%) is still played by women in the field. Concerning family care, 71% of respondents indicated that females have rank above men. The most obvious feature with regard to roles in family economy and family businesses is that female partners have increase responsibility. Children are not responsible for taking part in any task connected with work in the field, at home or any other businesses. The only task they are expected to perform as family members is attending school and developing their own future. Of young family members, 36% mentioned that they had been employed and were attending higher studies, while 7% of young people managed their own businesses. They were not significant responsibilities in terms of family matters or work in the field, with the exception of a few reported cases.

Gender-based division of tasks has shown a marked change due to farm mechanization. Especially, the traditional tasks of women have changed and consequently, women's personalities and their responsibilities within the family have also changed noticeably. Before the new farm technology became widespread, women performed all tasks in the field except land preparation. In particular, the post-harvest paddy processing activities such as husking, blowing, boiling and grinding were considered women's work. One of the elderly farmers recalled the tasks attached to females in his family:

"... I remember that all the women in my family were solely responsible for all the domestic tasks like fetching water, collecting wood for fuel, cooking meals and purchasing food

and... so on. At the field they plant, water, manure, clear and sometimes prepare land before start of the rains. Women were involved in all the activities in paddy farming. They worked hard at field; also they provided meals and refreshments for workers in the field, they transplanted, did manual weeding, harvested together with the men, cut the paddy, bundled sheaves, carried the paddy to the threshing floor, winnowed and stored..."²

Paddy processing was one of the most labour intensive functions of the family which female members were frequently charged with; hence, unlike men, women were kept busy with all the time-consuming activities throughout the year. Before adopting equipment such as power tillers and reapers, all men in the family participated in preparing fields and harvesting paddy. Thus, men specialized in all the heavy tasks in the field but they did not take part in caring for the family or work connected with any household chores. Today, all the tasks that are hard in nature and performed manually have been replaced by machines. Assisting their husbands in the field has become rare due to the labour-free technology making the tasks easier than

more work opportunities to engage in entrepreneurial activities. In this context, in households that have been able to take advantage of the technology package, women have generally benefited from the economic aspect of increased income to the household. Some keep livestock for breeding and sale while others have engaged in tailoring and food preparing as small-scale catering services. Those women who responded that they appreciated the free time represented these households with good paddy yields. Income and indeed a better standard of living. One of the respondents said:

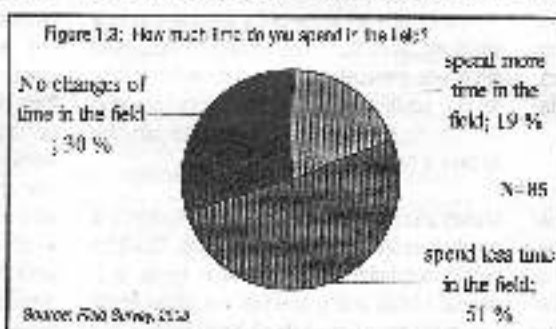
Almost I spend my time at home, therefore, I am keeping this home garden, it provides most of the food requirement... and sometimes I sell them to village boutique...

Agricultural modernization appears to have mixed effects on smallholding poor families, particularly those who are among the poorest landless or near landless, increasing their responsibilities and tasks concerning family economy. Families are either small or large, and poor field performances and ultimately low incomes have made their lives uncomfortable. Poorer women claimed that they have been unnecessarily forced to work as labourers in other farmers' fields or to increase their work burden in the field in order to avoid using paid labourers. The main point of doing this is to recover at least the input costs of their farming. Sometimes they accompany their daughters at work in the neighbouring fields in order to cover their daily expenses.

However, young boys do not wish to take part in such family responsibilities. The following was said by one of the wives:

"I have been working as a labour in one of our neighbouring fields. I must work, otherwise it would be very difficult to get at least a half of the required inputs for farming. I am paid Rs. 250 per day. I haven't work previously as a labourer, this is a bit hard to manage with other family matters. But I must..."

How family work is divided and organised is closely related to the size of the family and to the availability of members, as well as the amount of work needing to be done. The disintegration of the extended family and the transition to the nuclear family often results in a shortage of work capacity within the family. So, there is no gender-base specification covering family tasks and the allocation of responsibilities. Hence, concerning the nuclear families, where incomes are low and family labour is in short supply, cost-effectiveness



before. This has resulted in spare time, especially for women to engage in family matters and extra activities at both household and community level. Hence, time has become a considerable factor in determining changing tasks and responsibilities within the family. Figure 1.3 presents the responses to the question: "How much time do you spend in the field, compared to the time you spent before technology transformation?"

In this part of the analysis I used only 85 families. This was because I intended to evaluate the time factor described above in relation to female members but the remaining 20 families were not represented by any females during the survey. However, according to majority opinion, women are spending relatively less time in the field, while 19% recounted that they spent relatively more time than previously. The remaining 30% had not experienced any changes in respect to time before since the introduction of modern farm technology.

Less time spent in the field has translated into

grows in importance; according to their understanding, using outside labours and even buying processed rice to prepare meals is more expensive. Hence, the wife, the husband and their children are all responsible for husking and cleaning rice at home. However, it is obvious that as a direct or indirect impact of farm mechanization the functions of both male female members in the family have gradually been changed. In particular, housewives' tasks and responsibilities have changed. Hence, the poorer households' women's productive work has become a crucial factor in family economy in addition to responsibility for the well-being of their families.

It is interesting to note that on the basis of age, children's roles and their responsibilities have permanently shifted from the traditional tasks they performed in the field. This is observed as a direct result of the mechanization process. The percentage of child workers in the field is declining; they are no longer required to act as food carriers to the field or to undertake some degree of manual work such as planting, weeding or care of livestock. Some respondents recalled that when they were young they were attached to different tasks in the field as assistants for their parents. All the girls were trained from childhood to perform household functions, assisting their mothers, and boys were used for caring cattle and buffaloes, assisting their fathers on the farms.

Today, the majority of the children are attending school. They no longer have any special responsibilities or defined tasks in the fields. As mentioned earlier, school attendances at primary and secondary level are now increasing and in some cases children progress up to tertiary levels. On closer examination, this is a marked feature among the new generations. Most of the parents had not even finished their primary schooling, but they were of the opinion that children's education is important and advantageous for a promising future. Especially, girls' roles have shifted from the traditional frame and they are attending school longer and have delayed the age at which they marry. They try to complete their education, to get specialized training and plan to get any kind of job outside the home village. The majority of the boys are ambitious to get technical education and to initiate their own business. They really do not want to be farmers like their fathers and often their eldest brothers do. One young male said:

... My brothers are doing farming as my father did. They always claim that the incomes they obtain are not enough for family subsisting, and always in a risk, because they do not get a good market for their paddy; I feel that I need other kind of job instead of doing farming ... to get a good job I must have some qualifications...

Another important factor I observed is that, changing knowledge and education are now leading to more relaxed relationships between children and their parents than formerly. When parents are illiterate, educated young children assist their parents, for instance, in selecting quality seeds, chemical substances, pesticides, and some technical assistance for machinery equipments, etc. They are influenced more by the modern thinking and lifestyles which allow greater mobility and access to media. As a result, children have, for example, become more active in group discussions and they are responsible for taking part in family matters.

Technological influences and changing relationships of farming communities

From what has been discussed so far, it is deduced that farm mechanization influences changes in attitude, behaviour, responsibilities and division of tasks among family members. Similarly, as a community/society, the village has undergone several transformations. In one aspect, the farm mechanization process has influenced farmers to interact with different stakeholders. Moneylenders, landlords, middlemen, traders, community leaders, extension officers, and politicians are some of the dominant groups which influence such interactions. In the best of situations these relations can be neutral or better still, positive, but given the contradictions in this farming society these relationships can easily take a negative turn.

Money and properties have become symbols of prestigious life and high social status. The economic foundations of the family in terms of financial status and properties are increasingly becoming measurements of family honour and self-respect. The farmer who owns a tractor, larger paddy land and a big house is treated as a rich person with a higher status in society. Thus, tractors and threshers are considered to symbolize prestige among farmers, and consequently ownership influences new relationships. It is evident that the influence of tractor owners has increased over that of other groups, especially the non-tractor owners in the village. This has been the result of the farmer's need to buy or rent machines outside his own village. Hence, smallholder subsistence farmers are slowly losing operation control of their paddy lots to the tractor owners. According to the response given by farmers, more than 50% are hiring tractors for land preparation. However, their relations with the owners are not always mutually satisfactory due to differences in their expectations. One poor farmer said:

The farmers who have smaller landholdings can not use tractors because owners seem to be unwilling to provide their tractors for a shorter period. Besides this, owners tend to increase the hiring costs. On the other hand, tilling the

soil is beneficial only to owners because owners are only interested in earning cash and not usually sincere in tilling the soil. We hire them, because of no other means rather than buying. Buying a tractor is a lot of money.

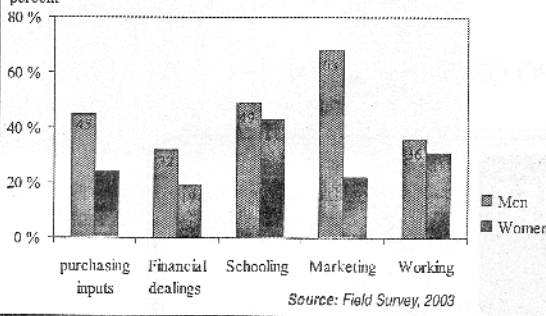
Even under unprofitable or unfair circumstances resource-poor farmers are forced to maintain good relationships with the machine owners; otherwise they would have no option for ploughing their fields or threshing their paddy. One alternative would be to resort to traditional ploughing or hoeing with buffaloes as a way of avoiding this unfairness. However, the farmers claimed that no one is keeping buffaloes purposely for ploughing, hence returning to previous techniques is not a solution to escaping dependency.

The property rights and hence land tenure system are important concerning the relationship between the owner and the operator of an allotment. Even though this relationship is not a new phenomenon of mechanization, it has aggravated in increased capital requirements for modern farming. Inadequate skills and techniques in farming and poor assets for regular utilization of inputs, many more farmers have been compelled to sharecrop-out, lease-out or mortgage-out their allotments than previously. Those who have lost their lands because of mortgaging have become landless poor farmers. They have been working as labourers for landowners; both men and women who lack access to land and who must survive by working for others as hired labourers are dependent on the landlords. In another aspect, poor accessibility of resources influences farmers to keep relationships with resourceful farmers. Especially, water has become a component linking farmers and the community leaders, on the basis of sharing water. One farmer said:

When those who live at top end get their water, I don't get enough because I live somewhat towards the lower end of the channel. I couldn't get enough water even for Maha season. What I did was to get round a person who had influence; I gave 0.5 ha, to our turn-out leader on lease for five seasons. I made use of that money for cultivation. Now when he gets water to his plot, I will also have water...

In traditional farming system the problems were minimal and farmers were able to be independent since they prepared their own inputs such as seeds, organic manure and pest control methods. When they had problems involving money or resources usually their borrowing and lending were limited to their families and relatives. Family prestigious restricted their outside contacts since traditional cast and class differences were strictly adhered to. Hence, their borrower-lender rela-

Figure 1.4: Nature of community mobilization and participation



We ask assistance from the agricultural officer in the block office every time when we need to know about the water, fertilizers and high quality seed selection. Normally we are called for meetings and field demonstrations. We are encouraged to keep the connections with the officers at the time when we have problems ...

tionships were strongly adhered to family kinship and blood relations. By contrast, most of the tasks connected to paddy culture were performed collectively, with obligations to exchange services between farmers. Their yields were enough to feed their whole family. They did not have problems with markets and the influences of prices on a greater scale. Today, following the introduction of new technologies and markets, and growing monetization of the rural economy, traditional relationships have been superseded. Hence, poor farmers' dependency has become an essential condition of running their regular farming system. One farmer in the sample explained:

"We need more money to run our paddy fields than we did previously. Because everything is money to us. We do not always [have] success with paddy yields. To get this harvest we have to wait around six months. We have to feed our children, send them to school and there are other incidental expenses and it is imperative that we borrow money, usually from private moneylenders and sometimes landlords".

Traditionally, most of these relationships were informal. Today, all have become formal. Consequently, some poor farmers feel uncomfortable when maintaining such relations and dealing with outside stakeholders in an official manner. Therefore, the above influences can take the form of either direct or indirect undermining or repression, leading to loss of interest and desire to continue farming with modern techniques. Normally, the traditional relationship between government officials and the people, especially in rural society, was characterised by a 'bureaucratic' subculture in which officials were always superior to peasants. People used to be reluctant to visit the government office to request assistance. Instead, they preferred to passively follow the orders from the government and any other relevant institutions. However, the modern farming system and its sophisticated technological package have given a new aspect to the farmers' relationships with government officers and researchers. One farmer said:

Occasionally, farmers' relationships have become closer and friendly with officers during field demonstrations, when discussing problems and sharing their ideas. The farmers are able to meet personally to discuss their problems, even visiting the officers' homes. Liberation from time-consuming hard work in the field and time spent on household chores has developed family relationships. Now farmers have some time to spend with their wives and children. As I mentioned in previously, today, young peoples' participation in field works is limited due to the labour saving farm techniques.

On the other hand, the introduction of these techniques has tended to increase their mobility, which in turn, influences them in developing different relationships in different urban settings. They are no longer staying in their home villages. To make this clear, they were simply asked about their reasons for participating and mobilizing, since this information can be used to evaluate their outside connections.

As Figure 1.4 shows, 45% of men and 24% of women reported their normal travelling purpose as the purchasing of farm inputs. They stated that they have become used to visiting urban centre buying farm machines and chemical inputs. For financial matters, they use outside institutions considerably. Further, males' and females' mobilization for schooling was reported as 49% and 43% respectively. Concerning marketing purposes, men's mobilization was reported in 68% of cases. Women's mobility for the marketing purposes is significant. However, among the respondents, 36% and 31% of men and women respectively are travelling for work purposes.

Conclusion

This paper has sought out the factors influence changing social structure and functions attached to farm families due to the adoption of sophisticated modern farm technology. I explicitly concentrated on few factors concerning the process of decision making, sharing responsibilities and tasks among family members, and community relations and influences in order to evaluate the changes in a social context. Regarding decision making, I arrived at the following conclusions:

- ♦ No changes have occurred in broader terms concerning the changing roles of males as those in charge of family decisions. However, the traditional monopoly of males in making decisions has become more relaxed.
- ♦ The involvement of females, particularly housewives, in decision making in both farming and family matters has progressively increased.
- ♦ Children and young family members are becoming joint partners in the process of decision making.

Each member in the family is connected to a specific task and/or responsibility. In respect to farm mechanization, the difference is that the nature of the tasks and responsibilities has changed considerably. The changes are based on gender and age, which demarcates a difference from the formal labour divisions based on professions, skills and knowledge. Especially, women's roles have changed noticeably. Male responsibilities and decisions are linked with time, while females' roles are increasing in terms of the economic aspect. The most dramatic change observed is that children are encouraged to undertake primary education, freeing them from work in the field. Society has become completely money based. Therefore, economic foundation and property ownership have become the sources of family honour and prestige. Consequently, the social relationships and interactions are conditioned by money and property. Diverse ownership of farm inputs, income polarizations and external mobility of the community exemplify those connections and relations in the form of dependency between different personalities and institutions. The use of mechanical devices such as tractors and pumps has developed a need for after-sales service and maintenance facilities; investment in machinery has meant that households become very conscious of optimizing its use, either in assisting with land cultivation or through renting out to others.

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