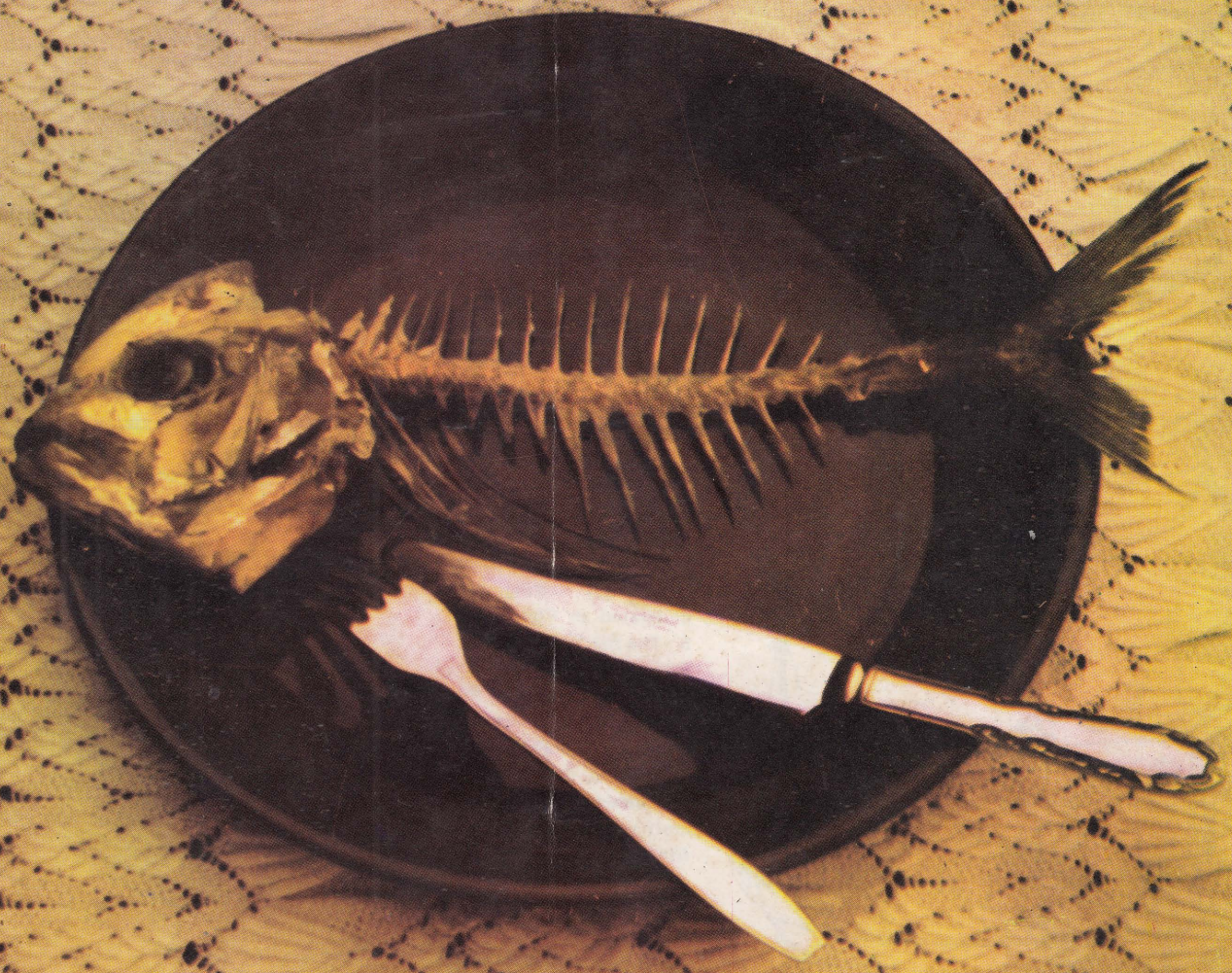
ECONOMIC REVIEW

JUNE 1983



FISHERIES II

TECHNOLOGY CHANGES IN SRI LANKA'S FISHING CRAFT

Primitive fishing craft are still in use today in many parts of the world and provide an insight into how man made a living on the water from earliest times. In Sri Lanka too the traditional craft have continued to be in use, particularly in the small scale fisheries sector, despite the introduction of modern techniques and mechanized boats. The introduction of power propelled craft and use of steel and materials other than wood has given a new direction to fishing craft both in design and character, enabling the building of larger and faster boats. Fishing gear in use in Sri Lanka generally falls into two categories: that used for catching *pelagic* (surface feeding) fish, and that used for catching *demersal* (bottom feeding) fish. The different type of crafts (illustrated here) were introduced to serve various types of fishing as demand for fish kept increasing.

FIG. 1
THE PARU (USED FOR MADEL OPERATIONS)

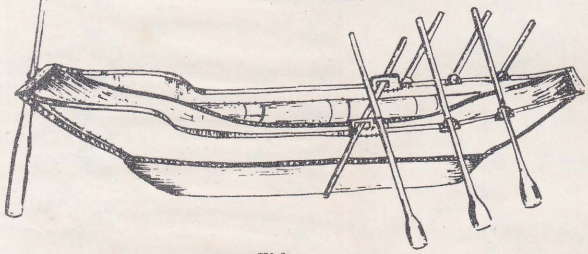
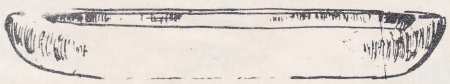


FIG.3
THE VALLAM



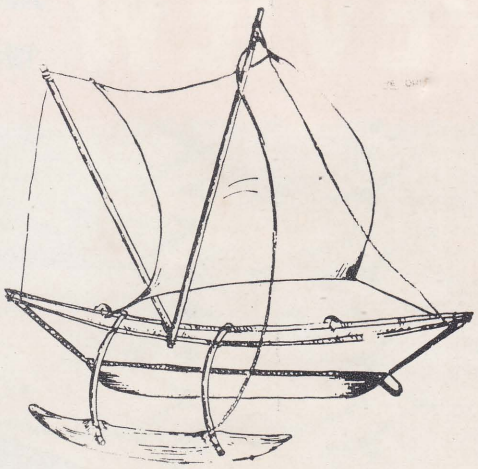


FIG.4
THE KATTUMARAM

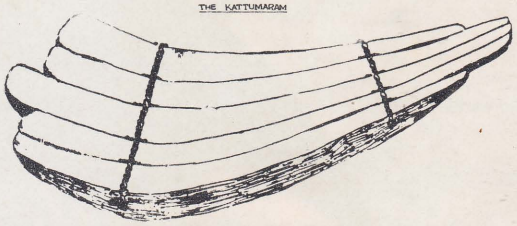


FIG.5
THE TEPPAN

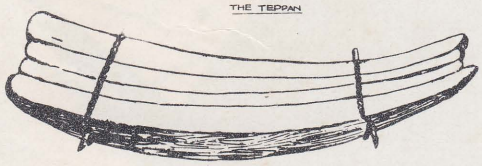


FIG.6
THE BIG VALLAM (USED FOR MADEL OPERATIC

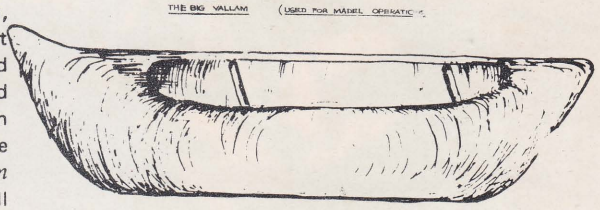


FIG.7
A FIBRE GLASS BOAT (WITH OUT BOARD MOTOR)

FIG.8
THE 3½ TONNER

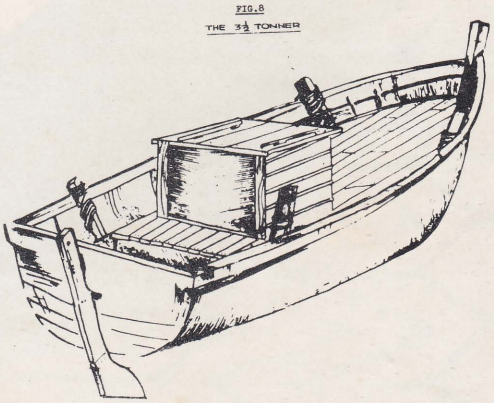
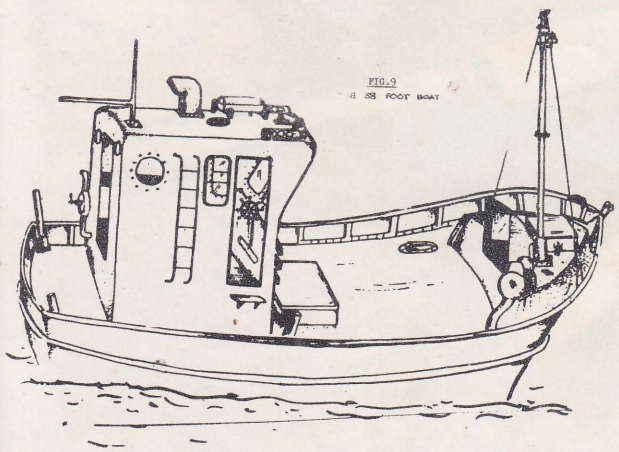


FIG.9
A 38 FOOT BOAT



Figures 1–6 are the traditional crafts, beginning with the *Paru* or plank flat bottomed boat used for carrying beach-seine nets out to sea. The *Oru* or craft with a narrow dug-out hull, raised with side stakes attached to the base, and an outtrigger is illustrated in Fig 2; while the *Vallam*, also a dug-out, without an out-trigger or raised side stakes, and propelled by a oar or sail is shown in Fig. 3. Two rafts, the *Kettumaram* and *Teppam* used mainly for small –mesh gill netting, are illustrated in Figs 4 and 5. The *Big Vallam* in Fig. 6 is used in the Northern and Eastern Provinces for carrying beach-seines out to sea. The crafts shown in Figs. 7, 8 and 9 are the modern mechanized craft which have enabled fishermen to move out to deeper waters and stay out upto three days in a 38 ft. craft. The craft illustrated here are those used by Sri Lanka's small scale fisheries.

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THE ECONOMIC REVIEW is intended to promote knowledge of and interest in the economy and economic development process by a many sided presentation of views & reportage, facts and debate.

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NEXT ISSUE

* The July/August disturbances and the economy
* Rural poor and the child care services in a modern irrigation settlement
* Some observations on the income side of the banker customer relationship
* How families evacuated from the Mahaweli work sites adjust in their new settlements
* China's 'Responsibility System' in agriculture

COVER
Paitha Kannangara

DIARY OF EVENTS

May

4 Government revised the selling prices of fertilizer and the rates of subsidy. The rate of subsidy was not altered in the case of two types of fertilizer but reduced from 5 to 2 percent for three others, while prices were increased from 2 percent to 26 percent on four types of fertilizer and reduced by 5 and 16 percent on two others.

16 The Central Bank established an Export Credit Cell (ECC) to consider representations made by exporters on problems connected with export finance and to liaise with other allied institutions associated with export development in general.

The Educational Television Services (ETS) of the Sri Lanka Rupavahini Corporation began regular telecasts focussing on Advanced Level Science subjects and two English Language Services. These programmes are conducted in collaboration with the Ministry of Education which has equipped 450 schools with TV sets and 134 schools with video cassette recorders.

24 The construction of Stage 1 of the new Container Terminal in the Port of Colombo was inaugurated by the Minister of Trade and Shipping. This is one of the biggest development projects undertaken in the ports of Sri Lanka. The total cost of construction of the terminal with adequate back-up area, access roads, container freight station and all necessary equipment will be in the region of Rs 1,000 million. The Japanese Government is to provide about 75 percent of this amount as a project loan on concessionary terms and the balance is to be met by Sri Lanka Ports Authority

30 The Milk Board's Sachet Packing Sterilised Milk Plant at Kilinochchi was declared open and commenced production. The total cost of the project which was Rs 20 million with the equipment for the plant worth Rs 10 million being provided by Finland. The Plant, the production capacity of which is 8,000 (4,000 litres) per day has provided employment to 40 persons.

June

1 The limit of export credit refinance on pre-shipment credit granted to commercial banks was enhanced from Rs 590 million to Rs 1,200 million. This amount was allocated to commercial banks on the basis of their outstanding export credit as at 31st December, 1982.

The Government decided to increase the incentive for voluntary sterilization to Rs 500. The incentive payment previously made to acceptors of voluntary sterilization was Rs 300. The additional expenditure commitment from this measure in 1983 is estimated to be around Rs 25 million.

The Milk Board's Sachet Packing Sterilized Milk plant at Narahenpita was declared open and the total cost of the project was Rs 42 million while the plant and machinery were gifted by the Government of Finland. Production commenced and at full capacity the plant is expected to produce 16,000 packets (8,000 litres of milk per day.

Nepal pegged its rupee to a trade-weighted basket of currencies; the currency had been pegged to the US dollar.

Argentina introduced new monetary unit, the "peso Argentino" The new peso will have a value equal to 10,000 of the former pesos.

2 The Government announced exemptions from turnover taxes and revision of tax rates for Local Authorities and District Development Councils; and for Cardamons, cinnamon, cloves, green tea leaf, nutmeg, pepper and rubber. Also tax rates were reduced by 2 percent on specific categories of ship owners or charterers and the business of aircraft owners or charterers.

8 The floor price of desiccated coconut was enhanced from US $ 970 per metric ton f.o.b. Colombo to US $ 1145 per metric ton f.o.b. Colombo. A floor price of US $ 850 per metric ton f.o.b. Colombo was also imposed on the export of coconut oil.

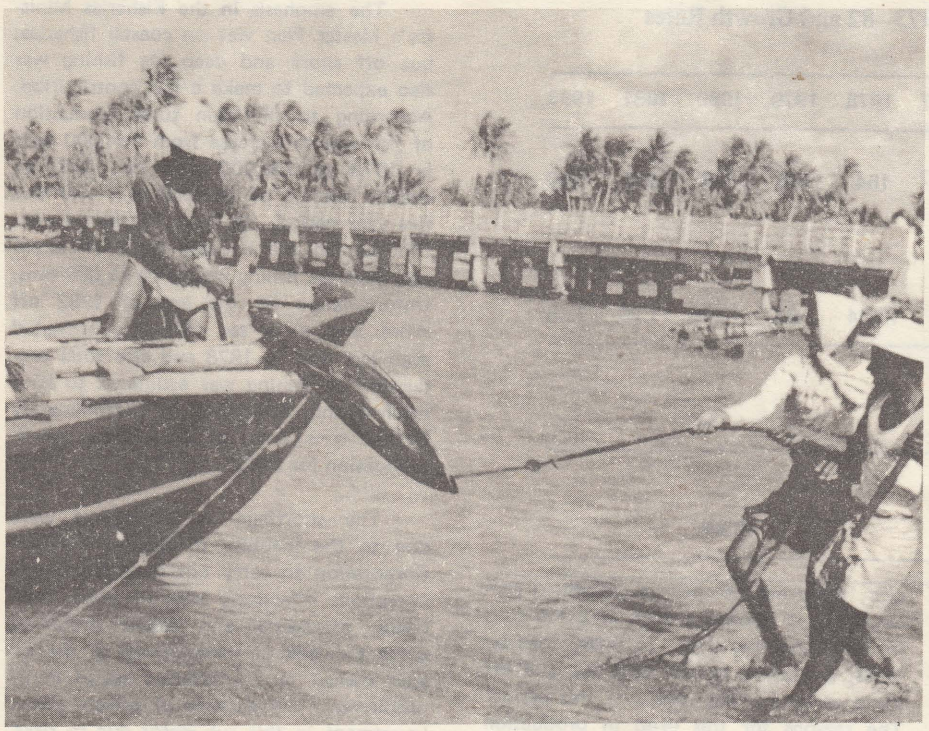
10 The Development Finance Corporation reduced its interest rates by 3 percent (from 17 to 14 percent) on all industrial projects financed by them, excluding the projects entitled to concessionary finance under the refinance scheme. The National Development Bank also reduced the interest rates on direct lendings from 17 to 14 percent, while the rate applicable on small and medium term industrial projects was reduced from 20 to 14 percent

16 The Government announced the revision of import duties on about 10 different items including passenger motor cars, armoured or re-inforced safes, flat bars of iron or steel infants' feeding bottles, incubator trays, automatic water drinkers, laminations of polythylene, polyester and aluminium foil and antibiotics.

20 An agreement was signed with the International Development Association (IDA) providing for a loan of SDR 21.4 million (Rs 534.7 million, approximately) to meet a part of the costs of the Third Rural Development Project. The project to be financed by the proceeds of the loan covers the districts of Mannar and Vavuniya and is aimed at raising the productivity income and living standards of the population in these districts.

22 An agreement was signed betwee the Canadian International Development Agency (CIDA) and the Government of Sri Lanka for a loan of Canadian Dollars 12 million (Rupees 223.8 million, approximately) to finance the System 'B' Maduru Oya Right Bank Canal to be constructed under the accelerated Mahaweli Development Programme.

An agreement was signed between the Governments of the United States of America and Sri Lanka for additional funds of finance the Gal Oya Water Management Project. The revised cost of the project is estimated at Rs 524.3 million. The US contribution is approximately Rs 335.86 million, while the balance would be met by the Sri Lanka Government.



FISHERIES

Sri Lanka's fisheries sector has in recent decades been regarded as one of the major potential fields for expansion in the economy. There are many reasons for this, particularly the reportedly rich resources in the seas surrounding the island, and the numerous fresh water tanks and reservoirs; and brackish water lagoons, estuaries and swamps available for breeding and harvesting of fish. Furthermore, fish constitutes a popular item of food and provides an important protein element in the local diet. The programme for developing the country's fisheries has therefore continuously enjoyed a position of high priority in all development plans.

The country's Ten Year Plan of 1959/68 for instance, placed much emphasis on the expansion of fisheries and stated hopefully "the Plan seeks, in fact, to meet the country's requirement of fish products by 1968". This goal, however, has not been within sight upto date. Although production has shown a significant increase in the past few years we are no closer to the goal of self suffiency than we were ten years ago. The contribution of the fisheries sector to the country's Gross National Product has also moved up slightly over the past ten years though the overall contribution, remains a comparatively insignificant 3 percent as seen in the table below.

At present the fisheries sector contributed about 85 percent of the total consumption of fish in the country. It also provides employment to about 74,000 persons in fishing and to about 20,000 persons in related anciliary occupations such as marketing and distribution of fish, boat building, ice making etc., according to a report on progress achieved by the Ministry of Fisheries, 1977–1982 complied by the Ministry of Fisheries.

Another fact of significance is that at present this industry supplies a substantial portion of the protein consumed by the population. According to authoritative sources 70 percent of the animal protein consumed locally is from fish.

Local Fish Production

During the last 10 years local fish production is reported to have increased from 99,000 tons to 210,000 tons; the increase in production between 1973 and 1982 being over 112 percent. In the latter part of this period that is from 1977 to 1982, fish production is reported to have increased by 54 percent from 136,000 tons to 210,000 tons, indicating an average yearly increase of almost 11 percent. Compared to the 1977–82 period the average yearly increase in production appears to be higher in the 1978–82 period (See table 11)

The main increase as seen in Table 111 was in coastal fisheries, and the rise in production in this sub-sector is attributed to the increase in the number of mechanized craft and increased availability of fishing gear, engine spares and various other materials that have become available with the liberalized import policy. That these production increases, during the latter period, were achieved in the face of rapidly increasing fuel costs as well as the cyclone which destroyed a large number of fishing vessels on the East coast in 1978, is of particular significance.

During the 1978–82 period the increase in the total value of fish production was four times greater than the value of fish produced during the previous four year period. In 1977 the total value of fish production was Rs.598.6 million, but by 1981 it had reached Rs 1,845.2 million. (Table 111) indicating an increase of 208% over that of the year 1977. This increase in value may be due to both inadequate supply and heavy demand for fish and the increasing cost of production which resulted from growing inflation during the period.

The two types of fishing most commonly practised in the island are Marine fishing and Inland fishing. Since Sri Lanka is surrounded by sea marine fishing has

Table 1 Contribution of the Fisheries Sector to the GNP at Current Factor Cost Prices 1974–1982 (Rs.Mn)

Year	1974	1975	1976	1977	1978	1979	1980*	1981*	1982*
Fishing	310	376	405	741	823	1,379	1,714	2,168	2,903
GNP	23,119	25,478	27,750	34,432	40,242	49,542	61,814	77,625	89,674
Percentage	1.34	1.48	1.46	2.15	2.05	2.78	2.77	2.79	3.24

* Provisional

Source: *Central Bank of Ceylon.*

Table 11 Local Fish Production 1973–82 and Growth Rates

Year	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Total local Production (000 tons)	99	109	127	134	137	154	166	184	203	210
% annual increase/ (–) decrease	99	9.92	16.66	5,21	2.13	12.84	7.53	11.46	11.20	3.15
% increase for the period			37%					54%		
% average annual increase			7.4%					10.8%		

* Provisional

become the predominant activity accounting for about 85 percent of the country's present fish production. (Table 111). However, fisheries can be further divided into three sub-sectors, according to the area of operation, that is:

1. Coastal fishing
2. Off shore and deep sea fishing
3. Inland fishing

Production, according to Fisheries Ministry statistics has shown a considerable growth in terms of both quantity and value between 1977–82. The details of production in each sub-sector over this period are given below in the table 111.

Deep Sea and Off shore Sector

Data on total production production compiled by the Ministry of Fisheries show an upward trend over the five years from 1977–1982. A closer look at table 111 reveals a significant variation in the trend of production in the deep sea and off shore sector. In this sector production recorded in 1977 was 307 tons and by 1982 it was 2,200 tons. After 1978 however, there has not been a growth in production. It reached a peak of 2,900 tons in 1978 and was down to 2,200 tons by 1982; a decline in the deep sea and off shore sector by 703 tons over this period. The reasons for this drop in production have been attributed to the rising cost in production and inability of many new enterprises to meet this increase. The inflationary impact on the local currency also had an effect.

The production figures of the Deep Sea and Off Shore sector constitute the catches landed by the Fisheries Corporation, fish seized from foreign vessels where they fished illegally in Sri Lanka territorial water, and catches of Cey-Nor foundation vessels, 38 foot size ADB Project boats, and licenced foreign consigners operating vessels in our seas.

Research and exploratory fishing in recent years have indicated promising resources in the Deep Sea and Off Shore fishing zone, particularly within 25–60 miles from the coast, where migratory stocks of large pelagic fish notably skipjack and tuna species are available for commercial fishing.

The emphasis in the Fisheries Ministry's Master Plan was on coastal fisheries, but off shore and deep sea fishing was also expected to make a fair contribution. According to the plan total production of fish was to increase from 154,000 tons in 1978 to 300,000 tons by 1983, an overall increase of 146,000 tons over this five year period. In these targets the contribution in the increase from off shore and deep sea fishing was to be 31,000 tons. Unfortunately by the end of 1982 off shore and deep sea fishing contributed even less than in 1978 and also total production of fishing was estimated to have reached only 210,000 , yet approximately 90,000 tons short of the Plan's overall production for 1983.

The shortfalls in production were due to the inability of Ceylon Fisheries Corporation to carry out deep sea fishing operations effectively with its heavy overheads, managerial and labour problems, while the lack of maintenance of the vessels owned by Corporation added to its problems. The absence of private sector investment in this sub-sector due to risks, uncertainity, lack of information and technical know-how were also major constraints in the development of this sector, However, higher fuel costs may have been the crucial factor causing the lower rate of growth in production.

The fish resources lying within Sri Lanka's Exclusive Economic Zone (EEZ) of 200 miles forms the basis for the development of the Sri Lankan fishing industry. These resources are divided into (a) The primary fishing resources lying on the continental fish area, which is narrow, rarely exceeding 25 miles. It is estimated that an annual sustainable catch of about 220 tons can be harvested from this area, although the present catch is only about half this amount (b) A secondary resources is the fish available in the area beyond 25 miles. Substantial quantities of skipjack and tuna species are said to be found in this

Table 111 Fish Production by Sub-sectors 1977 – 1982

Quantity (Q): Tons
Value (V): Rs Mn

Sectors	1977		1978		1979		1980		1981		1982 *	
	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V
Deep Sea & Off shore	307	1.4	2,903	9.5	2,066	11.4	2,114	14.1	2,144	18.2	2,200	n.a.
Coastal	123,411	575.0	133,744	758.6	146,507	935.2	162,661	1,218.9	172,318	1690.1	174,500	n.a.
Inland	12,863	22.2	16,474	31.0	17,150	38.0	19,947	58.1	29,124	136.9	33,400	n.a.
Total	136,581	589.6	154,121	799.1	165,723	984.6	184,722	1291.1	203,586	1845.2	210,000	n.a.

n.a. Not available * Provisional

Source: *Ministry of Fisheries*

area; while there are also resources available for trawling in this area. Here too, the potential has hardly been tapped.

It was planned to introduce new and larger vessels, through foreign aided projects, capable of fishing in the area from 25 to 60 miles off shore. In the deep sea sector resources exploitation on the basis of foreign collaboration was to be encouraged; but most of this has not materialised. The Fisheries Ministry also had planned to licence fishing vessels for operating beyond 25 miles from the shore in exchange for specific licences and management assistance. Past experience has shown however, that this facility of licencing foreign boats can be abused.

Foreign Trawl Fishing companies were encouraged to participate in joint ventures for fishing in Sri Lanka waters. Among the conditions offered to these companies were:

(a) The zone of fishing operations should be beyond 25 miles from the coast; and out of the area reserved for local fishermen,

(b) They should pay a "Royalty" from the earnings of their catches.

(c) The Fisheries Corporation should be permitted to purchase 40 percent of their catch on an agreed basis.

(d) The Ministry of Fisheries has the sole power to inspect their vessels and catches at any time.

Agreements were signed by three Foreign Trawl Fishing companies in 1978, and those agreements collapsed after a few months of their fishing operations due to several detections of poaching in Sri Lanka's coastal waters.

There has also been evidence of poaching in Sri Lankan territorial waters by unauthorised foreign trawlers during this time. The crews of these vessels were fined and their catches confiscated and transferred to the Fisheries Corporation. The peak in Deep Sea and Off Shore fish production in 1978, includes 94 tons of fish seized from the foreign vessels that illegally operated in our territorial waters.

Coastal Sector

The coastal sector is defined as the belt of the sea stretching upto 25 miles from the shore, on the continental shelf where there is a comparatively shallow sea zone near the coast.

"In the past, there have been a spate of plans and a plethora of proposals for the development of the fishing industry in Sri Lanka.

Unfortunately, most of these were ad hoc plans, ill-conceived, lop sided and evidently prompted by political expediency. Consequently, they inevitably sought to ignore basic relities and the larger interests of the industry itself.

Therefore, it is not surprising that all these ambitious moves proved dismal failures, despite the vast sums of money frittered away in attempts to implement them, in an indecent haste without due regard to economic feasibility or viability.

For instance, some of the plans placed responsibility on a public sector institution or on the cooperatives, but failed to provide the necessary guidance, support and direction required by such institutions. Others relied on the private sector which was fighting shy to invest because of the uncertain political and financial climate rendered worse by import restrictions and the high risks involved. Besides, where the private sector entrepreneur invested no fish was produced.

The acts of commission and omission in the past are many and varied. For instance, vessels of new design were put to sea without adequate testing, and with fishermen inexperienced in the operation of these vessels. Crash investment programmes were launched without sufficient research and experimentation. The most common shortcomings were the failure to diligently assess the capacity and needs of the private sector and to take cognizance of the inadequacy of public sector institution and support facilities. Even when fish was caught there was a shortage of ice almost everywhere, except in Colombo. Many fishermen could not fish during certain seasons because of inadequate safe anchorages for their boats. Large harbours were built at considerable cost even though they were not necessary for small coastal boats .....

..... In recent years, consumers have been baulked by a steady decrease in fish supplies and rapid price rises. I intend to ensure that these trends are reversed."

Festus Perera, Minister of Fisheries
MASTER PLAN FOR DEVELOPMENT OF FISHERIES IN SRI LANKA 1979–83
Ministry of Fisheries, March 1980.

In 1977 coastal fishing provided almost 90 percent of total fish production, while in 1982 about 83 percent or 174,600 tons was supplied by this sub-sector. Although the percentage contribution decreased the annual quantity produced by the coastal sector increased by 51,000 tons for the period 1977–82. In the early 1950s "Madel" fishing contributed about 40 percent of the total fish catch but with the introduction of new mechanisation schemes this traditional method of fishing began to fade out. At present Madel fishing contributes only about 10 percent or less of total catches. The following table indicates the proportion of production in the coastal sector according to type of the fishing craft.

Most of the development activities envisaged in the Master Plan for the five years 1977/83 was to have taken place in the coastal fishing sub-sector. The Plan noyed that "this emphasis on coastal development reflects the abundance of unexploited resources in that era, and the Government's view that the owners of coastal fishing boats do not have the experience or finance to make a rapid transition to offshore and deep sea fishing. The coastal fishing fleet will be expanded by the addition of large numbers of craft which have already proved to be successful in fishery".

Production in this sub sector was expected to move up from 135,000 tons in 1978 to 216,000 tons in 1983, but by 1982 the contribution from coastal fishing was only 174,500 tons; nearly 40,000 tons behind Plan targets. The increasing trend in production in this sub-sector, however, is attributed to the large number of new vessels introduced during this period, the mechanisation of indigenous craft and the availability of engine repair and boat repair facilities.

There is also a notable change in the position with regards to production by the type of the craft being used in the coastal sector from 1977–1981. Although the production of non mechanized craft recorded growth during the period the

Table IV Fish Production in Coastal Fisheries Classified by Fishing Craft 1977–1981 (Tons)

Type of Craft	1977	1978	1979	1980	1981	1982
3½ ton inboard mechanized crafts	43,149	49,081	49,611	53,962	55,565	59,428
Out board mechanized crafts	39,487	38,124	43,157	56,526	64,480	65,676
Non mechanized crafts	40,775	47,539	53,738	52,173	52,273	54,553
Total	123,411	134,744	146,507	162,661	172,318	179,657

Source: *Ministry of Fisheries*

production increases from other mechanised craft were far greater by 1981.

The failure to increase the number of crafts and availability of gear reduced the growth rate of the fish production from mechanised craft in 1982. As seen in table V, there is a drop in the issue of boats in 1982. The delay in the issue of inboard mechanized crafts to Fisheries Co-operative Societiesl increasing cost of production of craft and vessels, and inadequacy of some essential fishing gear have been the major cause for this situation. Also, factors such as lack of technical know-how and managerial inefficiencies in the Co-operative sector, to which a large part of the operational force of the coastal fishing sector belongs, further contributed to the lower growth rate.

In addition to supplying a major part of the fish for the local market, this subsector also performs the function of a valuable foreign exchange earner. The export of prawns and lobsters alone earned Rs 282.6 million in 1981. Furthermore, since the coastal fisheries employed most people and generated most income this sub-sector needs to receive more attention than the other sectors. Also, compared with high cost of production and heavy investment in the Deep Sea and Off shore sector, the coastal sector has a more manageable input cost per unit of fish produced and it uses minimum foreign exchange per head employed.

Problems which face this sub-sector were highlighted in the 1978 fishery sector survey. Among them were the:

1. Acute shortage of fishing nets with the higher costs and unsatisfactory distribution of available nets.

2. Inoperative time of fishing gear and craft due to shortage of spare parts, high cost and lack of repairs and maintenance and;

3. Inefficient and uneconomic fishing operations due to various shortcomings of the co-operative sector. The shortfall in production of about 60,000 tons of fish per year is attributed to such factors.

The main remedial measures are no doubt better capacity utilization of existing fishing fleets, and the supply of adequate infrastructural facilities.

INLAND FISHERIES

Freshwater

The Master Plan for the Development of Fisheries in Sri Lanka 1979–83 set out in its targets a production of 50,000 tons or one-sixth of entire local fish supply to come from Inland Fisheries by 1983. The Plan has accorded high priority to this sub-sector in view of its vast development potential. Public sector investment which was about Rs. 3 million in 1977 was due to reach Rs 30 million by 1982. As the area available for fisheries in inland waters appeared to be over 700,000 acres the targets set seemed to be practicable, although there were certain basic requirements to be met in achieving them. The total spread of water bodies at Full Supply Level (FSL) is given below in table VI.

The development of inland fisheries production, however, involves more problems than that of marine fisheries. The supply of fish for stocking in water bodies, the number of harvesting units, the location of fish breeding stations, the adequacy of water supplies, and the need to build

Table V Number of Craft and Gear Issued between 1977–82

Type of craft and gear	1977	1978	1979	1980	1981	1982	Total
28'–32' class boats	218	248	313	565	374	76	1794
17'–23' class boats	–	–	503	1510	676	658	3347
15' FRP boats	–	–	–	166	300	128	594
Inboard engines	31	41	150	270	12	2	506
Outboard engines	56	2124	3263	1637	850	1080	9009
Total	305	2413	4228	4148	2212	1944	15,250

Source: *Ministry of Fisheries*

Table V1 Acreage of Inland Water Bodies at FSL

Type of Water Body	Acreage
Major irrigation reservoirs	175,000
Medium scale irrigation reservoirs	42,000
Minor irrigation reservoirs	97,000
Mahaweli area reservoirs	60,000
Hill country reservoirs	20,000
Flood lakes and villus	10,000
Brackish water bodies	300,000
Total	704,000

Source: *Ministry of Fisheries*

up a consumer preference for this new product are all major issues in a successful Inland Fisheries programme.

Most of the fresh water bodies are spread over the dry zone while the brackish water bodies are located on the coastal belt and this provides an opportunity for creating an integrated network of fish producing centres in every part of the country. A major factor in favour of inland fisheries is that if successful it could reduce the cost per unit of this important dietary item for the average consumer. It could also be more easily accessible to consumers in the hinterland where sea fish is expensive due to difficulties of distribution.

In the 1950's efforts were made to utilise irrigation tanks and reservoirs for increasing fish production. This programme however, was slow in getting off the ground and it was only from the 1960's with the introduction of exotic fish varieties such as Gourami, Thilapi and Carp into the dry zone water bodies that inland fish production began to show marked progress (See Table V11)

Production moved up more rapidly after 1977. From 12,863 tons it rose to 33,400 tons by 1982, an increase of almost 150 percent during the period. The production increase in 1981 was the highest on record. The improvements at some of the existing breeding centres; removal of obstacles in inland waters which limited harvesting capacity, provision of credit and subsidies for purchase of fishing boats and gear and the better adaptability of exotic fish varieties to the ecological conditions of inland water bodies have all helped to account for this situation. But in 1982, production at 33,400 tons did not increase as rapidly as in the previous year. This was caused by the severe drought in the dry zone during 1982, which even resulted in the prohibition of fishing in the Nuwarawewa, Nachchaduwa, Kalawewa and Balaluwewa between June and August 1982.

One of the major constraints in the development of inland fisheries in the dry zone is the difficulty for water bodies to retain reasonable water levels during the drought. A large number of these water bodies run dry with the drought, while some of the major irrigation reservoirs are capable of retaining water at a certain level even under the drought conditions. The tanks in the dry zone are therefore, divided into two categories:

1. Seasonal tanks which retain water for a few months of the year and could provide an adequate period for growth of fish. Production here is not possible throughout the year due to drought. Although the number of these tanks are greater than the perennial tanks, their total acreage is less.

2. Major and medium size irrigation reservoirs in the dry zone, regarded as perennials. Some of these tanks are fed through the river diversification schemes and a network of irrigation channels which help them to maintain a minimum water level at any time of the year.

Table V11 Production of Inland Fish* (000 tons)

Year	Production
1960	3,3
1962	3.8
1964	5.4
1966	9.1
1968	8.6
1970	8.1
1972	8.3
1974	7.5
1976	12.3
1977	12.9
1978	16.4
1979	17.1
1980	19.9
1981	29.0
1982	33.4

Source: *Ministry of Fisheries*

*Inclusive of brackish water fish production

Research carried out by the Ministry of Fisheries in the 1960's noticed that the fertility rate in seasonal tanks was much higher than in the perennials and that fish production too could be higher in the former. The problem of predators in the perennial tanks has also caused a certain amount of anxiety; while lack of knowledge and disinterest of inland residents in fishing, in addition to the conflicts that arise from the competing use of water for irrigation and drinking purposes all affect fish farming in these areas.

Another problem for inland fisheries has been its marketability, mainly that it is less palatable than sea fish. Another factor is the old cultural and religious taboo against fish rearing for consumption. There also appears to be a class bias against inland fisheries in that the prices of inland fish are lower than those of sea fish, and therefore those consuming inland fish may seem to fall into a lower social category.

These factors have not been a major obstacle however, and the Ministry of Fisheries has pursued a vigorous programme for development of the inland fisheries sector with a separate Division of Inland Fisheries being set up by the Ministry for this purpose in 1979.

The experience of some Asian countries, as well as findings of our own research workers, has led to setting up of intensive farming projects with the assistance of foreign agencies. For instance, the IDRC Cage Culture Project, the Fish Breeding Station, Dambulla established with UNICEF assistance and the UNDP Development and Training Project. In addition pond space capacity has been increased in the existing stations and new extension centres opened up.

In order to promote and increase harvest of fish in the inland tanks and reservoirs, the Ministry is offering a 90 percent subsidy on the total cost of new non mechanised boats and the fishing gear used for farming in these water bodies. For those engaged in fish farming in the tanks and ponds a 50 percent subsidy is offered on their total cost. The in-

creasing interest in this assistance is seen in table V111 below.

Table V111 Subsidies and Crafts Issued for Inland Fisheries and Pond Fish Farming

Year		1980	1981	1982	Total
Inland Fishery	No. of boats issued	7	197	1871	2077
	Subsidies paid (Rs.Mn)	0.004	6.918	14.789	21.711
Pond Fish Farming	No.of cases	60	121	460	641
	Total extent (acres)	6.40	140.15	99.25	245.80
	Subsidies paid (Rs.Mn)	0.173	0.242	1.131	1.546

Source: *Ministry of Fisheries*

A definite advantage of inland fisheries for a developing country like Sri Lanka is its low capital requirements compared to the marine sector.Furthermore, there is no need for mechanisation of operations and fuel and this could keep consumer prices at lower levels than those of marine fish. Development of this subsector could also encourage people to consume more protein in the form of fish and help to relieve malnutrition problems of the poorer segments, particularly in Sri Lanka's dry zone areas. It also has the potential to generate more full time employment and thereby improve the rural economy. It is for these reasons that inland fisheries have been accorded their present high priority.

Brackish water

In addition to the potential 400,000 acres of fresh water tanks and reservoirs there are 300,000 acres of brackish water lagoons, estuaries and swamps available for breeding and farming of high value species such as prawns, lobsters and crabs. The development of brackish water fisheries has been slower than that of fresh water mainly because of the lack of sufficient experience in this area. The low tides in Sri Lanka present problems of designing ponds for breeding purposes, while the heavy cost of pumping equipment to replanish pond water supplies has been another problem. Also, the techniques of culturing of seed of more important species for stocking lagoons and ponds in Sri Lanka have not been sufficiently developed and there is a lack of skilled personnel to develop them. Furthermore, the major breeding centre at Pitipana has suffered a major problem of water supply. There are also plans to build up a mariculture laboratory and to use it as a base for extended research training and development programmes. The Government's function in this regard would be connected with the basic research on collecting, distributing and harvesting fish, prawns and crabs and extension services to private sector entrepreneurs who will engage in the actual production.

The entire inland fisheries development programme is expected to take on an added significance around the mid 1980's when marine fisheries exploitation is expected to be pushed near to the upper limit. Furthermore, any further expansion of the high value species (lobsters, prawns, etc) will not be possible without development of fish culture since the wild stocks of these species are limited. Also, the rising costs of marine fishing could place a greater financial burden on Sri Lanka's economy and it would therefore be more beneficial to produce fish in inland waters in terms of both local and foreign exchange costs.

Fish Imports

Despite increasing production of fish in recent years in Sri Lanka ithasnot been possible to meet the country's entire demand from local catches. Imports of fish and/or fish products have been necessary to fill this gap in demand. National fish requirements at the recommended rate of per capita consumption have increased over the years mainly due to the growth in the country's population. Local production increased from 137,000 tons in 1977 to 210,000 tons in 1982. while imports also rose sharply from 9,000 tons in 1977 to 21,000 tons in 1982. An increasing portion of the gap between actual requirements and total local production available for consumption has been met through imports over the last decade. See table 1X.

Though there has been a gap between the country's requirements and local fish production which was met through imports, the overall percentage of imports has not been high and fluctuated between 20 percent in 1975 and 4 percent in 1981.

The unit prices of specific import items of fish have gradually increased over the years, with the exception of Maldive fish where a price decline was recorded in 1981. This trend has also resulted in an increasing outflow of foreign exchange in recent years, particularly in 1979, 1980 and 1982 when the volume of imports was also high. See tables X and X1.

Table 1X Percentage Shared by Fish Imports in the Local Market ('000 tons)

P = Production; E = Exports I = Imports

Year	1975	1976	1977	1978	1979	1980	1981	1982
Total requirement at recommended level	289	293	297	304	308	315	317	321
Total local fish available for consumption (P.E)	126	131	134	149	160	181	202	205
Total fish supply to the market (p—E+I)	158	147	143	158	185	215	211	226
% shared by fish imports in the market	20.25	10.88	6.29	5.70	13.51	15.81	4.27	9.29

Table X Unit Value of Fish Imports and Exports (Per ton in Rupees)

Category	1977	1978	1979	1980	1981
Imports					
Maldive fish	5,914	9,352	16,451	18,632	13,745
Dried Fish	2,140	6,034	9,086	11,822	15,808
Preserved or Prepared fish	5,637	7,139	11,052	14,552	15,948
Others	23,745	10,303	13,333	19,290	41,177
Exports					
Prawns	40,281	81,617	105,118	107,031	120,511
Lobsters	81,865	137,288	117,007	130,294	154,884
Shark fins & Fish maws	64,610	21,154	178,163	213,998	291,721
Beach De-Mer	34,541	94,842	104,466	139,540	194,696
Fish (alive chilled and frozen)	21,264	46,124	8,344	101,540	224,799
Others	2,818	9,655	14,979	46,626	72,488

Source: *Ministry of Fisheries*

Table X1 Total Value of Fish and Fish Products Imports (Rs. Million) CIF

Year	1977	1978	1979	1980	1981	1982
Value of fish and fish products imported	19.9	33.9	139.4	297.9	108.8	317.8
Quantities imported (Tons dried weight)	5134.8	5112.9	18494.9	22384.6	6903.1	13595.1

Source: *Ministry of Fisheries*

The main item of fish imports was dried fish which has also taken up a large slice of the fish import bill. The next largest item of imports was preserved and prepared fish, followed by canned fish. These imports have been permitted in order to meet shortages and help stabilise prices. The imports of these items can therefore only be reduced with adequate local supplies coming into the market and this no doubt could also contribute to the development of the fisheries sector, as well as to a considerable saving in foreign exchange.

Fish Exports

Although Sri Lanka's fish production could not meet the country's entire requirements and there was a need to import fish to fill the gap in demand, exports from Sri Lanka exceeded 3,000 tons by 1982. However, present fish product exports are estimated at about 2 percent of total local production. The Ministry of Fisheries has announced that it would permit exports as long as availability of fish for local consumption is not affected. It permits exports only if they are of high price species which do not constitute a major proportion of domestic fish supplies, if there is a high employment added value content in the production process; if there is no depletion of fish stocks; and if foreign exchange earnings from overseas sales are substantial. Some of these items such as Beach-de-mer, Sharkfins; and Fish Maws are not consumed

Table X11 Exports of Marine Products and Relative Foreign Exchange Earnings

Q = Quantity in Metric Tons
V = Value in Rupees Million

	1978		1979		1980		1981		1982	
products	Q	V	Q	V	Q	V	Q	V	Q	V
Fresh fish alive	128.5	10.5	147.0	12.1	160.0	17.4	138.9	30.8	35.5	25.7
Shark fins and fishmaws	365.5	8.9	50.0	8.7	53.5	11.3	40.2	10.5	45.4	12.7
Chilled/Frozen live prawns	1969.4	158.3	2357.8	243.9	1733.5	182.6	2173.8	257.8	2190.3	326.4
Chilled/frozen lobsters	275.2	37.2	128.6	14.8	149.7	15.9	161.0	24.8	479.8	33.4
Beach De-Mer	68.7	6.5	61.4	6.3	78.7	10.8	72.7	13.8	76.7	17.3
Other marine products	113.1	8.2	217.0	14.8	141.8	7.9	115.7	8.4	385.2	21.8
Total	2920.8	229.6	2961.8	300.6	2317.2	238.9	2701.8	346.1	3195.3	437.3

Source: *Ministry of Fisheries*

locally. Of the marine products exported, forzen prawns, shrimps and lobsters account for about 75 percent of total foreign exchange earnings.

The value of exports of marine products reached a peak of Rs. 437 million in 1982. This was an increase of 361 percent over the earnings of Rs.95 million in 1977.

Factors such as the dearth of knowledge and experience in respect of culture methods and deep sea fishing operations; low level of knowledge among processors regarding maintenance and improvement of the quality of exports; inadequacy of laboratary facilities for testing of sea foods; and the lack of reliable data on availability of marine resources continue to act as constraints to the development of a marine products exports industry. The biggest export market for frozen sea foods are USA and Japan but Sri Lanka's share is less than 1 percent of either, the main reason being limitations in supply. Unless culture methods are introduced and developed rapidly and steps taken to remove the constraints there is little hope for establishing a marine products export industry. Meanwhile the Institute of Fish Technology and the National Aquatic Resources Agency (NARA) are continuing to identify and develop sources of marine products for processing and export and attempting to improve the quality and competiveness of marine products.

Fish Consumption

Per capita annual consumption of fish stood at 25 lbs in 1978. One of the targets set in the Plan for the Development of Fisheries was to raise annual per capita consumption of fish to 48 lbs by 1983 and thereby the nutritional level. Sri Lanka's fish consumption levels are far behind those of many other countries where fish is available; the reason for this being the inadequate supply of fish in the country. The recommended allowance of fish to be consumed by a person, according to the Medical Research Institute (MRI), is 60 grams per day or 48 lbs per year. On this basis Sri Lanka's fish requirements in 1982 should have been 321,000 tons, but production last year war only 210,000 tons. A part of the gap in the availability of fish was met through imports, but there were limits. The remedy for under-consumption of fish lies not in imports but in increased local production.

The actual requirements of fish at recommended levels and the total supply to the market are given in table X111 below.

Two distinct features can be observed in the above table, namely, in the period from 1972–1977 per capita consumption declined in the later years; and in the period from 1978–1982 per capita consumption shows a rising trend. Per capita consumption requirements are directly related to the growth of population, and levels of imports, exports and local production. Diagram 1 below shows the co-relation between per capita consumption and fish imports.

Diagram 1

FISH IMPORTS AND PER CAPITA CONSUMPTION

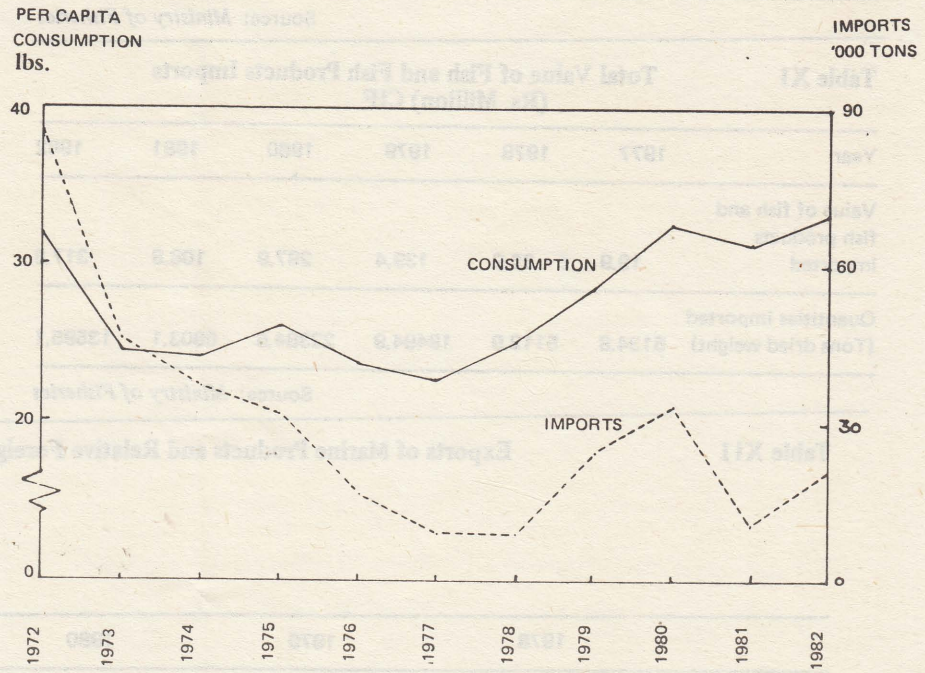


Table X111 **Total Fish Supply as a Percentage of National Fish Requirement at Recommended Level and Per Capita Consumption**

Year	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Requirement	278	280	285	289	293	297	304	308	315	317	321
Total supply to the market	185	144	144	158	147	143	158	185	215	210	226
Supply as a % of requirement	66.5	51.4	50.5	54.6	50.1	48.1	51.9	60.0	68.2	66.2	70.4
Per capita fish consumption	32.0	24.6	24.2	26.1	23.9	22.9	25.0	28.6	32.7	31.4	33.2

Source: *Ministry of Fisheries*

Table X1V **Average expenditure for one month on fish per head by income groups (all island) and as a percentage of total food expenditure**

Income Groups (Rs.)	0-100	101-200	201-400	401-600	601-800	801-1000	1001-1500	1501-2000	2001-2500	2501-3000	3001
Expenditure for one month on fish (Rs.)	9.01	7.17	6.36	7.30	7.84	8.45	9.10	9.74	10.36	8.91	10.43
As a percentage of total food expenditure	8.22	6.75	5.77	6.40	7.26	8.60	10.31	12.19	14.54	13.35	17.93

Source: *Central Bank of Ceylon*

The main reason for the drop in per capita fish consumption in some years, reflected above, is the reduction of imports in these years. This feature is clear in the period from 1973 to 1978. The rapid growth of consumption in 1978, 1979 and 1980 is also related to heavy imports in those years. With the reduction of imports in 1981 consumption levels dropped and in 1982 it went up again with increasing imports. The significance of fish imports is apparent here; it helps to keep up levels of consumption in a situation where fish production is not keeping pace with increasing requirements.

The highest consumption levels for the ten year period indicated here was in 1982; this was not due to an increase in production but an increase in imports of fish.

Factors which influence consumption of fish are mainly the income levels of people; availability of fish in the market, and food habits of the people. People of different income groups show variations in consumption levels and household expenditure patterns. The table below on the expenditure pattern of fish per head by income groups gives a clearer indication of this.

Due to the non availability of reliable data the method of computation used to arrive at an idea of per capita fish consumption is total domestic fish production, plus fish imports, minus exports, divided by the country's population. The equation would be:

$$\frac{\text{Domestic fish production + fish imports} - \text{fish exports}}{\text{Country's population}} = \text{Per Capita Consumption}$$

The shortcomings in this formula are that:

a) Domestic fish production figures were based on the eye measurement of the sample selected by the officials and enumerators located in a few selected centres. In such circumstances the production figures may not be 100% accurate.

b) In computing consumption it is taken for granted that total fish production is edible. But there are unedible portions such as the fins, tail, gills, scales, bones, gullet, intestines etc. The edible portion of fish is estimated to differ from 35 percent to 65 percent, according to the variety.

c) In the exports of fish there is a large component of live fish and other varieties or parts of fish not generally consumed locally. In addition the foreign tourists to Sri Lanka consume a considerable quantity of fish which is not listed under either local consumption or exports. Tourist consumption was estimated at 2,327.4 tons in 1982.

In terms of the above formula per capita fish consumption was 33.2 lbs. in 1982 but in comes down further when the above factors are given consideration. The first two factors, particularly, if considered closely, can reduce per capita consumption.

Even with the help of over calculation per capita fish consumption appears to be around two-thirds the recommended allowance. These figures can result in misleading assumptions by nutritionists and planners of fisheries development projects. A more correct equation would be:

$$\frac{\text{Total domestic fish production} - \text{Minimum of 35\% unedible portions} + \text{fish imports} - \text{fish exports} - \text{fish consumed by foreign tourists}}{\text{Country's population}}$$

Relevant data according to this equation based on 1982 figures, are given below;

	Tons
* Total domestic fish production	210,000 –
Minimum of 35% unedible portions	73,500
Sub total	136,500
Fish imports	21,093
Sub total	157,593 –
Fish exports	4,999
Sub total	152,594 –
Fish consumed by foreign tourists	2,325
Sub total	150,269 ÷
Country's population	15,242,000
Per capita fish consumption	.01

(.01 tons = 22.4 lbs per person/year whereas the recommended allowance is twice this figure). If the production and consumption figures are looked at more realistically, in this manner, it appears that the point of self-sufficiency in fish is yet far ahead.

Self Sufficiency

An assessment of self-sufficiency could be made on the growth of population and fish production over the last decade. This assesment is based on assumptions such as no imports, no exports,

that the whole product is edible, the requirement based on recommended allowance by Medical Research Institute of Sri Lanka (MRI), and the growth of population according to projections of the Census and Statistics Department.

From 1972 to 1981 the fish requirement is estimated to have increased 1.45% over the years according to the growth rate of population and the MRI's recommended allowance of per capita fish consumption. In the meantime fish production has increased 7.83% over the years. On this basis the trend of both requirement and production can be clearly identified. When fish production/requirement is projected over the 10 years (1981–1991) on the above criteria the year in which self sufficiency may be reached can be 1989. (Diagram 11).

In the event that 35 percent of the unedible portions of total fish production is deducted; in order to attain a level of self sufficiency, either the rate of growth of fish production or the time taken to reach this target should be increased.

Fisheries Co-operatives

The Fisheries Co-operatives were incorporated on recommendations under the Fisheries Ordinance No.24 of 1940 and provided for specific facilities such as project financing, product marketing and mechanisation of the fishing industry. The type of Co-operative that emerged was the small Primary Co-operative of 20 to 30 members, but these did not possess either the financial and manpower resources or the geographical distribution necessary to make a significant impact on the fishing industry. By 1970 there were 290 co-operatives with a membership of about 7,000 fishermen, and in that year legislation was enacted for the amalgamation of these Small Fishermen's Co-operative Societies into 45 larger Primary Co-operative Societies. By 1975 these Primary Co-operatives had a membership of nearly 15,000 active fisherman which was estimated at nearly 20 percent of the total work force in the fisheries sector.

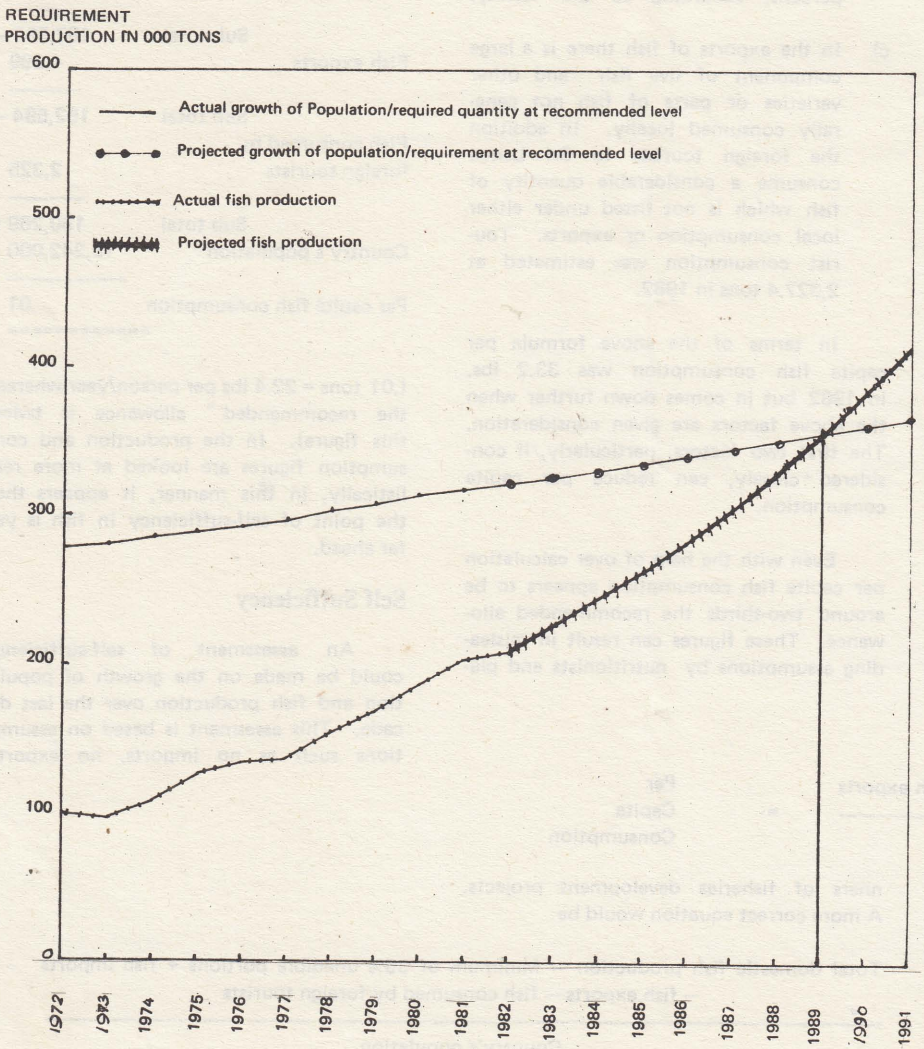
During this period, it was accepted that the future of the fishing industry depended on improving of the small boat sector and with a strong and active fishermen's organisation could help in improving the catches and handling and marketing of fish. The Ministry of Fisheries therefore adopted the policy of restricting the issue of 3½ ton mechanised boats, under hire purchase terms, to the Primary Fisheries Co-operatives Societies. The 3½ ton mechanized boats have played an important role in fish production, (see table 1V) and also in the Government's programme of mechanisation of marine fishing craft. These fisheries Co-operatives were therefore expected to develop into strong and viable organisations and perform a crucial function, but for various reasons they failed to come up to expectations. With catches far below the anticipated yields and other management problems, the majority of these co-operatives were not able to repay the loans they received.

A study carried out by the Ministry of Plan Implementation revealed many operational and organisational problems in these organisations. In order to repay their loans a 3½ ton mechanised boat was expected to bring in 38,000 pounds of fish per annum, but their catches were far below this level. A vast majority of societies obtained an annual catch of less than 30 percent of their caspacity.

The members of these co-operatives also faced problems of the lack of equipment such as nets and other fishing gear, a major cause for low catches.

The study revealed that catches delivered by members of the Co-operatives did not always represent the actual quantity of fish caught, since members were selling direct to traders in order to avoid a part of their returns being deducted on their loans. It was also found that members of the crew tended to regard these boats as not their own property but that of Government and it appeared that a formal transfer of ownership could have helped in increasing fish production and also raising the incomes of these fishermen.

DIAGRAM 2



The Fisheries Co-operatives were not able to cope sufficiently with the demands and requirements of their members and to stir in them the enthusiasm necessary to make a success of the concept of co-operative fishing.

The unsatisfactory situation in the Co-operatives led to various measures being taken by the Ministry of Fisheries to strengthten these organisations. Among the steps taken were:

1. The responsibility for the development and supervision of co-operatives Department, the Director of Fisheries being appointed a Deputy Commissioner Co-operative Development for this purpose.

2. Reorganisation measures were adopted in the co-operatives to enable them to be viable institutions.

3. A policy decision was taken to transfer the ownership of fishing craft to the skippers after repayment of loans. This had led to an improvement in the operational efficiency of these boats and in loand repayments.

From the beginning of 1981 the granting of credit to Fisheries Co-operatives on Advance Account was stopped mainly due to unsatisfactory loan recoveries. However, the People's Bank and Bank of Ceylon continue to provide credit to the societies. The Ministry of Fisheries has recorded that its loan recoveries from the mechanisation account and Co-operative Advance Account amounted to Rs 6.3 million in 1981 and Rs 3.9 million in 1982.

In addition to normal credit facilities provided to the Fisheries Co-operatives financial assistance has been channelled through the two State Banks on the special development projects such as the ADB's South West Coast development Project and a self employment project.

The failure of the Fisheries Co-operatives appears to have been in the lack of proper storage, marketing and distribution of fish and other infra-structural needs. Had these been better planned and supervised, the loans granted to the Fisheries Co-operatives could have been more easily recoverable, with these organisations functioning as viable units. This feature is evident in the ADB Project where loan issues and repayments have been more closely monitored. The result has been different in many self employment projects where supervision has been more slack.

Fisheries Banks

The People's Bank inaugurated a scheme for setting up Fisheries Banks in 1978 with a view to popularising the banking habits and helping to raise the socio-economic conditions of the poorer segments of the fishing community. The objective of these specialised banks was to service less priviledged fishermen more effectively than the existing Fisheries Co-operatives to provide a comprehensive credit structure for those engaged in the fisheries industry made such an alternative necessary. These banks, however, were to be housed as far as possible in buildings occupied by Fisheries Co-operatives Societies and were expected to maintain a close laison with the Co-operatives.

Some of the problems that these banks encountered in their first two years of operation were discussed in a Bank study in 1980. It was found that some of the Fisheries Bank branches were located at sites away from the fishing centres although the intention was to set up these banks where there were heavy concentrations of fishermen. It was also found that monopolistic private businessmen were already long established in these fishing communities and the Fisheries Banks with their formal structure and systems were finding difficult to meet this competition. These businessmen also had a close knowledge of the problems and conditions under which these fishermen operated and were therefore at an advantage. One of the objectives in setting up these Fisheries Banks was that in the course of time the fishermen should reduce or break off altogether their heavy dependence on the Mudalali but if this objective is to be achieved the Fisheries Banks should not "ay be at a disadvantage when competing with the businessmen.

At present there are 20 branches in operation in the Western, Eastern and Southern coastline and they operate as part of the People's Bank branches in their particular areas. The areas in which these branches are set up are: Trincomalee, Addalachchenai, Kalmunai, Pottuvil, Tirukkovil, Valaichchenai, Koralawella, Ratmalana, Ambalangoda, Mathaluwa, Pereliya, Negombo, Wennappuwa, Beruwela, Panadura, Chilaw, Mahawewa, Gandara, Tangalle and Weligama. Among those that have shown most progress and results in the fishing communities where they operate were the Tangalle, Gandara, Chilaw and Wennappuwa, banks.

These banks provide facilities for mainte an e of savings, investment savings accounts and fixed deposits accounts; pawn-broking; loans for production, purchase of small boats and fishing gear, housing, redemption of debts, emergencies and essential consumer needs; and facilities for diversification into other fields of gainful employment during offseasons.

As at 31st December 1982, savings, fixed deposit and Investment Savings Accounts at these branches numbered 13,762 with a balance of Rs 7.6 million. The advances of the fisheries banks amounted to Rs 15.8 million in respect of 150 loans. Pawning accounts had increased to 12,534; while the balance outstanding amounted to Rs 20.7 million.

In addition to its other fisheries financing schemes the People's Bank also promoted special fisheries projects. At Matara where ten selected fishermen have been provided assistance to purchase 28 ft. boats; while at Kalutara the Bank is participating in a scheme to provide 100 fibre glass fishing crafts to fishermen.

Producer Subsidies – Marine

Although the fishing industry was provided with certain producer subsidies from the 1950's, over the last two decades with the increasing requirements in this sector these subsidies have been made more comprehensive. The subsidy payments from 1977 in respect of boats issued are given below. (see table XV).

Prior to this producer subsidy schemes offered by the Director Fisheries covered up to 50 percent of the cost of mechanised craft and fishing gear. In view of the considerable price escalation due to mechanisation schemes a modified subsidy scheme

Table XV **Producer Subsidies Granted (Rs.Mn)**

Sector	1977	1978	1979	1980	1981	1982
Marine Sector	3.953	15.562	38.800	58.985	58.527	28.357
Inland Sector (Ponds)				.004	6.918	14.798
				.173	.242	1.131

Source: *Ministry of Fisheries*

was started in 1979. Under this scheme a higher percentage of subsidies were granted and the new beach landing boats were also included in its coverage. All this has resulted in an increase of the producer subsidy from Rs 3.9 million in 1977 to a peak of Rs 58.9 million in 1980. The introduction of the new scheme which includes new 17–23 ft. Fibreglass Reinforced Plastic (FRP) boats through the self employment scheme in later 1979, led to a heavy increase in total subsidy payments in 1980. In 1981 a further subsidy scheme was introduced to encourage the use of sails particularly as a fuel saving measure, where the amount of subsidy was 75 percent of the cost of sail. A 90 percent subsidy scheme on the issue of traditional non mechanized craft was also introduced in 1982 for the benefit of the small scale fishermen. Table XV gives details for the years 1977 to 1982.

The subsidy scheme was initiated as an incentive towards mechanization of craft which was found to have a higher productive capacity. This scheme included incentives to encourage the introduction of non mechanized crafts which had the advantage of lower cost of production. In this manner the subsidy scheme incorporated both systems of fishing, namely, mechanized and non-mechanized under two different subsidy programmes.

Producer Subsidy – Inland

In order to promote harvesting of fish in the inland water bodies the Fisheries Ministry introduced a new subsidy scheme, where 90 percent of the total cost of new – mechanized craft and gear is covered. Each of these crafts is capable of producing approximately 12 tons of fish per annum. The objective of this scheme is that with the quantum of the subsidy there would be a substantial increase in inland fish production.

Another subsidy scheme was introduced by the Ministry of Fisheries in 1980 for those engaged in fish farming in tanks and ponds. The data shown in table XV on pond fish farming projects gives an indication of the popularity of this scheme. This subsidy scheme grants 50 percent of the cost; ranging from Rs 2,000/– to Rs 10,000/– according to the area covered by the fish farm; and includes fish farming in upcountry estates and in seasonal tanks.

These schemes could help to increase the number of producer units as well as the quantity of fish produced provided no obstacles are allowed to stand in the way of their successful implementation.

Fish Prices

Prices of fish in the market have been most influenced by private fish traders who had a control of supplies. When the Ceylon Fisheries Corporation was established in 1964 one of main objectives was the marketing and distribution of fish at reasonable prices to the consumer but the Corporation could not assume the role of an organizationally strong and financially viable competitor and so the private sector continued to control conditions in the market. This private sector dominated by the middleman/trader or Mudalali has based its operations on the principle of minimum producer prices and maximum consumer prices. This trade is well organised with their purchasing, distribution and sales network covering almost every populated part of the island.

As noted earlier, there has been a decline in per capita fish consumption from 32 lbs in 1972 to 25 lbs in 1978. One of the major reasons was the decline in supply, though imports prevented a further aggravation of the situation. It is mainly the result of the shortage in supply and the increase in demand, particularly with a growing population, that has resulted in the sharp increase of prices; other factors have been the increase of prices of competing animal proteins and the growing popularity of fish as a food item, together with the rising incomes and the stronger inflationary tendencies over the years. The middleman have been able to increase their margin in this situation and during the periods of heavy shortages even higher prices have prevailed. Unlike in the case of certain popular food commodities in the case of fish there were no buffer stocks available to influence the market and keep down rising prices. In 1979 when the Ministry of Fisheries drafted its Five Year Master Plan it decided that the Fisheries Corporation will restrict its activities mainly to fish marketing and helping to improve and stabilise the supply of fish to the market. It also announced its intention of doubling domestic production in the five years upto 1983 and of encouraging investment by both the private and public sector and also in providing other facilities which could not only increase the supply of fish and the quality but also act as a restraint on consumer prices. Fish prices were thus expected to rise at or below the average rate of inflation over this period though it does not appear to have happened as seen in the average prices for all varieties of fish indicated

The Table XV1 gives details of prices of fish between 1977 and 1981. Retail prices have been fixed by adding intermediary costs and profit margins to the producer price. The main factors affecting prices of fish are: 1) producer prices: based on the cost of production, availability/scarcity, market obligations and commitments to middlemen, 2) trader overheads: such as costs of transportation, icing, loading and unloading, interest on funds spent, etc; 3) consumer preference which creates competition at the level of the retail market; and 4) profit margins.

The increasing prices of fish over the years have not helped to overcome the socio-economic problems of those directly involved, namely the fisher families, since they continued to operate in a vicious circle which is controlled by the

Table XV1 Average all island retail fish prices by variety of fish

(Rs./lbs)

Variety	1977	1978	1979	1980	1981	1982
Seer	4.77	6.23	6.82	8.85	10.31	
Paraw	3.97	4.72	4.98	6.22	77.56	
Balaya	3.65	4.64	5.28	6.90	8.12	
Kelawalla	4.32	5.60	6.49	8.27	9.44	
Other blood fish	4.40	4.08	4.90	6.20	6.84	
Shark	2.68	3.50	4.09	5.01	5.90	
Skate	1.92	2.39	2.59	2.85	3.45	
Rock fish	2.46	3.26	3.69	4.03	5.02	
Shore seine varieties	1.79	2.35	3.13	3.39	4.53	
Others (including prawns, lobster cuttle fish & crab)	6.23	7.16	11.07	10.80	14.35	
All varieties	2.81	3.53	3.90	4.49	5.94	
Fresh water fish	1.08	1.27	1.72	2.11	2.99	

Source: Ministry of Fisheries

fish mudalalies/traders. The real beneficiaries in the high pricing of fish have therefore been not the fishermen but the mudalalies or traders.

Factors behind the regional price variations are also clearly evident. These variations are based on the demand and supply situations Colombo fish prices are generally high due to the demand though prices here are not always the highest since fish supplies from different coastal landing centres come in mainly to the city. For example, the highest prices for Seer, Paraw and Balaya were found to be in Kalutara, while the lowest prices were noted in Mannar and Mullathivue in 1981. The highest prices were due to the low production and high demand, while lowest prices in Mannar and Mullathivue were mainly due to the high production and low demand.

Due to the non availability of prices of fish in the hinterland it is difficult to compare prices here with those in the coastal areas. However, prices inland are always generally higher than in coastal areas because of greater scarcity, and overhead costs of transportation and distribution. The Ministry of Fisheries places great hopes on the development of inland fisheries, which it expects would reduce the demand for as well as prices of marine fish and be more easily accessible in internal markets. To this extent a successful Inland Fisheries programme could alter the entire balance in the market situation for fish in Sri Lanka.

Fishing Technology

All governments over the last few decades have continuously attempted in some way to increase fish production and in trying to do so were convinced that the answer lay in modern technology and mechanization of the industry. However, the notion that by emulating developed world models local problems could be satisfactorily solved has characterised much of the development in these earlier decades. A corollary trend was the failure to see indigenous technology as an effective and valuable technology, by reason of the fact that it required to use the inborn skills and traditions of the local fishing community and was based on locally procurable raw materials over which fishermen had complete control. Sufficient weight was not given to the fact that since it involved the superimposition of foreign technological inputs, with which the fishermen were not familiar, problems of the switchover should have been anticipated by providing adequate fisheries education to as a wide section of the fishing population as possible.

There exists a very contradictory situation in that fisheries development has been delayed by difficulties in introducing more advanced fishing methods and this still remains the main problem today.

In Sri Lanka fishing technology is divided into small and large scale sectors. The small scale sector is more significant as the majority of fishing operations and the workforce are within this category. With the introduction of mechanization schemes from the 50's operations in this sector grew more complicated. Before steps towards mechanization were taken the traditional technology was firmly established in local fishing community. Under this technology fishing fleets operated in relatively primitive conditions and were controlled by environmental factors such as monsoons and rough seas. Thus in the 1950's traditional technology such as "madel" fishing dominated and as much as 40 percent of the total landings (in 1953) were from "madel" operations. With the growing demand for fish and the introduction of more modern methods of fishing the importance of "madel" operations began to diminish. The type of technology used began to vary according to the place and time of fishing, the type of fish and craft, financial capabilities of the fishermen etc. The four techniques that evolved with mechanisation were:

(1) Mechanized indigenous craft;

(2) Mechanized craft with outboard motors and relevant fishing gear (17 ft. to 22 ft. in length)

(3) Mechanized craft with inboard motors and relevant fishing gear.. (called 3½ tonners and 28 to 32 ft. in length);

(4) Small trawlers and related fishing gear.

The introduction of mechanization and modern fishing gear enabled fishing fleets to disregard what were earlier environmental barriers such as strong winds and monsoons and high seas and tides. Though these improved fishing techniques have been adopted over the last three decaded nearly one-third of total landings are yet from indigenous non-mechanised craft and about 85 percent of the total catch is from coastal shallow seas.

Landing places and areas of operation were decided according to the type of the craft and the gear used in fishing. An example is seen in the traditional indigenous crafts, for instance, Oru, Vallam, Kattumarm and Teppam which use outboard engines when they need to go out to rough seas or distant places and they then operate certain fishing gear which needs fast moving or rough seas. But in calm seas or for inshore fishing the engines are removed and the craft rowed, while a different type of fishing gear is used for catching specific fish varieties. Small crafts also do not harbour anchorages as it is easy for them to land on the beaches. But, the in-board motor boats and trawlers equipped with gear for deep and rough seas and for specific fish varieties, have necessarily to be anchored in a harbour or similar safe place. These crafts are therefore found very rarely on line beaches. The Western coast is an ideal example of this, where generally fishermen knowledgeable of seas and fishing operations, and more facilities available to them, select the correct and most viable technology according to the fishing time and area of operations; which in turn has helped them to get better results.

Among the various fishing methods adopted locally are trawling lines, gill nets, drift nets, bottom set nets, bottom long line, floating long line, beach seine nets, cast nets, dip nets, rod and line, hand line, and a range of fish trap techniques. These different fishing techniques are used to match the various fishing environments, fishing seasons, specific types of fish and capabilities of fishermen. Fishing methods are adopted to suit different conditions and it is clear that both the traditional and modern techniques are equally useful and appropriate for the local fishing community.

Conclusions

Lessons of the past have shown that development in fisheries cannot be achieved merely with an injection of the technological hardware. The fisheries sector should also be sufficiently equipped to cope with the new demands, while conditions should be conducive to the absorption of the new technology. ,It was found, for instance, that training facilities were inadequate

and have lagged behind the mechanization process. There were also many contradictions that arose with this process of mechanization. For example, non-mechanized craft were found to be safe and cheaper but the return per unit was lower than for mechanized boats. In the mechanized craft on the other hand many fishermen are finding that their fixed and variable costs were very high and the return on such investment was not sufficient to meet the overall costs of production.

The objectives of the planners are still not within sight. The reversal in the trends of insufficient production and rising prices has not taken place. Most fishermen have not been able to find the prosperity they hoped for. The local consumer often finds that the fish he needs is not available or beyond his means, while considerable foreign exchange expenditures is necessary to keep the industry alive.

The one area that fish production has been aggresively and productively promoted is the fresh water sector, but here too the problems of consumer acceptance are yet to be overcome. An anticipated problem in the marine fisheries coastal sector is that before the mid 1980's fish production here would be pushed towards its upper limit. The laternative is to either turn to fish culture and fish farming in homesteads and inland waters while building up a consumer preference for inland fish, or to launch out on large scale commercial fishing operations with foreign collaborators (and the necessary controls) in the open seas, harvesting the waters of Sri Lanka's exclusive economic zone. There is no doubt that an increase in fish production and its easier availability to the consumer is today an urgent need; it is also a fact that there is greater scope for expansion and improvement of facilities available to the fishing industry, but to realise this goal and at the same time cope with demands by both producers and consumers of fish will require a more firm commitment by all concerned to the priority areas and a greater reliance on the potential in our own human and material resources.

FOREIGN NEWS REVIEW

UNCTAD V1 OUTCOME DISAPPOINTS THIRD WORLD

UNCTAD V1 ended in Belgrade on July 3 this year on a disappointing note for Third World delegates and with the spokesman for the Group of 77 (Developing countries) expressing his "deep disappointment with the meagre results achieved."

The Conference resorted to the face-saving measure of ultimately calling for "the international community to launch a programme of concerted measures for the reactivation of the global economy and for accelerated and sustained growth and development in developing countries."

On the eve of the Conference, which began on June 6, the UNCTAD's Secretary General Gamini Corea submitted a report making a strong plea that decisions of UNCTAD V1 should promote simultaneously the process of development and recovery in the world economy. In recapitualating the essential features of the current crisis — negative economic growth per head in the developing countries and massive unemployment in the OECD countries — Dr. Corea stressed that UNCTAD V1 could be a turning-point in international economic relations if it were the occasion for a new consensus that would help set the world economy and the process of development on a new course.

Although devoted essentially to North-South economic issues the session, which was held in the Sava Centar, Belgrade, Yugoslavia, had the character of a world economic conference. It was attended by over 2,000 representatives from 148 of UNCTAD's 166 member countries and from many United Nations agencies, other intergovernmental organizations and non-governmental organizations. Seven Heads of State or Government and 144 representatives of ministerial or equivalent rank participated in the Conference and well over 300 representatives of foreign media were officially accredited to it.

In addition to the consensus statement on the world economic situation, the Conference adopted twenty-two resolutions on the substantive issues on its agenda, as well as a number of other decisions.

The consensus statement first analyzes the main features of the crisis, particularly its exceptionally severe impact on the developing countries, then refers to the tentative signs of recovery that have appeared in some major developed market economy countries. While recognizing that recovery in these countries would contribute to the growth of world output, trade expansion and development, the statement asserts that recovery of the developed market economy countries by itself would not suffice to revitalize the world economy. In fact, it says, the recovery itself could be aborted unless appropriate policy measures, including structural adjustment, were taken to broaden and deepen it and at the same time to reactivate the development process in the third world. Such reactivation, it states, would in itself be an important element in the revitalization of the world economy.

After referring to the difficulties which have beset the international monetary, finance and trading systems under the impact of the crisis, the statement says that these institutions "have not been sufficiently adapted to cope with the changing realities of the world economy and with the shifting interrelationships between issues in its key areas". It goes on to call for the urgent setting in motion if the necessary processes of change in the international economic system, "in order to provide firm support for the development process, to ensure adequate participation of developing countries in the decision-making processes and to cope with the consequences of the crisis as well as to prevent its recurrence".

United States expresses dissent

Following the adoption of the statement at the final plenary meeting of the Conference, the representative of the United States said that his delegation had to dissociate itself from it because it found the text "too negative, one-sided, and in places too ideological to be accepted". The United States, he said, was convinced that economic recovery was now under way and that "we have an opportunity to build on this recovery and strengthen mutual confidence and determination to achieve sustained, non-inflationary growth and development for all countries"

A number of other delegations of developed market economy countries indicated that although they had joined in the consensus their acceptance of the statement

TRADE

Japan and US dominate Sri Lanka's merchandise trade:

Six countries account for 50 percent of trade turnover

During the six years of the 'Open Economy' a significant factor in Sri Lanka's external trade pattern is that Japan and the US have emerged as its two major trading partners, and by April 1983 they accounted for over one quarter of the country's total external trade turnover. As seen in table 1, the trade turnover with these two countries was 25.7 percent of the total; while Sri Lanka's other main trading partners in this regard were India, UK, West Germany and Singapore and these four countries accounted for about 24 percent of total trade turnover.

For the first time in Sri Lanka's history has a single country accounted for over 20 percent of the country's total import bill, with imports from Japan in the first four months of the year reaching a new peak of Rs 2,480 million or 20.4 percent of the country's total value of imports. By way of export values too there was a similarly clear pattern of a single country drawing well beyond all others, with the USA taking as much as Rs 1,179 or 16.7 percent of the total value of Sri Lanka's exports over the first four months of the year.

An apparent difference in the nature of trading between these two leading countries is that the US virtually matched imports with exports and there was a surplus balance of Rs 235 million in Sri Lanka's favour; whereas in the case of Japan her imports were less than 50 percent of her exports and the trade balance in Japan's favour was a massive Rs 2,142

Table 1

Total Trade Turn over of Sri Lanka
10 Major Trade Partners January–April 1983

(Rs. million)	Trade Turnover	%	Balance of Trade
1. Japan	2,480	14.7	– 2,142.2
2. U.S.A.	2,123	11.0	+ 235.3
3. India	1,268	6.6	– 592.5
4. U. K.	1,192	6.2	– 472.7
5. W. Germany	1,187	6.2	+ 246.6
6. Singapore	864	4.5	– 420.2
7. China	591	3.1	– 271.4
8. France	420	2.2	+ 178.3
9. Saudi Arabia	373	1.9	+ 12.2
10. Netherlands	341	1.8	+ 52.7
Sub Total	10,839	58.2	
Others	8,383	41.8	
Total	19,222	100.0	– 5,106

Source: Sri Lanka Customs Returns

was subject to some reservations or qualifications. These delegations were Australia, Belgium, Denmark, the Federal Republic of Germany, Japan, Switzerland and the United Kingdom.

As President of UNCTAD VI the Conference elected by acclamation Lazar Mejsov, Foreign Minister of Yugoslavia. Mojsov said in his closing statement that the results of the Conference had not been commensurate with the needs for improvement in the world economic situation. Nevertheless, after strenuous work, agreements had been reached in such areas as commodities, international trade, money and finance and the actitities of UNCTAD in the areas of technology, shipping and economic relations among developing countries. He said that although the progress made in some fields or the small steps taken in others did not free one from the feeling that much more could be done, particularly to assist developing countries, the constructive atmosphere of dialogue nevertheless had been preserved.

Abdillahi said Osman (Somalia) was the co-ordinator of the Group of 77. He said on behalf of his Group that they had expected to reach agreement at the Conference on a minimum programme of immediate measures which would go towards meeting the challenge facing the world economy and had to place on record its deep disappointment with the meagre results achieved. It felt that the Conference had failed in large measure to live up to the expectations reposed on it by the world community and had missed a historic opportunity to contribute meaningfully to world development and recovery. The responsibility for this rested squarely with the developed countries, he said. The resolutions that the Conference had adopted did not add up to the worthwhile programme of immediate measures that the Group had hoped for. By and large, they marked only a slight advance from the positions that had been reached in the earlier Conference of UNCTAD. The Group had in fact to struggle hard even to maintain those positions and in a few areas they seemed to have "slipped down the slope".

In spite of this, he said, the Group had decided to accept the package of resolutions adopted by the plenary, because it felt that the spirit of international cooperation today was so frail that it could not suffer another setback which would have inevitably followed had the Conference ended in a total failure. The Group had decided to adopt whatever had emerged from the Conference and build on this basis through the forthcoming negotiations within the continuing machinery of UNCTAD and other available fora.

Making some preliminary observations of the Conference UNCTAD's Secretary General Gamani Corea said that the failure of the Conference to respond to the need for a vigorous programme aimed at reactivating the global economy and the development process was in his view its principal shortcoming. He was not convinced that the decisions of the Conference in the areas of commodities, finance, trade and the least developed countries, taken together, sufficed to give "a clear message of confidence to the world community as regards the reactivation of the development process." It would seem that the recognition of the reality of interdependence, he said, "was not equally matched by a recognition of its implications".

Mr. Corea said that he nevertheless had to underline the fact that the Conference did succeed in reaching agreement on virtually every major item on its agenda". These agreements had been reached in practically all cases on a consensus basis. This result should not be lost sight of, Dr. Corea stressed, since it constituted a foundation for future efforts.

Sri Lanka's Imports and Exports of 21 Main Trade Partners in 4 Months upto April 1983

Table 2

	IMPORTS			EXPORTS		
	Country	CIF Value Rs.	% of total	Country	FOB Value Rs.	% of total
1.	Japan	2,480	20.4	U.S.A.	1,179	16.7
2.	USA	944	7.7	West Germany	460	6.5
3.	India	930	7.6	U.K.	340	5.1
4.	Iran	862	7.1	India	338	4.8
5.	U.K.	832	6.8	Japan	337	4.8
6.	West Germany	727	6.0	Egypt	305	4.3
7.	Singapore	642	5.2	Pakistan	252	3.7
8.	Burma	434	3.6	Singapore	222	3.2
9.	China	431	3.5	Netherlands	197	2.8
10.	Taiwan	385	3.1	Saudi Arabia	192	2.7
11.	Hong Kong	358	3.1	Malaysia	186	2.7
12.	South Korea	303	2.5	Iraq	162	2.3
13.	France	299	2.5	China	160	2.3
14.	Australia	185	1.5	USSR	142	2.0
15.	Thailand	185	1.5	Syria	128	1.8
16.	Saudi Arabia	181	1.5	Canada	124	1.8
17.	Sweden	176	1.5	France	121	1.7
18.	South Africa	155	1.3	Italy	120	1.7
19.	New Zealand	154	1.3	S. Africa	98	1.7
20.	Netherlands	144	1.2	Iran	93	1.3
21.	Canada	144	1.2	Belgium	89	1.3
	Sub-total	10,951	90.1		5,267	74.6
	Others	1,213	9.9		1,791	25.4
	Total	12,164	100.0		7,058	100.0

Source: Sri Lanka Customs Returns

million, Other leading trade partners India, UK, Singapore and China also followed Japan's pattern where they failed to match imports with exports.

In some cases, as seen in table 3, imports were influenced by the level of foreign aid Sri Lanka received from these countries. This was particularly so in the case of Japan and US, though not so in the case of the Scandinavian countries.

Among the 21 major suppliers of goods to Sri Lanka were Singapore, Taiwan, Hong Kong and South Korea which moved up strongly in 1983. Also among the first 21 supplier countries were Iran as a supplier of petroleum products and Burma for its rice supplies. The US, West Germany and UK have emerged as the strongest markets for Sri Lanka products mainly because of the large volume of ready-made garments they import in addition to traditional commodities. Egypt has continued to be the leading market for Sri Lanka among the Middle Eastern countries mainly because of its heavy imports of tea. Among the 21 leading buyers of Sri Lanka products are 5 Middle East countries namely, Egypt, Saudi Arabia, Iraq, Syria and Iran; while there are also six West European countries among the 21 leading buyers namely, West Germany, UK, Netherlands, France, Italy and Belgium.

Sri Lanka's total merchandise trade turnover between January and April 1984 reached Rs 19,222 million of which imports amounted to Rs 12,164 million and exports to Rs 7,058 million; leaving an overall trade deficit of Rs 4,963 million, slightly well below the deficit of Rs 5,899 million notched up in the first four months of 1981.

Table 3 Foreign Aid Agreement Signed in 1982

	(Loans & Grants)
Franch	391.00
Japan	1,937.60
FRG	99.30
OPEC fund	227.20
KFAED (Kuwait)	936.20
U. S. Aid	966.50
U.S.P.L.	806.10
IDA	1,738.20
World Bank	892.90
Asian Dev Bank	951.80
IFA	287.30
Australia	175.80
Belgium	15.60
Canada	266.00
EEC	138.00
Finland	108.20
Netherland	426.90
Norad	139.40
Sida	538.90
Italy	23.00
W.E.P.	51.70

(Rs. million)

	Source	Loans	Grants	Total
1.	Japan	1,324.7	612.9	1,936.6
2.	U.S. Aid	869.9	96.6	
				1,772.6
	US PL480	667.5	128.6	
3.	Sweden (IDA)		538.9	538.9
4.	Netherlands		426.9	426.9
5.	France	391.0		391.0
6.	Canada		266.0	226.0
7.	Australia		175.8	175.8
8.	Norway		139.4	139.4
9.	Finland		108.2	108.2
10.	West Germany	99.3		99.3
	Sub Total	3,662.5	2,494.3	6,156.8
	Other Sources	5,214.5	228.3	5,442.6
	Total	8,876.8	27,722.4	11,599.4

Source: Performance 1982, Ministry of Plan Implementation.

FEATURES

THE BUSINESS PREMISES MARKET IN THE CITY OF COLOMBO A THREE YEAR REVIEW, 1981 - 1983

M. W. J. G. Mendis

There is a surplus in the total quantum of business premises available in Colombo city; this is one of the findings that emerges in a continuing study of the business premises market in Colombo city, being conducted by Professor Willie Mendis, Head of the Town and Country Planning Department at the University of Moratuwa and at present its Vice Chancellor. The broad objectives of this project is to determine the factors that influence the behaviour of the City's premises market and to facilitate policy formulation and planning of Colombo's urban development. This study which is the third in an annual series, shows that there is a continuing surplus in the total quantum of business premises in the city market, although in certain business categories and city locations there may be shortages. However, it maintains that such surplus stock of premises represents blocked capital which the city economy can ill-afford. As much as half a million square feet of business premises was available and advertised during a two month period; this feature was apparent in the previous two studies as well. The study recommends that the level of activity in Colombo's business premises market has to be enhanced and for this present urban development promotional measures will need to be more effective.

Background

Urban Development was included in 1979, as one of the three "lead projects" of the present Government in its efforts to steer the national economy towards progress. In this connection it devised several measures to promote development in the urban areas in a manner which yet granted prominence to Agriculture and the development of the rural areas. Consequently, there has been no mass migration of rural folk to the towns, although many of the latter have undergone substantial transformation in their physical and economic fabric. Thus, the country's commercial capital, Colombo city, comprises one such urban center where a large share of the conversion has taken place.

In the above context, a significant feature of Colombo's urban development process has been the growth and modernisation of its business sector. The latter in turn, has encouraged property owners, speculative investors, and property development companies, to construct, convert, and upgrade business premises for supply to the potential market. The behaviour of the business premises market hence comprises a vital aspect needing monitoring so as to ascertain many useful parameters which can be used in policy formulation and in planning for Colombo's urban development. Such information is also useful to those responsible for the management of national resources, as the "construction sector" can only be productive if constructed premises are gainfully occupied by businesses not long after their completion. Vacant premises are not only an unaffordable luxury in a time of limited resources, but also an indicator of inadequately conceived design or wrongly diagnosed feasibility prior to project commencement.

In these circumstances, the study of the business premises market, particularly in the commercial capital of Colombo city, can offer findings which will be useful to Planners, Designers, Developers, and also the potential Customers of Premises.

The author originally undertook a research study of the business premises market in Colombo city in 1981. That study carried out during a two-month period, included a survey of advertised premises "wanted" and "available" in the English dailies. A similar study was repeated over a two-month period in 1982. A third study in an identical period has just been completed this year. The findings of the first two studies have been previously published in the ECONOMIC REVIEW. (1) This paper comprises the findings of the 1983 study and also contains a review of the market situation over all three years.

Purpose and Scope of Paper

The study of actual responses to policy measures in any development process is necessary for many reasons. It will enable alteration, mid-course correction, or even substantial revision of policies. In such a context, as previously mentioned the explicit declaration of Urban Development as a key means of Governmental and non-Governmental effort to promote overall development requires the study of its various processes initiated in the relevant segments. Hence this Paper represents an analysis of one such process involving the business premises market in Colombo city. It's purpose is to ascertain the changing characteristics in the size and distribution of the market, its current nature, and also the recognisable trends over the past three years. It has also attempted to determine the phenomena of market behaviour which can facilitate more effective planning intervention in Colombo city. The Paper is further aimed at generally contributing to the growing fund of knowledge in Urban Development in Sri Lanka.

As in the studies in the two previous years, this paper too has confined itself to the study of Business Premises only, and does not encompass the entire property market. It's coverage comprises Office, Commercial, Stores, and Unspecified types of business premises in the city of Colombo. (2) It has examined the demand and supply of floor space in these categories of business premises but has not included a corresponding analysis of their rentals and capital values.

Methodology of Study

The methodology employed in the current (1983) study is identical to that used in the two previous studies.

(1) "Economic Review", a Publication of the People's Bank Research Department, Colombo; Vol. 7 Nos. 3/4 June—July 1981, pps 22—25, and Vol. 8/ No.4 of July 1982, pps 22—26.

(2) Commercial includes Restaurants but excludes Hotels. The latter has not been considered as business premises in this Paper.

Thus the study has surveyed the public advertisements appearing in the daily Newspapers under "Wanted" and "Available" captions in the "Real Estate", "Business Premises", "House and Property" and other columns.

The Newspapers chosen for this study have been the "Daily News", "Sun", "Island", "Sunday Observer", "Weekend", and the "Sunday Times". These lead the

circulation among the English language Newspapers. As in previous years, a very large share of the advertisements in respect of business premises appeared in the "Daily News" and the "Sunday Observer". These two Newspapers have become the principal media for the property market.

The period of the study has been the two complete months of April and May 1983, comprising a total of 61 days. However it must be noted that none of the chosen Newspapers were published on two of these days (ie. 15 April and 27 May). In addition, on another date (ie 14 April), only the "Island" and "Daily News" were published. Further, no advertisements with respect to business premises appeared on eight other days.

The floor area of the premises advertised as "Available" and "Wanted" have been compiled not only by the categories of the previously mentioned businesses, but also by their locational distribution as per the city postal zones.

In the above connection, the following factors have been taken into account in this study:

i) repetitive advertisements have been identified and deleted from being used again.

(ii) where multiple categories of businesses were being offered for use in the same premises, then only the first mentioned category was considered in the computations.

(iii) where Houses were advertised as suitable for Business Premises, then the floor area (where not indicated) was computed through estimations based on either the stated number of rooms or of the description provided (e.g. Annex)

(iv) where multiple postal zones in the city have been requested by an Advertiser, only the first mentioned zone has been considered.

(v) where premises have been offered for Business use with no category specified, they have then been classified under "Unspecified" in the study. In a similar way, where no postal zone has been mentioned, such floor area has been computed under "Unspecified Zone".

There are inherent limitations in the methodology chosen for this study. Thus, it deals only with the demand and supply of business premises as known through public advertisements placed in the relevant columns of the daily Newspapers. This therefore excludes the floor area also marketed through other means by "property brokers" or "estate agents". Further, the study has surveyed only the English Newspapers whose daily circulation figures are far less than those of other languages which also carry advertisements regarding business premises. In addition, it is not possible under this method to determine whether the "Available" premises have been actually taken by those seeking or whether they continued to remain vacant, being unsuitable, surplus, or unaffordable.

In such connection, it also does not distinguish between newly constructed premises and unoccupied premises available through vacation by previous users.

Yet, despite these limitations, the methodology is considered sufficiently adequate for monitoring and evaluating responses to promotional urban development.

Overall Analysis of the Business Premises Market

The total floor area of business premises advertised as "Wanted" and "Available" in Colombo city during the 1983 study is given in Table 1. It shows that just under ½ million sq. ft. has been "available" in all categories of business premises.

1981

COLOMBO POSTAL ZONE	OFFICE Available Sq. ft.	%	Wanted Sq. ft.	%	COMMERCIAL Available Sq. ft.	%	Wanted Sq. ft.	%	STORES Available Sq. ft.	%	Wanted Sq. ft.	%
1	4225	1.9	1300	2.13	Nil	0	Nil	0	Nil	0	Nil	0
2	76900	21.80	11250	18.70	5200	42.45	8000	55.60	4000	4.70	Nil	0
3	61416	17.30	11500	19.20	100	0.86	6300	43.70	Nil	0	Nil	0
4	20400	5.76	Nil	0	1800	14.70	100	0.70	2600	3.08	Nil	0
5	12750	3.61	400	0.67	Nil	0	Nil		27500	32.40	Nil	0
6	8800	2.49	Nil	0	Nil	0	Nil	0	Nil	0	Nil	0
7	27200	7.70	Nil	0	Nil	0	Nil	0	Nil	0	Nil	0
8	17400	4.90	Nil	0	Nil	0	Nil	0	Nil	0	Nil	0
9	Nil	0.00	Nil	0	Nil	0	Nil	0	Nil	0	Nil	0
10	65500	18.60	Nil	0	850	6.94	Nil	0	Nil	0	Nil	0
11	11200	3.17	Nil	;	2000	16.30	Nil	0	400	0.42	Nil	0
12	Nil	0.00	Nil	0	Nil	0	Nil	0	Nil	0	Nil	0
13	19500	5.51	Nil	0	Nil	0	Nil	0	Nil	0	Nil	0
14	14200	4.02	Nil	0	Nil	0	Nil	0	27500	32.40	Nil	0
15	10950	3.10	Nil	0	Nil	0	Nil	0	11650	13.60	Nil	0
Unspecified	3000	0.85	35,500	59.30	2300	18,75	Nil	0	11360	13.40	5000	100.0
Total	353441	100%	59950	100%	12250	100%	14400	100%	84510	100%	5000	100%

YEAR	PERIOD	OFFICE (ft²)		COMMERCIAL (ft²)		STORES (ft²)		UNSPECIFIED (ft²)		ALL CATEGORIES (ft²)	
		Wanted	Available	Wanted	Available	Wanted	Available	Wanted	Available	Wanted	Available
1981	12 May to 12 July	59950	353441	14400	12250	5000	84510	-	-	79350	450201
1982	01 April to 31 May	66500	306073	31050	66053	35500	145285	1500	29200	134550	546611
1983	01 April to 31 May	135450	240515	14500	23950	44500	115322	4450	66800	198900	446587

TABLE 1

"WANTED & "AVAILABLE"

BUSINESS PREMISES IN THE CITY OF COLOMBO 1981 - 1983.

The quantum "available" is more than twice that "wanted". However as shown in Table 2, the actual excess of total "available" floor space over the total "wanted" has been decreasing substantially between 1982 and 1983. In this connection it is significant to note from Table 1, that the quantum of total floor area "available" in 1983 has also been less than that in each of the two previous years. On the other hand, it is equally significant to note from the same Table that the total floor area "wanted" has increased in each of the years; with the actual increase being 150% between 1981 and 1983.

The above position suggests that the decline in the quantum of total "available" business premises is in no way due to a decline in the growth of the business sector. On the other hand, the marked increase in the quantum of total "wanted" business premises reflects an expansion in businesses. Hence it is probable that the quantum of business premises is gradually settling towards improved stability of market conditions between "wanted" and "available".

Meanwhile it is worth noting from Table 1, that in 1983 the floor space "available" in each of the categories of business premises exceeded the corresponding quantum "wanted". This was also the situation in each of the two previous years; with the sole exception being in 1981 in the Commercial premises category.

As a share of the total "available" business premises, the office premises category comprised about one half in 1983. The latter share was higher in each of the two previous years (vide Table 2). It thus indicates an increasing shift of investment by property developers into the non-office or Unspecified categories of business premises.

However as shown in Table 2 the share of only Office premises "wanted" in the total quantum of business premises "wanted", has remained high in 1983 in a manner similar to 1981. This situation indicates the sustenance of the growth in Offices in the city economy.

The Commercial premises category yet continues to occupy only a small share of both the total "wanted" and "available". The latter being less than 10% of the total in 1983 (vide Table 2). The same Table shows that the share of the Stores premises category in the total "wanted" and "available" floor space has also remained at or around 25% in each of the two years, 1982 and 1983.

The above position suggests that the Commercial and Stores categories of business premises have slow growth characteristics in the city. Hence it is probable that

Year	Share of Total "Wanted" & "Available" Business Premises	Share of Office Premises in Total Business Premises		Share of Commercial Premises in Total Business Premises		Share of Stores Premises in Total Business Premises	
		Wanted	Available	Wanted	Available	Wanted	Available
1981	"Available" = 5.67 X "Wanted"	75.6%	78.5%	18.2%	2.7%	6.2%	18.3%
1982	"Available" = 4.06 X "Wanted"	49.4%	56.0%	23.1%	12.1%	26.4%	26.6%
1983	"Available" = 2.25 X "Wanted"	68.1%	53.9%	7.3%	5.4%	22.4%	25.8%

TABLE 2

SHARES OF "WANTED" & "AVAILABLE" BUSINESS PREMISES

BY TOTAL & SEPARATE CATEGORIES, COLOMBO CITY, 1981-1983

CATEGORY	1981		1982				1983			
	JUNE (1st to 30th)		APRIL (1st to 30th)		MAY (1st to 31st)		APRIL (1st to 30th)		MAY (1st to31st	
	Wanted	Available	Wanted	Available	Wanted	Available	Wanted	Available	Wanted	Available
OFFICE (ft^2)	18950	171956 (5731)	19200	138500 (4617)	47300	167573 (5406)	72300	131250 (4375)	63150	109265 (3525)
COMMERCIAL (ft^2)	6300	2200 (73)	15550	22050 (735)	15500	44003 (1419)	2500	10550 (353)	12000	13400 (432)
STORES (ft^2)	1000	53110 (1770)	13500	77960 (2599)	22000	67325 (2172)	17000	60820 (2027)	27500	54502 (1758)

TABLE 3

BUSINESS PREMISES "WANTED" & "AVAILABLE" BY MONTH, COLOMBO, 1981-1983

Note: Figures in brackets represent floor space availability averaged per day.

COLOMBO POSTAL ZONE	OFFICE PREMISES (ft²)				COMMERCIAL PREMISES (ft²)				STORES PREMISES (ft²)				UNSPECIFIED (ft²)				ALL CATEGORIES OF BUSINESS PREMISES (ft²)			
	Wanted	%	Available	%	Wanted	%	Available	%	Wanted	%	Available	%	Wanted	%	Available	%	Wanted	%	Available	%
1	12200	9.0	20500	11.6	1500	10.4	NIL	0.0	NIL	0.0	NIL	0.0	NIL	0.0	2000	3.0	13700	6.8	30500	6.8
2	10050	7.4	15400	6.4	NIL	0.0	1800	7.5	NIL	0.0	28500	24.7	NIL	0.0	9000	13.6	10050	5.1	54700	12.2
3	40600	30.0	35975	15.0	8500	58.6	7150	29.9	NIL	0.0	3500	3.1	NIL	0.0	20500	30.7	49100	24.7	67125	15.0
4	3500	2.6	27950	11.6	500	3.4	NIL	0.0	NIL	0.0	NIL	0.0	300	6.7	3800	5.7	4300	2.2	31750	7.1
5	2000	1.5	19650	8.2	NIL	0.0	1800	7.5	NIL	0.0	NIL	0.0	150	3.4	1500	2.2	2150	1.1	22950	5.1
6	NIL	0.0	10650	4.4	NIL	0.0	2500	10.4	NIL	0.0	NIL	0.0	NIL	0.0	NIL	0.0	NIL	0.0	13150	2.9
7	13000	9.6	29500	12.3	NIL	0.0	NIL	0.0	NIL	0.0	NIL	0.0	3500	78.6	4000	6.0	16500	8.3	33500	7.5
8	NIL	0.0	20250	8.4	NIL	0.0	4500	18.8	NIL	0.0	NIL	0.0	NIL	0.0	500	0.7	NIL	0.0	25250	5.7
9	NIL	0.0	5000	2.1	NIL	0.0	NIL	0.0	NIL	0.0	NIL	0.0	NIL	0.0	6500	9.7	NIL	0.0	11500	2.6
10	NIL	0.0	8440	3.5	NIL	0.0	500	2.1	NIL	0.0	11322	9.8	NIL	0.0	9500	14.2	NIL	0.0	29762	6.7
11	10000	7.4	2200	0.9	NIL	0.0	1000	4.2	NIL	0.0	15000	13.0	NIL	0.0	500	0.7	10000	5.0	18700	4.2
12	150	0.1	NIL	0.0	NIL	0.0	1600	6.7	NIL	0.0	NIL	0.0	NIL	0.0	5000	7.5	150	0.1	6600	1.5
13	NIL	0.0	28000	11.6	NIL	0.0	NIL	0.0	NIL	0.0	9000	7.8	150	3.4	NIL	0.0	150	0.1	37000	8.3
14	NIL	0.0	500	0.2	NIL	0.0	NIL	0.0	NIL	0.0	45000	39.0	NIL	0.0	4000	6.0	NIL	0.0	49500	11.1
15	NIL	0.0	5000	2.1	NIL	0.0	NIL	0.0	NIL	0.0	3000	2.6	NIL	0.0	NIL	0.0	NIL	0.0	8000	1.8
UNSPECIFIED	43950	32.4	3500	1.5	4000	27.6	3100	12.9	44500	100.0	NIL	0.0	350	7.9	NIL	0.0	92800	46.6	6600	1.5
ALL ZONES	135450	100.0	240515	100.0	14500	100.0	23950	100.0	44500	100.0	115322	100.0	4450	100.0	66800	100.0	198900	100.0	446587	100.0

TABLE 4
LOCATION OF BUSINESS PREMISES "WANTED" & "AVAILABLE" BY CITY POSTAL ZONES
01 APRIL 1983 - MAY 1983

1982

COLOMBO POSTAL ZONES	OFFICE (ft²)				COMMERCIAL (ft²)				STORES (ft²)				UNSPECIFIED (ft²)				ALL CATEGORIES (ft²)			
	wanted	%	Available	%	Wanted	%	Available	%	wanted	%	Available	%	wanted	%	Available	%	Wanted	%	Available	%
1	12000	18.0	57000	18.6	NIL	0	NIL	0	NIL	0	NIL	0	NIL	0	NIL	0	12000	8.9	57000	10.5
2	25200	38.0	38123	12.5	3000	9.7	NIL	0	NIL	0	59125	40.7	NIL	0	4000	13.7	28500	21.2	101248	18.5
3	8200	12.3	92500	30.2	16500	53.1	6560	9.9	NIL	0	NIL	0	NIL	0	4000	13.7	24700	18.4	103060	18.9
4	2500	3.8	1000	0.4	4000	12.9	2000	3.0	NIL	0	NIL	0	NIL	0	NIL	0	6500	4.8	3000	0.3
5	2000	3.0	14300	4.7	NIL	0	6000	9.0	NIL	0	NIL	0	1500	100	4000	13.7	3500	2.6	24300	4.5
6	NIL	0	28150	9.2	3550	11.4	4550	6.9	NIL	0	NIL	0	NIL	0	5400	18.5	3550	2.6	38100	6.9
7	800	1.1	30450	9.9	2500	8.0	800	1.4	NIL	0	NIL	0	NIL	0	NIL	0	3300	2.5	31250	5.8
8	NIL	0	4300	1.4	NIL	0	5500	8.3	NIL	0	NIL	0	NIL	0	NIL	0	NIL	0	9800	1.8
9	NIL	0	7000	2.3	NIL	0	5000	7.6	NIL	0	NIL	0	NIL	0	NIL	0	NIL	0	12000	2.2
10	NIL	0	12600	4.1	NIL	0	21475	32.5	NIL	0	2500	1.7	NIL	0	600	2.1	NIL	0	37175	6.8
11	NIL	0	3700	1.2	1000	3.3	14168	21.4	NIL	0	1500	1.0	NIL	0	NIL	0	1000	0.7	19368	3.6
12	NIL	0	300	0.1	NIL	0	NIL	0	NIL	0	NIL	0	NIL	0	2700	9.2	NIL	0	3000	0.3
13	NIL	0	NIL	0	NIL	0	NIL	0	NIL	0	31460	21.7	NIL	0	2500	8.6	NIL	0	33960	6.3
14	NIL	0	12000	3.9	NIL	0	NIL	0	2000	5.6	30700	21.1	NIL	0	6000	20.5	2000	1.5	48700	8.9
15	NIL	0	NIL	0	NIL	0	NIL	0	5000	14.1	NIL	0	NIL	0	NIL	0	5000	3.7	NIL	0
Unspecified	15500	23.3	4650	1.5	500	1.6	NIL	0	28500	80.3	20000	13.8	NIL	0	NIL	0	44500	33.1	24650	4.6
TOTAL	66500	100	306073	100	31050	100	66053	100	35500	100	145285	100	1500	100	29200	100	134550	100	544611	100

TABLE 5
ZONAL DISTRIBUTION OF BUSINESS PREMISES, COLOMBO CITY, 1981 & 1982.

the nature of these two categories of business premises and their locational preferences are changing.

However as indicated in Table 1, the remarkable increase in the quantum of "available" Unspecified business premises in 1983 over 1982, indicates that property developers are not becoming concerned with the type of business use to which they will rent their premises. Their objective may therefore be the rental value rather than concern for the category of use.

The rate of availability of floor space computed per day for all categories of business premises shows a decline in 1983 as compared to 1982 (vide Table 3) The decline in "available" premises per day in Commercial and Office categories have been substantial. The probable reasons for the latter have been previously discussed in this section of the Paper.

Analysis of the Distribution of "Wanted" and "Available" Business Premises by City Postal Zones

An analysis of the locational distribution of business premises in 1983 shows that they were "available" in all postal zones in the city. However, they were "wanted" only in 9 zones (vide Table 4).

Table 4 also shows that there has been an excess of "available" over "wanted" in the total quantum of business premises in all postal zones, except in that of the Unspecified category of premises where the reverse prevails. It can be further seen from this Table that there are however, shortages in separate categories of business premises in some of the Postal zones. These are discussed later in the Paper.

The availability of Office premises in 1983 indicates a concentration of about 57% of its total "available" space in the postal zones of Colombo 1,2,3,4, and 7. Of the latter it is significant that in 1983 the quantum of "available" Office premises in FORT has decreased by half vis-a-vis 1982. It is also noteworthy that there is a shortage in Office premises in Colombo 3 and Colombo 10. Further, a massive shortfall is also evident in this category in the Unspecified Zone. (vide Table 4).

Thus the above situation reflects an outstripping of supply by demand in Office premises in Colombo 3 and 10. It also indicates that seekers of Office premises do not mind locating their Offices in any

of the popular postal zones.

In terms of "wanted" Office premises in 1983, 56% of the total "wanted" in that category, is also in the postal zones in Colombo 1,2, 3 and 7. Of the latter it is noteworthy that the quantum of "Wanted" Office premises in FORT has remained unchanged in 1983 vis-a-vis 1982. Thus taking into account both "wanted" and "available"situations, the postal zones of Colombo 1,2,3, and 7 appear to be the nodes for the development of Office premises in the city. This was also the case in 1982.

In the above context, an analysis of the Office premises category in all three years 1981–1983, reveal that there is an outward spread of Office premises in all directions from Fort of its "available" spaces, and a south-south east expansion of its "wanted" spaces, encompassing Colombo 1,2,3 and 7. Nevertheless, as mentioned earlier, it is significant that a large quantum of "wanted" Office premises is in the Unspecified Zone category in all three years (vide Tables 4 and 5) Hence it can be inferred from the latter that distance and located within the city do not seem to matter much to many of those establishing Offices.

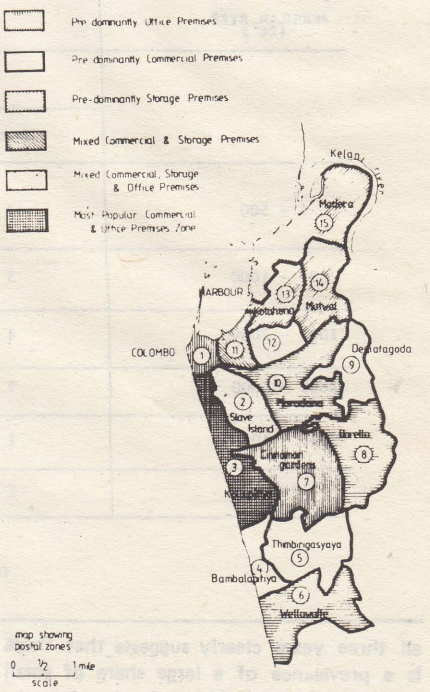
The availability of Commercial premises in 1983 indicates a concentration of nearly 65% of its total in Colombo 2,3 5 and 8. (Vide Table 4). In this connection it is noteworthy that significant quantities of Commercial premises are not available in 1983, in Colombo 10 and 11, which are the popular zones for this category of business. Hence it is probable that such areas are near saturated. Meanwhile, Colombo 3 and 5 are becoming zones for "available" Commercial premises.

In terms of "wanted" Commercial premises, in 1983, it is significant that in all "wanted" zones, the availability fell short of demand. Colombo 3 was the most "wanted" zone in the city for Commercial premises.

In an overview of the zonal distribution of both "wanted and available" Commercial premises in the three year period 1981–1983, it is therefore evident that the emerging spatial configuration is a n nodal pattern, with specific concentrations in Colombo 2,3,6,8,10 and 11.

The "availability" in respect of the zonal distribution of Stores premises in 1983 indicates a concentration in the traditional postal zones of Colombo 2,11,13, 14, and 15. However, in terms of "wanted", seekers have indicated no specific postal zone. The latter situation also existed in 1981 and in 1982.

Map 1 indicates the current zonal distribution of the different categories of business premises.



PATTERN OF ZONAL DISTRIBUTION OF BUSINESS PREMISES
CITY OF COLOMBO 1981 - 1982

A review of the popularity of the various postal zones in the past three years 1981–1983, is indicated in Table 6. It is seen from the latter that the most popular business premises zone for Office and Commercial categories is Colombo 3. For Stores, it is Colombo 14 and 15,

Analysis of Office Premises "Wanted" and "Available" by Modular Sizes

An important factor in the business premises market comprises that of the size of floor space module demanded and supplied in the market. This factor is a vital consideration in the case of Office premises. In the latter connection, data shown in Table 7 indicate that the most popular category of modular size "available" for Office premises is that of 2001-5000 ft, with that of the 1001-2000 ft module being closely next. There is also a noticeable sustenance in the popularity of the supply of the 5001-10,000 ft module, although the demand for their is low.

The most popular size of "wanted" module is that of 2001-5000 ft in each of the three years 1981 to 1983, with that of the 1001-2000 ft module closely second.

Hence in the above context, it can be noted that there is a close matching of the popular modular sizes "wanted" and "available".

The popularity of the small and medium sizes of floor area modules in

YEAR	OFFICE		COMMERCIAL		STORES		ALL CATEGORIES	
	Wanted	Available	Wanted	Available	Wanted	Available	Wanted	Available
1981	Unspecified Zone with Colombo 3 next.	Colombo 2	Colombo 2	Colombo 2	Unspecified Zone with Colombo 15 next.	Colombo 5 & Colombo 14	not	computed
1982	Colombo 2	Colombo 3	Colombo 3	Colombo 10	Unspecified Zone	Colombo 2	Unpecified Zone with Colombo 3 next	Colombo 2
1983	Unspecified Zone with Colombo 3 next.	Colombo 3	Colombo 3	Colombo 3	Unspecified Zone	Colombo 14	Unspecified Zone with Colombo 3 next.	Colombo 3

TABLE 6
MOST POPULAR POSTAL ZONES FOR
"WANTED" & "AVAILABLE" BUSINESS PREMISES
COLOMBO, 1981-1983.

MODULAR SIZE (ft²)	NUMBER OF ADVERTISEMENTS					
	1981		1982		1983	
	Wanted	Available	Wanted	Available	Wanted	Available
1 - 500	4	11	Nil	7	6	7
501 - 1000	3	11	4	8	6	15
1001 - 2000	4	22	5	24	10	21
2001 - 5000	7	29	8	25	14	23
5001 - 10,000	1	17	2	15	4	12
10,000+	1	3	1	4	1	1

TABLE 7
OFFICE PREMISES "AVAILABLE" and "WANTED" BY MODULAR SIZES
CITY OF COLOMBO, 1981-1983.

all three years clearly suggests that there is a prevalence of a large share of small and medium scale Offices in the city economy. Hence it is necessary to give due recognition for such scale of businesses in urban development policy to protect their interests and thereby ensure their sustenance. In a similar way, it will be prudent for Architects to note the sizes of the popular modules in their designs so as to optimise the utilisation of Office buildings.

Analysis of Houses Offered as Business Premises

The use of houses as business premises has continued in 1983. Thus the current study indicates that 35 houses were "available" for use as business premises, representing a conversion rate of 1 house every 1.7 days. (vide Table 8)

The above is less than the corresponding figure for 1982, but higher than that for 1981. Such substantial conversions thus continue despite the public being informed by public advertisements last year of the need to obtain permission from the Urban Development Authority for such change of use.

The 1983 study reveals that residential premises "available" for conversion comprised 101,100 ft or 22.6% of total "available" business premises. The amount of "wanted" residential premises for such conversion consisted of 32800 ft or 16.5% of the total "wanted" business premises.

The above indicates that substantial conversions of residential premises to business premises is continuing. They partly account for the horizontal spread of business in all parts of the city. These conversions, apart from the ill effects on environmental quality and pressure upon infra-structure facilities in those areas, also contribute to aggravating the existing housing shortage in the city. In addition, they are not conducive to the promotion of the development of Office buildings in designated locations in the city plan.

Policy Implications of the Market Conditions

The surveys of the business premises market in the past three years indicate that there has been a progressive increase in demand, and an annual average supply of just under ½ million sq. ft. in the city. This situation shows that the impact of a promotional urban development policy has been sustained in the business premises market since its initiation in 1978.

In the above connection it is nevertheless noteworthy that there is yet a surplus of all categories of business premises; although current trends indicate an improved stability between demand and supply. Such surplus stock of premises represents blocked capital which the city economy can ill-afford. Hence policy measures are needed to enhance stability in market conditions. The latter can well be ensured through development control in the relevant zones of the city.

In terms of Office premises, policy attention is needed to strengthen the base of the small and medium scale businesses in the city. Appropriate measures through building and planning guidelines and/or incentives incorporated in policy can facilitate the growth of this sector of the city economy.

YEAR	PERIOD	NUMBER OF HOUSES ADVERTISED AS "AVAILABLE" FOR CONVERSION TO BUSINESS PREMISES	HOUSE CONVERSION RATE
1981	12 May to 12 July (62 days)	32	1 house/2days
1982	01 April 31 May (61 days)	50	1 house/1.2 days
1983	01 April to 31 May (61 days)	35	1 house/1.7 days

TABLE 8
HOUSES "AVAILABLE" FOR CONVERSION
AS BUSINESS PREMISES,
CITY OF COLOMBO, 1981-1983.

Meanwhile, the continuing trend of the outward spread of Office premises in all directions from Fort, suggests the need for fashioning an Office Location Policy

The decrease between 1982 and 1983 of the quantum of Commercial premises in both demand and supply, suggests that this category of business has been effected by general conditions. It's growth should therefore be motivated by policy measures; particularly through innovative planning interventions to increase shopping in the city by foreign visitors as well.

The Stores premises sector needs careful attention of policy which should incorporate the changing nature of goods transport and storage systems. The continuing trend in the use of houses as business premises needs urgent policy measures to arrest the high conversion rates, while yet safeguarding the interests of small and medium businesses which may be compelled to occupy houses in view of current rental conditions.

Findings of the Study

The main findings arrived at from this study are as follows:

1. The continuity of the supply of about ½ million square feet of business premises in a two-month period in each of the past three years and the accompanying progressive increase in demand for such premises, indicate that there is in Colombo a sustained impact of the promotional urban development measures initiated five years ago.

2. However, there is yet a continuing surplus in the total quantum of business premises in the city market, although shortages do exist in specific business categories in some city locations.

3. By composition of businesses premises, Office space "available" has shown a declining trend betweeen 1981 and 1983, while its quantum "wanted" has doubled in the same period. Meanwhile, Stores and Commerical premises have declined in market activity in 1983.

4. The "core" of the Office premises sector has consolidated in the postal zones of Colombo 1,2 and 3. It's expansion seems to follow a south-south east direction from FORT engompassing also the postal zone of Colombo 7.

5. The postal zone of Colombo 3 has become the most popular for Office and Commercial premises. It is therefore an area undergoing the most rapid transformation of its physical fabric.

6. The peripheral zones of Colombo 13, 14 and 15 continue as the popular locale for Stores premises.

7. There is a continuing trend in the utilisation of houses for business premises.

8. In planning and policy terms it can be deduced that their interventions have not been effective in bringing about a kind of physical transformation in the city that could have matched the correspondingly faster changing economic fabric. It is also possible that such transofrmation is actually slow, reflecting the character of long gestation in this phase of urban development.

9. If one was to review the overall situation of the business premises market in the past three years, it can be deduced that the city's physical development process is yet in its "take off" stage for the following reasons:

   i. use of hous as business premises;

   ii. dominance of small sizes of floor space modules for office premises;

   iii. low levels of magnitude in the supply and demand of the various categories of business premises;

   iv. the scattering of business premises in all city postal zones;

   v. sharp fluctuations in the demand and supply of business premises, particularly in Commercial and Stores premises.

10. The behavioural trend of the business premises market in the past three years reflects a greater degree of stability in market conditions with fewer surpluses in each year.

Recommendations

The recommendations for action arising from the findings of this study comprise the following:

a. The promotion of urban development should be intensified but the present measures must be reviewed to be more effective in enhancing the level of activity of the business premises market.

b. The interests of small and medium scale businesses should be secured in urban development policies, and their sustenance ensured in the promotion of new business premises in the market.

c. The conversion of housing as business premises should be prevented over a defined period of time.

d. Legislative and Institutional devices should be established to effectively control the scattering of business premises in all areas of the city.

e. A closser integration of the physical and economic processes of city development is urgently recommended, to enable mutually beneficial results.

f. There should be regular monitoring of the business premises market to enable efficient planning intervention,

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COMMUNITY, DISEASE AND PARTICIPATORY APPROACHES T HEALTH CARE

K. Tudor Silva

This is a revised version of a paper presented by K. Tudor Silva Ph.D, of the Department of Sociology, University of Peradeniya in a workshop on 'Community Participation in Health Care' held recently in the Peradeniya Teaching Hospital. The workshop was held in connection with the launching of a multi-disciplinary research project, which evaluates, over a period of five years, the effects of community participation in health care, introduced on an experimental basis in two selected regions in Sri Lanka. One of the areas chosen for this study consists of new settlements created under the Accelerated Mahaweli Programme. The research team, of which the author is a member, is headed by Professor H. A. Aponso of the Medical Faculty, University of Peradeniya.

Modern health care services in Sri Lanka have always existed within a bureaucratic framework with its inherent problems and limitations. A centrally controlled network of health services, operating under considerable financial constraints, is likely to be less effective in the more remote areas of the country. The wide social and cultural gap that separates the health care planners and the medical practitioners, on the one hand, and the rural masses, on the other, implies that the decision-making process associated with health services is necessarily controlled from above. A main weakness of the 'top down' approach to health care is that it fails to activate the people to solve their health problems through their own effort. Although the appointment of District Development Councils, and the allocation of funds through a decentralized budget are important steps in the direction of de-bucreucratization and popular participation, corresponding developments are yet to occur in the national health care system in Sri Lanka. In this context experimentation with community participation in health care marks an important departure from the conventional approach to health problems in Sri Lanka.

"Although the appointment of District Ministers, the formation of District Development Councils, and the allocation of funds through a decentralized budget are important steps in the direction of de-bureaucratization and popular participation, corresponding developments are yet to occur in the national health care system in Sri Lanka".

The concept of community participation in health care represents a unification of certain concepts and approaches developed independently of one another. The importance of socio-cultural and en vironmental factors influencing the health status of undividuals has always been emphasized in Community Medicine, Community, however, was largely seen as a passive object with no ability to improve itself through its own positive action.

The view that the communities may progress through their own effort stems from the Community Development Programmes introduced in many parts of the world following the Second World War. Community participation was gradually perceived as a necessary condition for initiating desirable social change at the grass roots level. As a logical extension of this approach it came to be recognised that solutions, to many of our health problems are found within our own communities. Since 1978 the United Nations agencies such as WHO and UNICEF have played a leading role in evolving a health care policy that seeks active participation of the target populations concerned. (1)

Basic Concepts: Primary Health Care and the Community

The concept of Primary Health Care (PHC) delineates the necessary ingredients in an economically viable and socially acceptable health care system adapted to the grassroot level. PHC is defined as a "Practical approach to making essential health care universally accessible to individuals and families in the community in an acceptable and affordable way and with their full participation". (2) It points to the need to strengthen and intensify the base of the medical system, namely the health outpost or the clinic more easily accessible to the rural population, in order to expand the health coverage in rural areas. As the last link of a health care network, the village level clinic will be equipped with basic facilities, making it necessary to refer illnesses of a serious nature to higher level and specialized health services. PHC defines a package of health practices including environmental sanitation, nutrition and immunization, which may best be instituted, popularized and co-ordinated with the active participation of the rural community.

The recent emphasis on widening the base of the health care system, with a corresponding stress on community partipacipation, must be seen as a response to four sets of constraints commonly found in the Third World countries. (3) First, scarcity of funds and qualified personnel relative to the magnitude of health problems in these countries. Second, the available resources are largely concentrated in urban centres, depriving large masses of rural people who have more pressing health needs compared to the urbanites. Third, the existing health services are curative rather than preventive in their orientation, with a corresponding neglect of long term health objectives. Finally, there are many shortfalls and gaps in the popular acceptance and understanding of modern health practuces. While admitting that there are no easy solutions to these problems, an approach that seeks to sensitize and activate the community to utilize its own resources is now accepted as a useful strategy for correcting the present imbalances in the health care system.

As the community is at the centre of the proposed health care policy, we must address ourselves to the following questions, What do we mean by a community ? Are we likely to see communities emerge in the newly opened areas under the Mahaweli Scheme ? Is community a natural outcome of certain given conditions or can it be created through planned change ? According to the conventional anthropological definition, a community is a relatively small, homogenous, stable and harmonious social entity which has some

1. The Alma-Ata declaration of 1978, signed by delegates from various countries and representative of UN agencies, provides a charter for the re-organization of health care programmes throughout the world so as to expand their effective coverage both vertically and horizontally.
2. World Health Organisation, Primary Health Care (Geneva WHO, 1978) P. 38
3. For general discussions on the health care problems in Third World countries see Maurice King, ed., *Medical Care in Developing Countries. A Primer on the Medicine Poverty* (Nairobi; Oxford University Press, 1966)' John Bryant, *Health and the Developing World.* (Ithaca: Cornell University *Effectiveness of Public Sector Health Systems in Developing Countries* (Ann Arbor; University of Michigan, Center for Research on Economic Development, 1975)

degree of autonomy from the larger society. (4) Such a conception is clearly inappropriate for our immediate purpose for two reasons. First, communities in the above sense will never be evolved in the administratively created Mahaweli settlements. Second, in a project aiming to improve the health conditions of the people we must necessarily adopt a more dynamic definition of the community. In an effort to find a suitable definition of the community, we may turn to the experts on community development.

The latter see common residence in a clearly demarcated locality and the resulting articulation of certain common interests among the local residents as the defining features of a community. (5) We can expect that the formation of neighbourhood ties and the articulation of common interests will slowly, but gradually take place in the Mahaweli settlements. Viewed in this light, one of our principal tasks in this research project will be to facilitate the articulation of a community awareness concerning local health issues.

"The institutionalized medical facilities, no matter how widespread their coverage can be, will have limitations in serving the rural people. The qualified medical personnel are not only scarce and expensive, but also tend to be socially superior to those whom they are meant to serve by viture of their training, social background and life style".

How do we foster community participation in health projects in socially meaningful and acceptable ways ? A review of the available literature suggests three ways in which a community can be actively involved in an integrated national health programme. (6) First, local participation in the planning, organization and the delivery of instutionalized health care services. Second, the recognition and the use of para-professionals as auxilary health workers. Third, establishment and popularization of voluntary associations interested in solving local health problems. Let me describe each of these approaches in detail.

Community Participation in Institutional Health Care

A necessary sequel to the expansion of PHC coverage is to involve the community leaders in the organization and running of local clinics and medical outputs. This will help the health authorities to reduce their administrative burdens and costs which are likely to increase with the expanding PHC network. On the other hand, "such medical facilities have the potential to be more effective than conventional clinics, provided they are seen as people's own and as responsive to their needs and ideas" (Uphoff, Cohen and Goldsmith, 1979: 241) Where community participation has been effective, the local medical service will be best equipped to handle those health problems that most worry the local people.

The community involvement in PHC decision-making, however, is not without problems. What sort of community leaders are to be chosen for this purpose and how do we make sure that they have a genuine interest in serving in the community ? Given the present political structure in rural Sri Lanka, it is unliekly that any organization controlled by community leaders can remain politically neutral. What implications will this have on the efficient functioning of the rural health care services in Sri Lanka ? What strategies will help build up a dynamic and responsible leadership in rural communities ? These are some of the issues that we must consider carefully in evolving a strategy for enhancing the community's control over PHC institutions.

Another area of uncertainty is the sharing of responsibility and balance of power between the health administrators, on the one hand, and the community leaders, on the other. If we make the administrators and the health staff chiefly responsible to the local community, we may have some problems in implementing a national health plan in rural areas. On the other hand, if the administrators and the clinical staff make all the decisions and the community representatives only legitimize such decisions, community participation in health administration will only be a nominal one. Obviously we must strike a middle path that guarantees both community and higher level interests, but just how is this to be accomplished and maintained needs careful thinking.

Voluntary Health Workers and Traditional Practitioners

The institutionalized medical facilities, no matter how widespread their coverage can be, will have liminations in serving the rural people. The qualified medical personnel are not only scarce and expensive, but also tend to be socially superior to those whom they are meant to serve by virtue of their training, social background and life style. It has been found that a fairly large proportion of ailments among the rural people can be cured with some basic skills in diagnosis and treatment. The burden of the health educator will be very much eased, if he operates through a local man who may activate and utilize the informal communication networks operating within the community in order to disseminate health knowledge and practices. In some, a voluntary health worker drawn from the local community can be used as an effective link between the organized health care system and the community. This intermediary role often combines curative and preventive functions, technical skills and social responsibilities, the task of a specialist and that of an ordinary villager. (7)

There are many important considerations about voluntary health workers. By what name are they to be known (options: Health Volunteers, Health Wardens, Community Health Workers or any suitable indigenous name ?) How are they to be selected (e.g. election, nomination or a combination of both ?) What is the nature, quality and duration of their training ? Is is desirable to make it a long term career or a position held for a period by a

4. Robert Redfield, *The Little Community* (Chicago: University of Chicago Press, 1955) P.4
5. T. R. Batten, *Communities and their Development* (London: Oxford University Press, 1957) pp.4–5; Allan D. Edwards and Dorothy G. Jones, *Community and Community Development* (Hague; Mouton, 1976) pp.12–14
6. See H. Notkin and M. S. Notkin, "Community Participation in Health Services; A Review Article', Medical Care. 27 (1970): 1178–1201: and Normal I. Uphoff John M. Cohen and Arthur A. Goldsmith, 'Participation in Rural Health Care Programmes' in Normal I. Uphoff et al (eds). *Feasibility and Application of Rural Development Participation* (Ithaca: Cornell University, Rural Development Committee, 1979) pp.235–256.
7. For a detailed treatment of the subject see Peter Berman, *Village Health Workers: Background and Issues for Analysis* (Ithaca: Cornell University, Rural Development Committee, 1978)
8. See, for instance, M. M. Rosenthal and J. R. Greiner, 'The Barefoot Doctors of China: From Political Creation to Professionalization' *Human Organisation*, 41 (1982)

rotating set of people ? Cjina's experience with barefoot doctors can be instructive in all these matters, but we must remember that the Chinese solutions may not be appropriate where the political will and the ideological conviction are lacking. On the other hand, the recent literature (8) suggests that certain social objectives of the barefoot doctor programme such as equity and community participation, may not have been achieved.

A crucial consideration in relation to community participation in health care in Sri Lanka is the role of the Ayurvedic practitioner, exorcists and other types of traditional practitioners. We must necessarily see them as a health resource available within the communities. The community participation strategy involves a strengthening of their role in PHC work. It is important to note that from the angle of the rural people different forms of treatments are complementary rather than contradictory. (9) Recent anthropological research in Sri Lanka points to the therapeutic value of certain traditional rituals especially in mental illness. (10) Although integration of different medical systems may not be a viable propostion, attempts may be made to enhance the mutual understanding between different types of practitioners, so that they may not be aiming at cross purposes

Voluntary Associations

There is no guarantee that the health care personnel, whether they are professional, will effectively serve the community, as long as the latter remains apathetic regarding local health needs. A democratically organized national health care programme must necessarily recognize and accommodate local or sectional interests represented by voluntary associations. More importantly, organised collective action is a pre-requisite for overcoming chronic diseases and other health problems associated with lasting behaviour patterns and cultural values prevailing in a community. New practices such as family planning or vaccinations are unlikely to penetrate into rural areas, unless they are consciously and systematically promoted by local organizations. Finally, the voluntary associations can set their own health targets and mobilize the local people in self-help efforts designed to achieve those targets.

The results of the past attempts to build up community associations in Sri Lanka are not very encouraging. (11) For instance, the Rural Development Societies, first established more than three decades ago with the general objective of raising living standards in the villages, have shown a poor hand, organizations with more limited objectives, such as the Funeral Aid Societies, have had a measure of success in some areas. Maternity and Child Care Organizations, Community Funds for Helping Sick People, Blood Donation Campaigns, Health Education Groups, First-Aid Squads and organizations for mobilizing Shramadana work in sanitation and health projects are some of the possibilities in Sri Labka. These organizations may be evolved as independent bodies or as organs of any existing community organizations. To be fully effective, such organizations must be practical, related to the felt needs of a community, and above all, culturally appealing to the people concerned.

The success of voluntary associations depends on a variety of factors including leadership, popular support and participation and the ability to overcome initial barriers. There is always a danger that a voluntary association will be controlled by a small minority of local elite, unsympathetic to the idea of wider community participation. Factional conflict within a community can make it difficult, if not altogether impossible, to build up successful community organizations. After an initial period of euphoria a community organization can slowly go into oblivion, in a by now familiar process in Sri Lanka. All this means that building grass – root level institutions to supplement and back up the health care delivery system is a necessary, but difficult task.

"A crucial consideration in relation to community participation in health care in Sri Lanka is the role of the Ayurvedic practitioner, exorcists and other types of traditional practitioners. We must necessarily see them as a health resource available within the communities".

In conclusion, let me reiterate that the arguments for giving the community a greater share of responsibility in the fight against disease and debilitating conditions are quite convincing. However, it will be too optimistic to assume that community participation can be brought about easily. We must also remember that there are complex factors associated with health conditions in a given community. The following comments by a writer on the hookworm campaign conducted in Ceylon in the 1920's will sum up the complexities involved.

"The problem of parasites, nutrition, sanitation, social conditions, and economics are interlocked. An improvement in any one of these areas of human problems will effect one or more of the others. But at the same time a lack of improvement in one of the areas may hold back progress in all the others. An invaluable by-product of the Rockefeller hookworm work was the demonstration that no permanent gain can be made in combating disease without a general rise in the social and economic level." (12)

9. See, Gananath Obeysekera, 'The Ritual Drama of the Sanni Demons: Collective Representations of Disease in Ceylon, *Comparative Studies in Society and History 11* (1969): 174–211; and Gananath Obeysekera, 'The Impact of Ayurvedic Ideas on the Culture and Individual in Sri Lanka, in C. Lesli (ed) *Asian Medical Systems: A Comparative Study* (Berkeley: University of California Press, 1976) pp. 201–226

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THE INTERNATIONAL DEBT THREAT — HOW IT ALL WENT WRONG

Minos Zombanakis

We have focussed on various aspects of the recession in the Western world and the ills that beset the global economy in our previous three issues. We indicated that in the complex of inter-related factors, which in part re-inforce each other, were stagnating production, slumping world trade, growing unemployment and the increasing indebtedness of the developing countries. In this discussion, by Minos Zombanakis, who draws on his long experience in banking and capital markets, we focus on a specific aspect of the crisis, namely the 'International Debt Threat'. In this paper, (reproduced from the Economist of April 30, 1983) he deals in the latter part with ways of how to avoid a crash, and suggests in concrete terms a more durable solution that might suit all concerned. Here we publish only the first part of his paper, which deals with a diagnosis of the problem and recounts how it all went wrong.

International indebtedness is probably the most pressing problem on the world economic horizon. Many developing countries are facing severe difficulties in servicing their foreign debt, which in total has climbed to over $ 750 billion, over half of it owed to commercial banks. Already more than 25 countries, with between them bank loans of around $ 250 billion, have been forced into reschedulings.

This huge debt load stems from the large structural imbalances in countries' external payments which began to appear in the 1970s after the first oil crisis and which continue today. These imbalances were wrongly diagnosed as 'cyclical disequilibria"; as a result, the current-account deficits of the non oil developing countries were allowed to accumulate to frightening proportions.

The correct way to deal with the problem would have been under the collective responsibility of the world community, expressed either through the International Monetary Fund (probably with an adjusted mandate) or through some other international initiative. Instead, it was left to the commercial banks to finance the developing countries' deficits under their own credit responsibility. The banks saw in this an opportunity for profit. They rushed to intermediate between the savings, in the form of bank deposits, of the newly-surplus countries (mainly OPEC oil exporters) and the demand for loans of the deficit countries. And they allowed themselves a comfortable spread.

The banks' monetary authorities saw this intermediation as a function of cash flow movements in a free market place and believed that, with time, a new equilibrium would emerge in world payments. It was an attitude of complacency, not an objective view of the necessary action at the time.

The New York banks, acting as the main money-centre institutions of the world banking system, set out to secure the largest share of the so-called recycling. They ended up, as a group, as the largest single supplier of credit, both directly to country borrowers and indirectly to the inter-bank system. Surplus funds from the treasuries of the large American banks were made available to smaller banks or foreign banks unable to attract directly deposits denominated in foreign currency. These other banks in turn used the funds to lend to the same community of borrowers. Exposure of the big American banks was thus ensured through the inter-bank markets even when loans were extended by other banks; there is no control over the end-use of funds once they are channelled through the inter-bank markets.

It was much the same for a limited number of other international banks, such as the leading British banks, the four large German banks and the Japanese banks — big banks which had the credibility to act as primary depositories of surplus funds.

The American authorities did not discourage these developments. The dogmatic American treasury could not see anything wrong with the intermediation of the market place in the supply and demand of money. It set out to kill as irrelevant any proposals to face international debt problems collectively. The Kissinger safety net, the Healey plan and other such proposals were quashed.

Paradoxically, the Federal Reserve considered the dependence on the American banks in the recycling process a tool of strength for American policy in general and felt very comfortable with the large American banks taking the leading role. The European and Japanese international banks played their part, though always as the second fiddles — except when Japan's current account was running a large surplus and the Japanese ministry of finance used the lending activities of its banks to export funds.

As for the non-American banks, in carrying out their lending operations through the Euro-markets to country borrowers (or other borrowers for that matter) they always assumed the American monetary authorities would act as lenders of last

resort if there was a shortage of liquidity in the Euro-markets. Absurd as it may be, most of the banks still believe this today. For three main reasons:

(1) Three quarters of the outstanding international debt is denominated in dollars.

(2) American banks have provided the bulk of the funds for the credits. It is, therefore, implied that if the foreign banks cannot meet their liabilities to the American banks the Federal Reserve will have to provide the shortfall.

(3) The Fed adopted a policy of "neglect" during the huge expansion of international lending by the American banks. The Europeans firmly believed this neglect was a way of expressing tacit knowledge and approval.

An orgy of credit

Such was the background against which the world's banking community embarked upon an orgy of credit. The Euro-market was seen as the main supplier of money, using net bank deposits as the monetary base. Credit expansion assumed huge proportions, as the modus operandi of the Euro-market came to resemble a Federal Reserve system without reserve requirements or cental bank control. Demand, rather than supply, dictated its size.

In order to mobilise short-term deposits and credit availability in general, a system was devised whereby lenders entered into a commitment to supply money for a given term without having to match it with deposits of comparable maturities. The commitment allowed banks to revise their interest rate periodically (usually at three-or six-month intervals). As their interest rate was based on the cost of money to themselves plus a spread, the banks could borrow for every interest period and thus refinance the amount they had originally extended to the borrower.

At the beginning some efforts were made to apply credit judgement and to justify the purpose of the loan. With time, however, competition among the banks to secure a larger share of the business encouraged them to overlook credit worthiness and even to invent theories to justify an unwise extension of credit. Otherwise cautious bankers publicly rationalised past actions in order to justify the increasing dependence of their institutions on the earnings from their international loans.

Loan maturities had little to do with the actual structure of a country's requirements and loans were put together in terms of size and maturity either to meet market preference or to fit the spread over LIBOR (London inter-bank offered rate) that borrowers were intending to pay. Though the spread represented an insignificant proportion of the total cost of the borrowing, some enterprising bankers – with the help of the press – succeeded in turning it into a credit worthiness rating. Marutities, therefore, had to be shortened in many cases to fit the spread expectations.

Another notion was that a short-term loan was safer than a long-term one, because it would allow that lender to recover his asset before other creditors. Thus, when the market place was reluctant to respond to given requirements, the maturities became shorter to fit lenders' preferences.

For all these reasons, the average life of loans became shorter. With time and attrition, big country borrowers saw their total debt concentrated in such short-term maturities that it was beyond their ability to service or repay it. Now countries began to be concerned with refinancing existing debt due for payment, as well as securing credit for new requirements.

Refinancing at any price

When the lending spree started, both lenders and borrowers assumed that, with time and an expansion in international trade, countries would be able to increase their export earnings and repay their obligations. But something went wrong.

Doubt began to emerge when (1) the size of the obligations was inflated by the huge rise in interest rates, adding to the costs on servicing existing debt; and (2) economic growth began to diminish as the world entered its longest post-war recession. The high cost of new borrowings inevitably led to a further shortening of maturities and a further increase in the size of the loans needed to refinance maturing obligations. Suddenly the main preoccupation of the borrowers and of their bankers was to secure continuous refinancing at any maturity.

So 1982 began with international debt in a very fragile state. Western banks had outstanding loans of about $ 180 billion to Eastern Europe (including Russia) and over $ 180 billion to Latin America.

Equally important, the average life of the debt of the biggest borrowers among the developing countries – Mexico, Brazil, Argentina, Poland and Yugoslavia – had fallen and large chunks of debt were due in the following year or two. A number of international banks had large exposures in individual countries, especially American banks in Latin American countries. This forced them to extend still further credit to cover these countries' current needs in order to avert sovereign insolvency. In addition, they had to make up for the leakage caused by the unwillingness of American regional banks, and some other international banks, to renew maturing credits.

It became evident that the large banks were locked into these foreign loans. The withdrawal of any individual banks from any given country could bring the country's downfall and, in the process, insolvency of the bank also.

The large banks were preoccupied not only with the solvency of their assets; they were also anxious to see that other creditors, especially the smaller banks, did not abandon the borrowers. Their anxiety led their respective authorities to ask all banks to overlook creditworthiness and to stick with the loans — an absurd (and perhaps illegal ?) position for a central bank to take, but nevertheless justified under the circumstances.

Politics didn't help

The political events of 1982 did not help. The persistence of political turmoil in Poland not only weakened its own negotiating position on its outstanding debt, but it also reduced the ability of other Eastern European countries to raise funds internationally — with the exception of Hungary, which pleaded that it had nothing to do with the problems of its brothers. The rescheduling of the Polish debt met with difficulties, but in the end was done.

The Falklands war did not help the fortunes of Latin American payments by Argentina. It also exposed the myth that Latin America is an American backyard and so, whatever happens, the United States will underwrite these countries. Under certain conditions America would take the part of "outsiders", as it did with Britain over the Falklands crisis. And America could not tell the banks or the IMF to bail out countries — contrary to the self-perpetuating, mythical assumption.

Suddenly Latin American countries met with closed doors when they approached the market for refinancing on a business-as-usual basis. The first to try — and to fail — was Mexico, which at the end of last summer declared it could not service its debts. The IMF was consulted, the American government agreed to payments against oil, and the Bank for International Settlements put a short-term facility at Mexico's disposal. But it was soon realised that all these ad hoc arrangements were a drop in Mexico's $ 80 billion ocean of outstanding loans. In fact the $ 5 billion package put together for Mexico amounts to only half of the interest payments due for 1983.

Faced with this situation, neither the banks (especially the American ones which — unlike in Poland's case — had the lion's share) nor their supervisory authorities knew what to do. Many people in the last August thought the financial system would collapse. Catastrophe was averted only because: (1) people who might have panicked were on summer vacation; and (2) the Federal Reserve intervened to provide both liquidity and encouragement to the banks to "hold on". The fear was that one of the lenders might declare its loans in default which, through cross-default clauses, would put all loans to Mexico in default and make them due for payment.

Subsequently, consultations with the IMF, strong intervention with the banks by its managing director, Mr. Jacques de Larosiere, consultations among the lenders and encouragement from their respective governments helped to arrest the situation in Mexico, at least temporarily. The same procedure was later followed to deal with the problems of Brazil and other countries, as they followed in Mexico's footsteps.

The case of Brazil was especially dramatic, Just before Christmas last year the country declared "unilaterally" its inability to service and repay its loans. The banks had no choice but to concede to its requests by a certain date (March 31st), otherwise the country would declare itself insolvent. Brazil's action gave a different perspective to the whole problem of outstanding world indebtedness. Bank loans became frozen assets.

The borrower dictates

It exposed the fact that when lenders are involved with a borrower to the point where their own solvency is at stake, it is the borrower that dictates and the lender that follows. Unfortunately, this is where we are today. The table, reproduced here

Exposure of Ten American Banks

	Outstanding loans in $ billion				
	Brazil	Mexico	Venezuela	Total of 3 countries	Total as % of banks equity
Citicorp	4.4	3.3	1.1	8.7	180
Bank America	2.3	2.5	2.0	6.8	148
Chase Manhattan	2.4	1.7	1.0	5.1	183
Man.Hanover	2.0	1.7	1.1	4.8	174
Morgan Guaranty	1.7	1.1	0.5	3.3	122
Chemical	1.3	1.5	—	2.8	143
Bankers Trust	0.9	0.9	0.5	2.2	143
Cont.Illinois	0.5	0.7	0.5	1.6	96
First Interstate	0.5	0.7	—	1.2	64
Security Pacific	0.5	0.5	—	1.0	68

from the American Banker, shows that in Brazil, Mexico and Venezuela (recently added to the casualty list) taken together, the 10 large American banks have outstanding loans which by far exceed their total equity.

It serves no purpose to blame anyone now, perhaps the banks less than most, for in a way they became the victims of circumstances. Instead, we must concentrate our efforts on relieving the system of pressures to avoid the consequences of its possible collapse. There is no way the problem will solve itself without official intervention, despite the optimism of some bankers. What else can they say if they are to maintain the confidence of the public ?

THE ZOMBANAKIS PLAN

Rescue schemes for countries which have been worked out so far with the IMF's help, calling for programmes of adjustment under agreed reschedulings, can only buy time: they cannot solve the basic problem. We must look for longer-term solutions while struggling to hold the system together through these ad hoc arrangements.

Solutions should not disrupt the international system of trade and payments. They should not require the bailing out of banks by their respective taxpayers. They must address themselves to the real problem, which is not just shortage of liquidity but, above all, the threat of insolvency both to countries and to the banks. They must fit the existing framework to the maximum extent possible, so that a new international consensus is not required – something that would be hard to obtain today, at least before the catastrophe had occurred. In a nutshell, we must look for solutions that allow Mohammed to go to the mountain rather than expect the mountain to go to Mohammed. So far, in all the plans proposed by academics and others, the latter is the case.

CONSERVATION FARMING: VITAL FOR SUSTAINED AGRICULTURAL PRODUCTION

A. S. Widanapathirana

Conservation farming can provide the answer to many of the problems that keep arising in the attempts to increase the country's agricultural production maintains A. S. Widanapathirana, Research and Training Officer of the Agrarian Research and Training Institute. In this paper he shows that conservation farming which is a broad system of land, water and power use could be utilised to achieve sustained high agricultural output while minimising the depletion of natural resources and reducing the use of expensive inputs such as energy, machinery, fertilizer and agro-chemicals. Sri Lanka's present pattern of land and resource use warrants the adoption of conservation practices in almost all farming systems; while much could be done to make conservation farming techniques a viable system of farming.

Whether under rainfed or irrigated farming or in cash crop or plantation agriculture, increasing of agricultural production has long been a formidable challange in this country. Many approaches have been proposed to self sufficiency in agriculture. A salient feature of all schemes, however, is the increased utilization of expensive inputs such as fertilizer, chemicals, labour and other resources. Experience indicates that higher yields are closely associated with higher doses of agricultural inputs including labour. But can Sri Lanka continue to depend on imported chemicals, tractor power and energy for our agricultural operations ? The answer is: certainly not.

The present pattern of land and resource use warrants the adoption of conservation practices in almost all farming systems in Sri Lanka. The over-use of land resources in tea, rubber, coconut and other permanant crops has already led to lower soil fertilities and severe erosion loss. It is also reported that non-availability of farm power has frequently delayed timely cultivation of paddy. Chena cultivation practice which destroys forest resources occupies a substantial portion of land use in Sri Lanka. Moreover, destructive types of cultivation can no longer be perpetuated particularly in the present context of high population growth.

Although we appreciate conservation of soil resources, can we improve agricultural output by conserving the use of other inputs ? Conservation farming provides solution to minimize the use of inputs.

Conservation farming is a broad system of land, water and power use that aims to achieve sustained high agricultural output while minimizing the depletion of natural resources and reducing the use of expensive inputs such as energy, machinery, fertilizer, and agro-chemicals. The objects of conservation farming are:

(a) To conserve scarce water, land, capital and time;

(b) To minimise the use of inputs including expensive agro-chemicals, fertilizers, labour and energy and,

(c) To minimize the use of cost free natural resources such as sunlight and precipitation, in farming operations.

Conservation farming involves the use of many techniques and the particular mix depends on the system of farming under consideration; accordingly the method of conservation farming adopted on a highland cash crop will be different from that of a plantation crop. However, conservation farming essentially incorporates few principles whether in the production of annual crops or the cultivation of commercial crops, which are explained below:

(a) No – till:

Tillage refers to soil cultivation or disturbance primarily to control weeds and in some cases to incorporate fertilizer into the soil. Although tillage requires a substantial portion of resources in terms of energy, time and capital, the gains in productivity attributed to this practice are not appreciable. In addition, the distur-

bed soil is prone to erosion losses which lead to lowering of soil fertility.

Conservation farming involves no-tillage which makes use of other techniques in order to control weed growth. No-tilled soil is less prone to erosion and soil structure is preserved which is vital for sustaining agricultural productivity.

(b) Use of Mulches:

Either dead or live mulches are extensively used in conservation farming in order to supress weed growth conserve water and soil. In the case of dead mulches, grass clippings, stubble, crop residue etc. are placed to cover soil surface whereas the live mulch involves the growing of cover crops over land area. Another desirable effect of soil mulching is that is enhances earth worm activity, making soil to be porous. The decay of dead mulches add nutrients while live mulches make many nutrients available to crop plants.

(c) Avenue Cropping:

Avenue cropping refers to row planning of medium growing leguminous tree crops such as *ipil-ipil* and *gliricidia spp.* The crop is established between rows of legunimous trees, which are lopped before the establishment of crop plants. The tree-lopps provide a good mulch to growing crop plants. The woody material on the other hand, is a valuable source of firwood. Trees on the avenue grow together with the crop and may be lopped again should there be insufficient sunlight for the growth of crop plants The deep root system of leguminous tree crops absorb nutrients which may have leached down the soil profile and makes them available to crop plants by way of loppings. The tree avenues also reduce the speed of dessicating wind and create a desirable micro-environment for the better growth of crop plants.

d) Simple Tools:

In conservation farming much attention is paid to chemical controls of weeds. Therefore, weedicides are used at reduced levels of intensity where volume of liquid 10 times less than that required by conventional spraying is adopted, which control weeds effectively. Seeds are planted under the mulch by a specially designed seed planter. fertilizer is injected into the soil through a specially designed tool. Therefore, conservation farming requires certain less expensive simple tools, which could be locally manufactured.

PROBLEM AREAS

Although conservation farming can be appropriate under all farming systems, it is not wholly trouble free. As was discussed in the preceding sections, conservation farming emphasises the use of mulches, crop stubble etc. which provide a srouce of food for many insect pests. Often disease causing organisms thrive on crop stubble until new crop is established which then transfer into the growing crop plant. Therefore, pest and disease infestations can be acute and more emphasis may have to be placed on their control.

Yet another problem is that it may be difficult to educate farmers, particularly the chena farmers on the usefulness of conservation farming techniques. The chena farmer is interested in the establishment of a temporary 'farm' adopting destructive farming operations. In permanent farms are to be established in place of chenas, then the question of land rights needs to be solved, which may be much more difficult. Moreover as it takes sometime to decay crop stubble and mulches and to build up the natural fertility of the soil the benefits of this system of farming are not immediately visible or felt by the farmer. In general, it becomes a difficult task to convince farmers of the significance of conservation of resources in farming operations as conservation does not bring about immediate results.

What more to be done ?

Many things could be done to make conservation farming techniques a vialbe systen of farming. First more research is necessary, particularly with regard to different agronomic practices, implements, types of trees suitable for avenues, techniques of pests and disease control etc. Much attention may have to be placed on the study of natural insect pest fluctuation in the design of non-chemical control measures. Second, it is also necessary to undertake research to determine the optimum size of a holding which maximises returns. Furthermore, studies on cost and returns to conservation farming should also be evaluated. The third area of attention is related to the provision of land rights for bona-fide chena farmers, who will not adopt long-term conservation measures unless the legal right to cultivate land is vested in them. Fourth, sufficient encouragement and incentives should be given for those who volunteer to adopt techniques of conservation farming. The subsidy grant which motivates rubber growers to cultivate leguninous ground cover is a positive case of success. Through other incentive schemes farmers should be motivated to participate in conservation farming programmes.

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It can therefore be concluded that conservation farming is appropriate under all farming systems in Sri Lanka. It is very opportune that this system of farming is further developed and adoption of conservation practices is encouraged in areas where waste use and over expioitation of resources have been reported in this country. The need for further research and an effective farmer education programme towards conservation farming, however cannot be under estimated.

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