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NEPAL

**COUNTRY DEVELOPMENT
STRATEGY STATEMENT**

FY 83

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Nepal

1983 Addendum to the 1982 CDSS

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I. Development Statement Perspective

USAID/Nepal's development program strategy remains unchanged from that outlined in the FY 1982 CDSS. Since the FY 1982 CDSS was prepared USAID/N has begun implementation of that strategy which concentrates in three broad areas:

1) health/family planning, 2) natural resources management, and 3) rural area development.

The purpose and focus of this addendum is to strengthen the analysis section of the FY 1982 CDSS by providing an up-dated and in-depth analysis of Nepal's development policy and performance. Unfortunately, this analysis is still limited by the fact that although the GON is well into the first year of its Sixth Five Year Plan period, it has not yet published the full plan document. Specific performance targets will continue to be unavailable until the plan document is published. However, data available from a variety of sources permit an up-date of several of the analysis elements which led USAID/N a year ago to select the strategy undertaken. USAID/N believes that the strategy remains sound and consistent with the GON's own development plans. Moreover, the USAID/N strategy continues to supplement programs underway with support by other donors.

II. Macro-Economic Analysis

A. Nepal's Development Performance and Policy

1. Performance in the Fifth Plan

The Fifth Five Year Plan period (1976-1980) was a time of transition from large infrastructure investments to smaller, quicker yielding investments. During the period, a noticeable shift occurred toward balanced regional development, and more effective resource mobilization and employment generation. Development expenditures through the public sector budget were the equivalent of \$745 million or 17% above the

planned maximum target of \$628 million, with the productive sectors (agriculture, industry and mining) receiving approximately 32% of the total. (Agriculture alone accounted for \$185 million, 25% of total outlays.) Social services received another 25% of the development budget, increasing GON efforts to bring the results of development to the people. Nevertheless, in spite of the shift from previous plan periods, the lion's share of expenditures (34%), went to infrastructure (power, transportation, communications). Conservative estimates by the GON and adjusted by USAID/N still have more than 60 percent of the population in 1980 living below the subsistence level as the GON begins its Sixth Plan period.

Despite the relatively heavy emphasis in agriculture, total grain production (on an annual basis) declined to some of the lowest levels in recent years reflecting in large part poor monsoons in three of the five years of the Fifth Plan.

Table 1
Grain Production - Nepal^{1/}

<u>GON FY</u>	<u>Thousand Metric Tons</u>	<u>% Change</u>
1974/75	3779	-
1975/76	3908	3.4
1976/77	3704	-3.2
1977/78	3585	-3.2
1978/79	3695	3.1
1979/80	3200	-13.4

^{1/} Sources: IBRD Report No. 2692-NEP, Table 7.1 of 12/4/79. Includes rice, maize, wheat, barley and millet. Figures for 1979 & 1980 are derived from US Embassy Kathmandu, Economic Trends Report, October 1980.

Growth rates for food grains during the Fifth Plan were targetted at 16-17%, and cash crops (sugarcane, jute, oil seeds, tobacco) at 68%. These growth rates were not achieved. The almost annual declines in total grain production since 1976, capped by the very large 13% decline in FY 1980, were not offset by the mere 4% average annual increase in cash crop production, in an economy where cash crops account for less than 10% of total cultivated land.

Moreover, agricultural productivity was low. Annual average yields per hectare for grain in the lowlands (Terai), primarily rice, were only 1.5-1.8 tons during the Fifth Plan, even though most of the existing irrigation facilities are located in the Terai. Average grain yields in the Hills were 2.4 tons per hectare. This low productivity resulted in the GON's annual GDP growth rate target of 4-5% not being accomplished. In fact, real growth after allowance for inflation may have averaged only about 2% per annum, constituting a step backward in terms of overall living standards for the population, currently expanding at an estimated 2.6% per annum.

2. Policy for the Sixth Plan

The GON has outlined its medium term strategy, and indicated the thrust of its policies for the coming five year period, in its National Planning Commission publication, "Fundamental Principles of Sixth Plan, (1980-1985), Revised". The objectives of the new Plan are discussed in Annex B (pp. 11-13) of the 1982 CDSS.

The overall performance targets and implementing policies for the Sixth Plan still are not available, as the full Plan has not yet been published. Even so, the GON budget for the first fiscal year thereof,

1981, does give limited indication of what may be expected. For example, although infrastructure development retains importance in the Sixth Plan a key shift in strategy is the GON's deliberate focus on tying previous investment in infrastructure to productive capabilities during the Sixth Plan period. Concentration in the agriculture and other productive sectors is supplemented through allotment of nearly a quarter of development resources in 1981 to projects in the various sectors of the social services category, concentrating primarily on projects which will increase the availability of drinking water and basic health facilities to the rural population.

B. Balance of Payments

Nepal is one of the world's poorest countries, with few known natural resources for export other than its traditional beauty through tourism. Massive un-tapped hydro-electric potential in excess of domestic needs is still in the developing stage, although the potential is impressive. The country is landlocked, with difficult external and domestic transportation conditions that levy an additional expense on all imports. Imports of development materials and the derived demand for complementary goods, in conjunction with decreasing agriculture exports, have resulted in annually increasing trade deficits. Even so, the GON managed to maintain a positive overall balance of payments throughout the first four years of the Fifth Plan Period, 1975-1979, due in large part to increasing foreign assistance (see Table 3). The fiscal 1979 surplus in the balance of payments boosted foreign exchange reserves to a level equivalent in value to nine months of imports or nearly twice the total official and guaranteed foreign debt. However, the cost of every import item, for development or for consumption, is continuing to rise in price reflecting worldwide inflation. On the other

hand, the mainstay of Nepal's recorded exports, those from the agriculture sector, decreased in volume and/or value throughout most of the Fifth Plan period with the exception of a positive year in FY 1979. The decreases were attributable primarily to poor grain harvests domestically and the instability of international jute prices.

Table 2

Agriculture Sector Exports - Nepal^{1/}

(Mill. NR)

	<u>1975/76</u>	<u>1976/77</u>	<u>1977/78</u>	<u>1978/79</u>	<u>1979/80</u> ^{2/}
Food & Live Animals	804.0	599.5	405.3	488.8	189.0
Tobacco and Beverages	4.0	12.3	11.2	13.6	1.7
Crude Material Inedibles Except Fuels	226.3	377.8	441.2	491.7	276.9
Animal and Vegetable					
Oils and Fats	<u>1.8</u>	<u>5.3</u>	<u>6.0</u>	<u>16.5</u>	<u>24.9</u>
Total	1036.1	994.9	863.7	1010.6	-
(Nine-Months)	(746.8)	(743.3)	(605.6)	(687.4)	492.5

^{1/} Source: Nepal Rastra Bank, Quarterly Economic Bulletin.

^{2/} Nine months only.

Table 3
Balance of Payments - Nepal^{1/}
(Mill. NR)

	<u>1975/76</u>	<u>1976/77</u>	<u>1977/78</u>	<u>1978/79</u>	<u>1979/80</u> ^{2/}
A. Trade Balance	-724.4	-914.4	-1464.2	-1742.2	-1620.2
1. Exports f.o.b.	1209.7	1175.4	1047.6	1130.9	675.9
2. Imports c.i.f.	1934.1	2089.8	2511.8	2873.1	2296.1
B. Net Services	284.3	493.2	571.6	778.6	713.1
1. Receipts	747.6	932.2	1121.6	1439.1	1328.4
1.1 Travel	209.9	288.0	363.2	397.1	448.9
1.2 Investment	82.9	84.0	100.6	124.7	117.9
1.3 Other	454.8	560.2	657.8	817.3	761.6
2. Payments	463.3	839.0	550.0	660.5	615.3
C. Net Transfers	588.6	617.9	587.5	869.5	782.6
1. Receipts	606.5	640.5	603.5	882.3	792.5
1.1 Private Remittances	231.3	268.3	219.4	303.1	252.4
1.2 Official Grants	259.2	251.0	286.8	511.1	478.6
1.3 Other	116.0	121.2	97.3	68.1	61.5
2. Payments	17.9	22.6	16.0	12.8	9.9
D. Current Account Balance	148.5	196.7	-305.1	-94.1	-124.5
E. Official Capital, net	145.8	214.8	291.9	428.6	363.4
1. Foreign Loans	163.7	233.4	310.7	447.7	384.1
2. Amortization	-17.9	-18.6	-18.8	-19.1	-20.7
F. Miscellaneous Capital Items, net	63.9	-100.7	24.2	248.9	-241.0
G. Changes in Reserves (-increase)	-358.2	-310.8	-10.8	-583.4	2.1
International Reserves (\$ Million) ^{3/}	120.3	145.3	140.6	179.8	N.A.

^{1/} Nepal Rastra Bank Quarterly Economic Bulletin, Vol. XIV, No. 3-4, Table 35. Data is for fiscal year ending mid-July.

^{2/} First 9 months of fiscal year, July-April. Preliminary data for 12 months are available, however, part experience indicates that they will be substantially revised prior to official publication by the GON.

^{3/} Nepal Rastra Bank Quarterly Econ. Bulletin, Table 42. At end of FY.

Nepal's FY 1980 (nine months only) agricultural exports are 20 percent below the FY 1978 low (which was down nearly 20 percent from FY 1976), indicating that a surplus in the overall balance of payments for FY 1980 will not be feasible.

In spite of the worldwide inflation and steep rise in air fares, due to oil price increases during the Fifth Plan, tourist arrivals in Nepal have expanded at a faster rate (average of 19% per annum in 1976-1978, but down to less than 10% annually in 1979-1980) than any export item except manufactured goods (average of 34% per annum, 1976-1979). Tourism is now the largest single foreign exchange earner, bringing in \$38 million in the first nine months of FY 1980, equivalent to sixty-six percent of total merchandise exports for the same period. Given the absence of any serious negative influence on tourism, the resumption of rice exports to previous higher levels would still not displace tourism from its preeminence as Nepal's primary foreign exchange earner.

World wide tourism is projected by the World Tourism Organization to grow at four percent per annum over the next few years, but growth in the Asia-Pacific region is expected to be nearer 20% per annum. Given the expectation that current high rates of inflation will continue, and that a majority of South Asia's tourism will originate in the region, the rate of benefit growth will be considerably lower than the 20% forecast. To draw the fullest benefit from the rather expensive high import-content investment presently required in the tourism sector, Nepal needs to pursue (1) more aggressive promotion of the off-peak season (feasible given the attraction of Nepal's rich cultural heritage and the advantage of its weather in relation to that of other regional tourism centers), and (2) improvement of and greater reliance

on domestic resource utilization within the sector to avoid reexportation of the benefits through a high import content.

Foreign aid has a minor negative impact on the balance of payments. The extent to which the presence of foreign technicians, development projects, etc., create expectations and a demonstration effect which then is partially expressed through increased consumer imports is not measurable. However, the import-content of direct foreign aid can be estimated. The projected import-content of the USAID/N program for the next five years is 18%. We assume that rate is valid for application to the total of foreign aid from most donors, therefore we can estimate aid-prompted imports to be 6-8% of total imports, and account for slightly less than 10% of the current trade deficit. Given the recent GON request at the Nepal Aid Group meeting in January 1980 for aid donors to consider non-project assistance and food import programs, and World Bank support for this approach, it is probable that this foreign aid influence on Nepal's trade account will continue.

The balance of payments situation will most likely result in a drawdown of foreign exchange reserves for FY 1980, despite some improvements over FY 1979. Comparison of the first nine months of FY 1980 versus the same period for the previous fiscal year indicate:

- the rate of growth in the trade deficit has slowed to 11.5 percent, less than half what it has been in the past. Exports are still falling (down 5.6%), compensated for by an apparent tightening of import licenses by the GON as imports are up only 5.9%.
- the current account balance is much improved, with the deficit reduced nearly 58%, due to continued strong growth in foreign aid grants (up 41%) and tourism (up 23%).

- the rate of growth in official loans tapered off to 5%, a large drop from the annual average of 35-40% during the Fifth Plan.

In this situation, other factors remaining more or less equal, the FY 1980 balance of payments impact on the GON foreign exchange reserves would have been positive -- the official loan capital inflow more than compensated for the small current account deficit. However, Nepal's negative agricultural production situation forced some portion of the normally unrecorded trade into an indirect recordable position through the Miscellaneous Capital Items account. The largest portion in this latter account is the Errors and Omissions sub-account, which made a nearly 400 million NR negative swing in the first 9 months of FY 1980 over the same period of FY 1979. Nepal Rastra Bank officials believe a combination of factors account for the swing. The continuation of recent good harvests in India, with reduced agricultural production in Nepal, forcefully interrupted the large normal barter trade along the border that previously has not entered the trade statistics. The lack of production and barter items for trade forced the Nepalese into the monetized sector -- whether through dissaving and/or disinvestment -- in order to pay for survival requirements from India. The resultant large cash outflow is reflected in the Errors and Omissions of the Miscellaneous Capital Items account.

However, Nepal is financing its current account deficit better than low income developing countries are performing as a whole. Analysis by other US Government units indicates that for low income countries as a group (per capita GDP below \$300) approximately 63% of the trade deficit is financed through official transfers and concessional assistance (currently less than 35% for Nepal), and another 20% by non-concessional official flows (25% for

Nepal). While Nepal's current account deficit (annual basis) is large (approximately one and one half times annual exports, or 60-70% of foreign exchange holdings) and has been increasing significantly annually, the financing thereof is in a relatively positive position.

It should be noted that as late as mid-September, 1980 the IMF was quite pessimistic about Nepal's balance of payments position, concluding that following a sharp deterioration during 1979/80 the prospects for 1980/81 were for continued weakness in Nepal's overall payments position. However, an IMF team in late December completed a new assessment of the Nepalese economy and projected the current Nepalese fiscal year (1980/81) as "a year of recovery and consolidation". The team concluded that despite continuing adverse trends in foreign trade, the overall payments situation is estimated to be favorable, on balance. Significant in the new assessment are actions that the GON has taken to reduce its dependence on the banking sector, raise prices of goods supplied by state corporations and of agricultural products. These steps are expected both to improve the financial position and to have a positive influence on production.

1. Trade

Given the physical and political environment, Nepal's trade statistics are classed in two general categories, (1) with India and (2) with all other countries. On the import side, probably somewhat in response to Nepal's March 1978 foreign exchange rate system modification, the relative distribution of total imports has been shifting from a two-thirds concentration from India as a source (FY 1976) to a nearly equal division between India and all other sources (FY 1979), with India remaining as the slightly dominant source. That exchange rate alteration, designed to promote trade with countries other than India, may have only contributed to an already

existing trend in Nepal's trade as imports from all other sources were already expanding slightly more rapidly than those from India. The effect of the alteration was most noticeable in FY 1979 when imports from India stagnated while those from non-India sources grew 43%. This significant shift of import sources away from India and toward other countries was evident within the individual major import categories: miscellaneous manufactured articles (down from 63% to 49%), manufactured goods classified by type of material (down from 75% to 57%), and mineral fuels and lubricants (down from 57% to 9%). In FY 1979 Nepal changed its source of fuel and lubricants. Previously they were purchased as refined products from India. Currently, Nepal is buying crude oil directly from the Middle East (primarily Iraq), with some future purchases to come from Russia, and trades it to India for refined POL products for shipment into Nepal. The effects of the Middle East war on this current arrangement are unknown. On the other hand, India continues as Nepal's dominant supplier of food imports (90%), chemicals and drugs (65%), and has been increasing its share of machinery and transport equipment (now 45%).

On the export side, India previously absorbed 75% of the total annual value and now is receiving only 50% of such. This is due in part to the exchange rate system alteration of March 1978, which offered a 33% premium on foreign exchange earned through exports to countries other than India, and due in part to India's new self-sufficiency in grain production.

The February 1980 modifications to the exchange rate system moderated the benefits accruing from trade with countries other than India. The results thus far available (nine months of FY 1980) indicate a continuing trend of an increased share of exports to other countries, but show an increased

share of imports from India. Nepal has traditionally endeavored, rather unsuccessfully, to maintain a favorable balance of trade with India, but the current situation is becoming more unbalanced. Nepal's imports from India are now nearly five times greater than exports to India. This imbalance of trade is greater than the overall imbalance between total exports and imports. This may presage further modifications to the exchange rate system.

In addition to significant alterations to the value of Nepal's trade, and to the direction of trade, new trends are also appearing in the composition of trade, exports and imports. With the exception of the manufactured goods category and the food category, actual import values for all other categories experienced modest rates of growth during the Fifth Plan. Concurrently, their individual relative shares of total imports either remained the same or declined slightly. The food category was stagnant in value terms, and declined as a percentage of total imports. The reduced shares of all categories have been totally absorbed by the manufactured goods category which more than doubled in actual value, and increased from 28% to 38% of total imports. Regarding the mix of exports, poor grain harvests and reduced food exports led to a two-thirds drop in the value of the Food and Live Animals category from 68% to 38% of total exports. Concurrently, Raw Materials and Manufactured Goods exports have each more than doubled in value over the Fifth Plan period, increasing their share of total exports to 38% and 18% respectively. These export trends (with the exception of the decline in grains) through the Fifth Plan period have been encouraging. However, the major question confronting Nepal is whether world markets will continue to support Nepal's exports in its handicraft and small-scale manufactures orientation, when various negative factors are emerging, particularly the upsurge of protectionist

pressures in developed countries. Nepal's trade with any particular country remains a small, perhaps unnoticable, part of any country's total trade and therefore is not the objective of protectionist actions. Nevertheless, actions based on these sentiments may accidentally impinge on Nepal's handicrafts and manufactured items while being primarily aimed at exports from other countries.

Current trade promotion studies for the international scene indicate that, in the medium term, policies within the exporting developing countries will be the most decisive factor in shaping export performance. This includes not only trade and exchange rate policies, but management of overall development, factor pricing, the speed of industrialization, etc. Although policies can be altered relatively quickly, the results therefrom are slower in coming. Thus the responsibility for a successful export sector appears to remain primarily within Nepal.

The necessity of devising a more successful export program for Nepal is clear. Exports will create new jobs and partially meet the growing import bill. Responding to the country's constantly increasing development requirements, and private consumption needs, Nepal's total imports in the first three-quarters of FY 1980 expanded 5.9% in value over the same period a year earlier, in addition to an annual average increase of nearly 14% during the first four years of the Fifth Plan period. The GON has not made an across the board attempt to curtail imports even though their rapid growth is the primary cause of the balance of payments deficit in FY 1980. The selective limitation of imports through the licensing system (either through delay in granting licenses or through outright refusal to grant licenses in specific cases) appears to have

impacted on consumption items in the areas of health and energy, in addition to food. The implication is that consumption is being limited in preference to development requirements as expressed through the manufactured goods and machinery categories. Nevertheless, the GON is naturally hesitant to move very decisively in the limitation of imports, since approximately 35% of tax revenues originate in import duties.

Expenditures for requisite development imports will continue to require increased export earnings, and the initial inclination is to rely on the traditional source - the agricultural sector. However, an increasing rate of agricultural, particularly grain, exports from Nepal is doubtful in view of projected accelerating domestic demand. In a number of Nepal's traditional agricultural products other than grain -- edible oil seeds, animal oils and fats, etc. -- the potential export market is favorable because of the constant demand in India, which is growing in excess of IERD projected worldwide growth rates for physical volumes. The problem remains that higher agricultural export rates alone would be insufficient, given Nepal's population and agricultural production growth rates, to finance Nepal's development and consumption imports. The promotion of other sector exports is requisite.

2. Manufactures Exports

Recent studies on the composition of exports from developing countries indicate that Nepal is doing well in some aspects of its trade, even though there is substantial room for improvement of policy in several related areas: (1) investment incentives, (2) agriculture and agro-industry production, and (3) export promotion. With the exception of exchange rate

manipulations, the GON has maintained a "hands-off" policy in trade promotion. One result is that unprocessed primary products in the agricultural field have dominated exports to the present. Such a stance places Nepal's export earnings at the mercy of the unreliable monsoon, and in direct competition with a rapidly expanding population. Official presentation of the FY 1981 national budget stressed the importance of improved export promotion, but indicated that the GON will limit its efforts to further refinements of the foreign exchange rate system. The implication is that Nepal will be concerned with supply only, assuming the existence of excess demand. There is evidence that the assumption is valid but reliance on the exchange rate system -- undoubtedly continuation of the dual rate -- merely postpones addressing the problem. Nepal's dual exchange rate system is already in conflict with IMF requirements even with recent adjustments (the IMF has approved Nepal's retention of a multiple currency system through March 1981). The GON needs to examine other possibilities for increasing export earnings. One such possibility focuses on manufactured goods.

Manufactured goods' exports from Nepal have grown at an average of 34% per annum during FY 1976 to FY 1979, plus 19% in FY 1980, well in excess of the per annum average of 6-7% for other LDC's of similar or better conditions. During this same period manufactures exports also doubled from constituting 9% of total exports to 18%, currently the third largest category of physical exports from Nepal. Even though that growth occurred during a period of significant declines in agricultural exports, and is in relation to a small base, the value of such manufactured exports has more than doubled (at current prices) over the Fifth Plan period.

When the influence of decreasing food and live animal exports is removed from the changes taking place in total exports, and growth in the remaining categories is examined, approximately 37% of the annual increase in export earnings came from increased manufactures' exports. During the last two years, FY 1979 and FY 1980 (nine months), that share has been 64% and 73% respectively. If grain exports had remained constant over this period, manufactures would still constitute 14% of total exports in FY 1979. This growth was accomplished despite setbacks the world economy has suffered since 1973 as a result of energy sector price increases. It would appear from these high growth rates that demand exists for the type of manufactures coming from Nepal, at Nepal's prices, whereas supply side bottlenecks may be the restricting factor. Nepal's manufactured exports are going primarily to developed and middle-income countries, such as Germany, with less than 10% to India. This is a better record than for LDC's as a group which are shipping nearly one-third of their exports to other LDC's. The latter market is relatively less stable and more restricted in its demands than that to which Nepal's manufactures flow.

Nepal's growing success in exporting manufactured goods has several explanations:

- (a) Investment has increased the capacity of Nepal's fledgling industry and contributed to its ability to increase and diversify production to take advantage of existing demand.
- (b) Relevant GON policy continues to concentrate on development of import-substitution industry, with the dual exchange rate system transferring some of that emphasis over into export promotion.

- (c) Improvements in transport and communications, along with some enlargement of the skilled and semi-skilled work force, have facilitated the expansion of Nepal's export trade.

Nepal is a country with limited exporting experience, especially where manufactured goods are concerned. For the present, continuation of relatively fast growth in this category of exports may be facilitated as Nepal's manufactures will continue to consist of goods in the standardized intermediate category, such as rugs, leather, handicrafts, etc. These goods have the additional advantage of being labor intensive, which as they continue to grow in importance to Nepal's economic situation, may encourage/force the GON to implement and enforce manufacturing sector labor laws conducive to economic development. Already the World Bank is developing a cottage and small industry project which, if it materializes as planned, will have a tremendous effect on ~~loosening~~ GON banking policies in a way that should stimulate further growth in the manufactures sector. In the future, as Nepal is able to develop and utilize its vast untapped hydroelectric potential (beyond the medium term framework considered here), specialization in the production of manufactures will be greatly facilitated and should continue to improve.

C. Hill Area Agricultural Production

1. Hill Farm Productivity Possibilities

In the Sixth Plan the GON is specifically giving attention to the Middle Hills, an area previously by-passed by planned GON development programs. A basic application of USAID/Nepal's strategy is that our programs will focus primarily in the Middle Hills. The credibility of development

projects based on the production potential of small farms in the Hills is predicated on two major factors: (1) appropriate production technology, and (2) social or community environment conducive to agricultural change. As recently as the early 1970's the question of USAID-supported agricultural development projects in the Hills was discarded because of a lack of knowledge of Hill production systems and their potential to respond to an improved production technology. With the development over the past 4 years of appropriate interventions for a variety of paddy and maize-based cropping systems in the Hills, the agronomic and economic validity of potential improvements in Hill farm productivity are a matter of implementation rather than theory. Factors (primarily irrigation) show that land in the Terai should have a higher potential for increased crop production than land in the Hills. However, higher average unit yields and cropping intensity in the Hills show that Hill farm units, even though they have historically been denied access to improved technology, inputs and market distribution, and operate under much more variable agro-climatic environments, are more productive than Terai farm units of similar size.

a. Social Environment

Social elements of community life in the Hills are perhaps much more conducive to agricultural change and improvements in productivity than they are in the Terai. A recent analysis of constraints to adoption of technology in Nepal emphasizes social constraints, primarily those of management demands (for both skill and time), lack of local farmer organization, and the low position of women in village society, as the major impediments to the adoption of new agricultural technology.

It is known that farm productivity in the Hills, and especially the Terai, is constrained by the lack of good management. Farm labor productivity in the Hills is much higher than in the Terai and reveals better management skills, especially on smaller units. This is also reflected in the fact that labor's share in overall crop production costs is nearly 50% in the Hills (where labor is actually more abundant and costs less than in the Terai), but only 35% in the Terai.

The productivity of family labor (about 90% of labor on small Hill farms) is higher on farmer-owned parcels than on rented parcels. Lower productivity of labor on rented land can be explained by two factors, one physical, one social: generally relatively poorer quality land is offered for rent, and disincentives to invest in improvements on rented land are implicit in insecure forms of tenure. Although data on the number of farm tenants in Nepal is unreliable, they are at least indicative of the wide contrast between the extent of tenancy in the Terai and in the Hills. Cadastral surveys conducted in the 1970's in about half of Nepal's districts show approximately 1.5% of the farm families in the Hills and 28.3% in the Terai as tenant farmers.

As a result, the high percentage of owner-cultivators in the Hills has shown at least some incentive to invest management skills, other meagerly available inputs, and labor into increasing crop production. In contrast, the small farmers of the Terai have apparently not felt the same degree of motivation, due both to lack of available labor (seasonal bottlenecks are especially constraining) and to disincentives inherent in the variety of tenancy systems there. Insecure tenure

leases, high rental costs of land, and in many cases the absence of any provision for shared inputs between landowner and tenant, are factors which continue to discourage improved management on many Terai farms.

These disincentives to invest are compounded by other management-related social constraints, which are outgrowths of a complex heterogeneity of caste and economic groupings, and which are more evident in the Terai than in the Hills. The Nepal Rural Household Survey (1976) shows widely skewed income distribution in eight villages. However, Hill farms are smaller and relatively more uniform in size than farms in the Terai. This relative homogeneity of Hill farms, in contrast to the wider range of socio-economic characteristics common to Terai farms, is an encouraging factor underlying the capacity or potential capacity for effective farmer co-operation and organization in the Hills.

Similarly, the distribution of benefits from productivity increases in the Hills would go directly to Hill farm communities. Benefits from production increases in the Terai would tend to go to more wealthy landowners rather than poorer tenants (or landless laborers), and surplus food grains would tend to follow traditional market channels into Indian or other export avenues.

All told, social factors promoting motivation and more efficient management of farm resources would appear to facilitate greater productivity increases in the Hills than in the Terai.

b. Technology Factors

Only recently have efforts in descriptive and applied research been directed toward the Hill farming systems of Nepal. These efforts, conducted primarily through the USAID-assisted Integrated Cereals Project (ICP) and its Cropping Systems Program in the Ministry of Food and Agriculture, have generated a body of technical literature descriptive of a variety of highly representative cropping systems. In turn, the cropping systems applied research on farmer fields has led to a major breakthrough in identifying technically and economically suitable farm-level interventions which have been adopted by farmers residing near the cropping systems sites. This breakthrough in Hill agriculture technology has been equated in importance by one internationally recognized development economist to the "green revolution" for lowland grain production.

This research has been conducted at representative Hill sites on farmer fields beginning in the summer of 1977 at one site, and during the winter of 1977/78 at 3 other sites. Since 1978 detailed socio-economic studies have been undertaken at each of the 4 Hill cropping systems sites. This recently generated data base, coupled with information from other studies undertaken by the GON and the foreign aid donor community, permits some general observations to be made regarding the Hill farming systems.

At each of the cropping systems sites, field environments (e.g. land type) have been classified according to production potential, and cropping pattern technologies have been tested under farmers' management to determine agronomic and economic performance. The

potential for increase exists. The agronomic and economic data amassed at the ICP cropping systems research sites indicate that major production increases are not only possible, but feasible. Conservative estimates of yield potential lead to the assumption that paddy yields can be increased by 50% over historical yields, those of wheat by 60% and those of maize by 35%. Annual production on an average-sized Hill farm (0.4 hectare) is estimated in Table 4.

Table 4

Grain Production Possibilities on Hill Farms-Nepal

<u>Crop</u>	<u>Area</u> (ha.)	<u>Production</u> (kg.)	<u>Edible Form</u> (kg.)
Paddy	.155	572	284
Maize	.218	547	433
Wheat	.081	149	106
Millet	.073	85	60
Barley	<u>.013</u>	<u>13</u>	<u>9</u>
Total	.540 ^{1/}	1,366 (2.53 MT/ha.)	892 (149 kg. per capita)

^{1/} Cropping intensity, not as variable as yields, is estimated at 135%

for the Hills region as a whole, therefore:

$$GI = \frac{.540}{.400} = 1.35$$

This production represents a 40% increment in yields and would mean a net gain of 38% in cereal available for consumption, so that farm level production could provide, on the average, 149 kgs of cereal annually to each member of a small farm family.

Further increments in productivity could be brought about by increasing cropping intensity. Generally, moisture is the limiting factor which governs potential crop intensity, especially during the winter planting season. However, with the utilization of improved short duration rice varieties, earlier planting dates for winter crops are possible when residual soil moisture is more abundant. If cropping intensity can be increased to 150%, an additional 12 kilograms of cereal (edible form) can be produced per capita. To reach a per capita productivity of 171 kgs annually, the cropping intensity would need to be 165%. Many fertile valley areas in the Hills are now farmed at cropping intensities of 200% to 300%, some much higher in localities where market economies create a strong demand for horticultural produce. The problem in increasing productivity across the board in the Hills is with the less fertile and poorly located (distance from village) farms. It is these farms on which unit yields must rise and it is on these lands that cropping intensity, where climate permits, needs to increase.

The interventions which appear feasible from the ICP results are highly significant for they offer a real potential for production increases in existing cropping patterns in the major broad land classes -- rainfed upland and lowland. Varietal substitution coupled with improved compost use and chemical fertilizer application has shown a great potential for increasing grain and straw yields of major cereal crops, and for improving residual soil moisture utilization (by allowing earlier planting of the succeeding crop). Slight modifications of existing cropping patterns have proven

acceptable to farmers at cropping systems sites in the Hills and have helped to encourage the cultivation of drought-resistant and nitrogen-fixating winter crops. These additional crops provide grain, fodder and residual nitrogen and partially assuage problems of over-grazing and forest depletion.

Details regarding projections of increased production and consumption, assuming conservative but effective interventions into Hill area agriculture, are discussed below.

2. Production and Consumption Projections

During the period from 1967/68 to 1975/76 total cereal production rose almost steadily, increasing at an average annual rate of 1.8%. By 1975/76 gross annual cereal production had increased more than 800,000 metric tons over the 1967/68 production figure, an aggregate jump of more than 25 percent. However, in 1976/77 production began a series of declines, and the estimates for 1979/80 cereal production reveal a drastic fall of 13% from the already low 1978/79 levels. This is the first time in twelve years that total cereal production has fallen below 3.2 million tons. (See table 5 below).

The five major cereal grains (paddy, maize, wheat, millet, barley) represent approximately 95% of food crop production, the remainder being pulses and root crops. Based on production data (1967/68 to 1977/78) for these five cereal crops, assuming no additional interventions by the GON in excess of the Fifth Plan period pattern, cereal production has been projected for each year through 1990 (See Table 6). These projections are based on the historical growth trends through 1978 (our latest year of finalized data). The time series projected production of 3.9 million metric tons in 1980 is 20% above the 3.2 million metric

Table 5

Cereal Production - Nepal^{1/}
(¹000 M.T.)

	<u>Paddy</u>	<u>Maize</u>	<u>Wheat</u>	<u>Millet</u>	<u>Barley</u>	<u>Total Cereal</u>
1964/65	2,201	854	126	63	26	3,270
66	2,241	856	147	120	28	3,392
67	2,007	824	159	120	28	3,138
68	2,027	735	204	113	23	3,102
69	2,178	765	233	121	22	3,319
70	2,241	795	265	125	24	3,450
71	2,304	833	193	125	25	3,480
72	2,358	730	225	130	25	3,468
73	2,010	822	312	134	25	3,303
74	2,416	814	308	142	26	3,706
75	2,452	827	331	143	26	3,779
76	2,605	748	387	143	25	3,908
77	2,386	797	362	138	21	3,711
78	2,282	740	411	130	22	3,585
79 ^{2/}	2,341	738	456	133	23	3,691
1979/80 ^{2/}	2,060	554	440	119	23	3,196

^{1/} Source: Ministry of Food & Agriculture, Agricultural Statistics Division.

^{2/} Estimates.

tons currently estimated for actual 1979/80 production. The trend line projections do not reflect the influence of the current estimates for 1979 and 1980 production. Even though the estimates for 1979/80 indicate a considerable shortfall below the time series data, the erratic monsoon was the primary cause of this shortfall; therefore, we have assumed that the weather will return to normal and the historical trend can revive from the abnormal low of 1979/80.

Similar but disaggregated projections for the Hill areas for the 1980-1990 period are contained in Table 7. If no production interventions occur the severity of the foodgrain deficit in the Hills will intensify over the coming decade. This point emphasizes the need for agricultural development interventions.

Table 6
Production & Consumption Projections 1980-1990
 Nepal
 (Historical Trend Model)

Year	Population (Millions)	Gross Cereal ^{2/} Production ('000 M.T.)	Net Cereal ^{2/} Production ^{3/} ('000 M.T.)	Cereal Available for Consumption Per Capita (Kg.)	Daily Calorie ^{4/} Equivalent of Cereal Per Cap.	Daily Total ^{5/} Available Calorie Per Cap.	Percent of Calorie Requirement Available
1980	14.20	3,929.5	2,316.8	163	1,556	2,021	86
1981	14.54	3,990.3	2,353.1	162	1,543	2,004	86
1982	14.90	4,051.4	2,390.0	160	1,529	1,986	85
1983	15.24	4,114.3	2,427.7	159	1,518	1,971	84
1984	15.60	4,177.6	2,465.8	158	1,506	1,956	84
1985	16.00	4,242.3	2,504.7	157	1,491	1,936	83
1986	16.40	4,307.4	2,544.2	155	1,477	1,918	82
1987	16.80	4,372.7	2,583.7	154	1,464	1,901	81
1988	17.20	4,440.8	2,624.9	153	1,452	1,886	81
1989	17.60	4,508.0	2,665.6	151	1,441	1,871	80
1990	18.00	4,576.3	2,707.4	150	1,430	1,857	80

- 1/ Production trends based on 1967/68-1977/78 production series for paddy, maize, wheat, millet & barley (aggregate increase of approximately 1.5% annually).
- 2/ Production during the 12 months ending in July of each year.
- 3/ Net cereal is cereal available for consumption = gross production less seed, waste, milling loss (factor of .59 of total production is used here).
- 4/ Assumes 1 kg. of cereal = 3,484 calories in 1980; 3,473 calories in 1990.
- 5/ It is assumed that 23% of the diet's calories come from sources other than cereals.
- 6/ Based on minimum nutritional requirement of 2,334 calories per cap. per day for all Nepal (2,000 cal. Terai, 2,200 cal. Hills/Mts. yield weighted ave. of 2,122, to which 10% is added to account for maldistribution of cereal grains & unequal income distribution).

Table 7
Production & Consumption Projections 1980-1990
Hills & Mountains
(Historical Trend Model)

<u>Year</u>	<u>Population^{1/}</u> <u>(Millions)</u>	<u>Gross Cereal^{2/}</u> <u>Production</u> <u>('000 M.T.)</u>	<u>Net Cereal^{3/}</u> <u>Production</u> <u>('000 M.T.)</u>	<u>Cereal Available</u> <u>for Consumption</u> <u>Per Capita (Kg.)</u>	<u>Daily Calories^{4/}</u> <u>Equivalent of</u> <u>Cereal Per Cap.</u>	<u>Daily Total^{5/}</u> <u>Available Ca-</u> <u>lorie Per Cap.</u>	<u>Percent of Ca-^{6/}</u> <u>lorie Require-</u> <u>ment Available</u>
1980	8.660	1,421.9	932.0	108	1,022	1,363	62
1981	8.844	1,433.6	938.0	106	1,008	1,343	61
1982	9.040	1,444.5	943.4	104	991	1,322	60
1983	9.236	1,455.3	948.8	103	976	1,302	59
1984	9.417	1,466.1	954.1	101	963	1,284	58
1985	9.621	1,476.5	959.2	100	947	1,263	57
1986	9.848	1,487.1	964.3	98	931	1,241	56
1987	10.067	1,497.2	969.1	96	915	1,220	55
1988	10.286	1,507.1	973.8	95	990	1,200	55
1989	10.508	1,516.7	978.2	93	885	1,180	54
1990	10.724	1,526.3	982.6	92	871	1,162	53

^{1/} Approx. 0.5% of Hill population is assumed to migrate to Terai annually.

^{2/} Paddy, maize, wheat, millet & barley production for the 12 months prior to July of each year.

^{3/} Considers factors for seed retention, waste and storage loss and milling losses; factors range from .50 to .79 (weighted here at approx. .65 for all grain).

^{4/} Assumes 1 kg. of cereal = 3,470 calories in 1980; 3,473 calories in 1990.

^{5/} 25% of calories come from source other than cereals.

^{6/} Caloric requirement per capita in Hills/Mountains = 2,200 per day.

Using the historical annual average change in area under production, there will continue to be noticeable increases in the total and per crop cultivated areas. Terai land sown to paddy is projected to increase by 7,800 hectares each year, while paddy area in the Hills and Mountains is projected to increase by 4,300 hectares annually with the rate of change being actually greater in the Hills/Mountains (1.7%) compared to the Terai (0.7%). Based on historical trends, the disaggregated data for which show rapidly increasing wheat production and stagnant maize production, per capita cereal available for all Nepal would decline by 8% by 1990, resulting in a corresponding reduction in total available calories per capita. Disaggregated for the Hills and Mountain areas, the projections show a 15% decline over the ten-year period. These projections, based on historical rates of growth, emphasize that without additional effective interventions into the agriculture sector by the GON, with support from the foreign donor community, Nepal's population will experience increasing malnutrition over the coming decade, with relatively more severe problems occurring in the Hills.

In addition to the cultivated area increases, however, there is a sound basis for assuming that unit yield trends and total production can improve and that per capita production and consumption can remain relatively constant, and even increase slightly, over the next decade. This assumption is grounded in the production increases now being experienced in the USAID-supported cropping systems program (ICP). Based on these field-tested innovations, the yield increments expected to accrue to paddy, maize and wheat crops have been estimated for both the Terai and Hills/Mountains areas. It has been assumed that utilization

of management practices advocated by the cropping systems program would result, conservatively, in yield increments of 50% for paddy, 35% for maize, and 60% for wheat.

Expected yields have been calculated on the basis of average yields for the Terai and Hills/Mountains during the years 1967/68 to 1977/78. It has also been assumed that this management technology will be utilized on 25% of the area sown to each of the three major cereals in the Hills by 1990 and that the expected yields would be achieved. It is assumed further that yields on the remaining 75% of area sown to each crop in the Hills/Mountains will follow the projected historical trend. Area sown to each crop is also projected to follow historical trends. Similar assumptions have been followed for the Terai with the exception that utilization of improved management practices is projected to cover 40% of the Terai area sown to these crops by 1990. Accordingly, the remaining 60% of the cereal area is expected to show unit yields projected by historical trends. Unit yields and area sown to millet and barley are assumed to follow historical trends, as projected earlier.

Unit yields, based on the above assumptions, used to project total production for paddy, maize and wheat in 1990 are shown in Table 8.

Table 8

Foodgrain Unit Yields (Improved) - Nepal
(Metric tons per hectare)

<u>Area</u>	<u>Crop</u>	<u>Ave. Historical Yield</u>	<u>Improved^{1/} Yield</u>	<u>1990 Trend^{2/} Yield</u>	<u>Weighted^{3/} Yield</u>
Terai	PADDY	1.79	2.69	1.90	2.22
	MAIZE	1.61	2.17	1.61	1.83
	WHEAT	1.02	1.63	1.57	1.59
Hills/ Mtns.	PADDY	2.46	3.69	2.44	2.75
	MAIZE	1.86	2.51	1.52	1.77
	WHEAT	1.15	1.84	0.88	1.12

^{1/} Historical yield plus 50% increment for paddy, 35% for maize, 60% for wheat.

^{2/} Based on normal growth of historical yield trend, without interventions.

^{3/} For Terai, weighted yield is 40% of improved yield plus 60% of 1990 trend yield; for Hills/Mountains, it is 25% of improved yield plus 75% of 1990 trend yield.

These production projections are shown through 1990 in Table 9 for all of Nepal and in Table 10 for the Hills/Mountains. As was the case with the historical trend projections, the base year production used is that of the trend projected for 1980. By revising the historical trend projections with modified yield data, these tables show aggregate gross cereal production increasing at an average annual rate of 2.8% overall for Nepal (3.1% in the Terai, and 2.0% in the Hills). At this rate of change nation-wide per capita food available for consumption will increase by some 4.3% over the ten-year period, despite the continued rapid increase in population (estimated to average 2.4% per annum during the same period).

Table 9
Production and Consumption Projections 1980-1990
Nepal
 (Technology-weighted Trend Model)

Year	Population (Millions)	Gross Cereal Production ('000 M.T.)	Net Cereal Production ('000 M.T.)	Cereal Available for Consumption Per Capita (Kg.)	Daily Calorie ^{1/} Equivalent of Cereal Per Cap.	Daily Total ^{2/} Available Ca- lorie Per Cap.	Percent of Ca- ^{3/} lorie Require- ment Available
1980	14.20	3,929.5	2,316.8	163	1,556	2,021	86.6
1981	14.54	4,046.5	2,385.3	164	1,564	2,031	87.0
1982	14.90	4,164.9	2,454.4	165	1,570	2,039	87.4
1983	15.24	4,285.4	2,525.0	166	1,579	2,051	87.6
1984	15.60	4,405.9	2,595.4	166	1,585	2,059	88.2
1985	16.00	4,513.4	2,669.5	167	1,589	2,064	88.4
1986	16.40	4,657.8	2,743.6	167	1,593	2,069	88.7
1987	16.80	4,786.4	2,819.2	168	1,598	2,075	88.9
1988	17.20	4,916.6	2,896.0	168	1,603	2,082	89.2
1989	17.60	5,048.7	2,973.5	169	1,608	2,089	89.5
1990	18.00	5,182.9	3,052.8	170	1,614	2,096	89.8

^{1/} Assumes 1 kg cereal = 3,484 calories in 1980; 3,476 calories in 1990 (due to change in production mix).
^{2/} Assumes 23% of calories in diet come from sources other than cereals (25% in Hills/Mountains, 20% in Terai).
^{3/} Based on minimum nutritional requirement of 2,334 calories per capita per day for all Nepal (2,000 calories in Terai, 2,200 calories in Hills/Mountains, yield weighted average of 2,122 calories, to which 10% is added to account for maldistribution of cereal grains and unequal income distribution).

Table 10
Production and Consumption Projections 1980-1990
Hills/Mountains
(Technology-weighted trend model)

<u>Year</u>	<u>Population^{1/}</u> <u>(Millions)</u>	<u>Gross Cereal^{2/}</u> <u>Production</u> <u>('000 M.T.)</u>	<u>Net Cereal^{2/}</u> <u>Production</u> <u>('000 M.T.)</u>	<u>Cereal Available</u> <u>for Consumption</u> <u>Per Capita (Kg.)</u>	<u>Daily Calorie^{4/}</u> <u>Equivalent of</u> <u>Cereal Per Cap.</u>	<u>Daily Total^{5/}</u> <u>Available Ca-</u> <u>lorie Per Cap.</u>	<u>Percent of Ca-</u> <u>lorie Require-</u> <u>ment Available</u>
1980	8.660	1,421.9	932.0	108	1,022	1,363	62.0
1981	8.844	1,452.4	950.6	107	1,021	1,362	61.9
1982	9.040	1,482.3	968.5	107	1,018	1,357	61.7
1983	9.236	1,513.2	987.2	107	1,016	1,354	61.6
1984	9.417	1,544.3	1,006.1	107	1,015	1,353	61.5
1985	9.621	1,575.8	1,025.1	107	1,013	1,350	61.4
1986	9.848	1,607.3	1,043.9	106	1,008	1,344	61.1
1987	10.067	1,639.5	1,063.2	106	1,004	1,339	60.8
1988	10.286	1,671.7	1,082.6	105	1,001	1,334	60.7
1989	10.506	1,704.0	1,101.6	105	997	1,329	60.4
1990	10.724	1,737.0	1,121.4	105	994	1,326	60.3

^{1/} approx 0.5% of Hill population is assumed to migrate to Terai annually.

^{2/} Paddy, maize, wheat, millet & barley production for the 12 months prior to July of each year.

^{3/} Considers factors for seed retention, waste and storage loss and milling losses; factors range from .50 to .79 (weighted here at approx. .65 for all grain).

^{4/} Assumes 1 kg. of cereal = 3,470 calories in 1980; 3,473 calories in 1990.

^{5/} 25% of calories come from sources other than cereals.

^{6/} Caloric requirement per capita in Hills/Mountains = 2,200 per day.

In the aggregate, the technology-weighted projections on a country-wide basis are encouraging, showing a reversal of historical production and consumption trends. When the data are disaggregated to show projected technology-weighted trends separately for the Terai and Hills, it is clear that the annual average 3.1% production increase in the Terai will outpace the effects of rapid population growth (projected to average 2.7% over the next decade in the Terai). On the other hand, the annual population growth rate of the Hills/Mountains is projected at 2.1%, lower than the rates for the Terai or Nepal as a whole, but still indicating a population growth rate that slightly exceeds the growth rate of cereal production in the Hills. The resulting projection is for per capita food grain availability in the Hills/Mountains to decline slightly (0.27% annually) from approximately 108 Kgs. in 1980 to 105 Kgs. in 1990. Still, this is in contrast to the historical trend projections which show per capita food availability declining at a much more rapid rate of 1.5% annually, from 108 Kgs. in 1980 to 92 Kgs. in 1990. The improvement in the projections for the Hills/Mountains is dramatic in the sense that net cereal production would grow at 2.0% annually as opposed to the historical trend's 0.5% annual growth rate. This is an annual increment of 1.5 percentage points, or a quadrupling of historical rates.

The USAID strategy, projected over the next decade, is to assist the GON in bringing the fruits of development to its rural population. The USAID decision to focus primarily on the Hills in this regard is based on the following assumptions:

- a) The more difficult, yet critical, area in which to apply innovations is in the Hills, where relatively more effort will be required.

- b) The research findings from the ICP efforts can and will be adopted.
- c) This agricultural strategy is, at best, a holding action which will provide Nepal with the time and expertise to establish a base in the rural communities for effectively addressing health/population and resource conservation problems and developing more widely accessible income generating opportunities.
- d) USAID programs can assist in speeding the dissemination of technology in the Hills while at the same time helping to establish a basis for Nepal's rural population to sustain these improvements over the long run.

Two-thirds of Nepal's population presently live at or below subsistence levels in the Hills. That dominant portion of the population must be assisted to become self-sustaining within the Hills, as a means to reduce increasing migration to the Terai area in order to protect the larger size farming units and potential grain surpluses there. If development is to have meaning, through effective improvement of the standard of living for the overall population, it must extend out from the Terai and the Kathmandu Valley, where efforts have been concentrated in the past, and reach the population in the Hills. In view of marketing difficulties, the extremely low purchasing power of the Hills population, and the lack of a transportation system for economical shipment of grains from the Terai into the Hills, foodgrain production must increase in the Hills to provide for a much larger portion of that area's food requirements than is presently being done. Nevertheless, this new attention to the Hills should not compromise GON efforts to exploit the Terai's considerable potential for increasing foodgrain production.

Unless the environmental degradation in the Hills is brought under control and the overall health of the Hill population is raised in the medium term, there is not much basis for hope that the long-term goal of making the Hills more self-sufficient will be obtained. The belief that concentration of our efforts in the Hills will provide the greatest possibility for meaningful impact on Nepal's problems forms the basis of our development strategy. We continue to believe it is sound, and that when our Hill-oriented strategy is coupled with GON and other donor efforts to support infrastructure and continued development of the Terai, a well-focused GON development process emerges.

III. GON Macro-Economic Policies' Impact on the Agriculture Sector

Four successive development plans have brought about little overall improvement in agricultural production in Nepal. Investment in the agricultural sector has increased significantly over the years, but it has been predominantly centered in the Terai, where farm size and available crops facilitate commercial farming. This past GON development strategy for the agricultural sector has promoted improvement of the Terai at the expense of the Hills. Production benefits from those investments, however, have remained low and have been insufficient to compensate for lack of production improvements and capacity in the Hills. As a result, agricultural output on a per-capita basis, particularly in the Hills, has declined to sub-subsistence levels and agricultural exports (in value) have fallen in the third quarter of FY 1980 to where Nepal, much sooner than most analysts had believed, is now a net food importer. Commencing in the Fourth Plan, and through the Fifth, the GON directed budgetary and administrative resources toward maximum utilization of the existing infrastructure within the agricultural sector. A concurrent strategy was to lay the foundation for agricultural production specialization according to agro-climatic regions. However,

significant benefits did not materialize from areas associated with the infrastructure, and the agro-climatic strategy has not been actively pursued. Even so, these and other implementation factors do not totally account for the less than satisfactory performance of the agricultural sector. Lack of success can at least partially be traced to areas of policy in, (a) public expenditure, and (b) pricing.

A. Public Expenditures in Agriculture

Examination of the GON development budget reflects its utilization as a policy instrument in the transfer of national emphasis from infrastructure establishment (pre-Fifth Plan) to agricultural development (Fifth Plan onward). GON expenditures since 1966 are reflected in Table 11.

Table 11

GON Development Budget Expenditures For Agriculture^{1/}

(Millions Current NR)

<u>Sub-Sectors</u>	<u>Third Plan</u> ^{2/} <u>FY 1966-70</u>	<u>Fourth Plan</u> <u>FY 1971-75</u>	<u>Fifth Plan</u> <u>FY 1976-80</u>	<u>Sixth Plan</u> <u>FY 1981 Only</u>
Agriculture	112.5	320.0	983.3	314.9
Irrigation	61.2	264.7	852.3	412.3
Land Reform	47.2	20.5	52.2	16.5
Cadastral Survey	25.7	40.6	115.8	30.2
Forestry	<u>29.9</u>	<u>74.5</u>	<u>346.0</u>	<u>144.6</u>
Total	276.5	720.3	2349.6	918.5
As % of Total Development Budget	16.9%	21.7%	26.5%	26.9%

^{1/} Source: HMG Ministry of Finance, Economic Survey, various issues; and Budget Speech for FY 1981, Table III.

^{2/} All data are for actual expenditures with exception of FY 1981, which cites budget appropriations.

Based on actual expenditures for the broadly defined agricultural sector, a significant increase in emphasis was given to development of agriculture when expenditures in the Fifth Plan increased eight and one-half times over those in the Third Plan, and the sector's share of total public budget development resources increased from 16.9% to 26.5%. The significant shift (see discussion of sub-sectors below) toward agriculture began in the Fifth Plan, with an indicated leveling off in the first year of the new Sixth Five Year Plan.

At the sub-sector level the line item total for Agriculture approximately tripled from the Third Plan to the Fourth Plan, and again to the Fifth Plan, even though the share distribution of total sector resources to the Agriculture sub-sector remained about the same each period, and into the current Plan. The Forestry sub-sector experienced similarly large increases in value and increased its share of the total Agriculture sector from 11% in the Third Plan to 15% in the Fifth Plan. However, the largest changes in value occurred in the Irrigation sub-sector with an approximate fourfold increase each Plan period, while concurrently its share distribution increased from 22% up to 36% of total sector resources in the Fifth Plan. Thus at the sub-sector level, within the Agriculture sector, it is infrastructure which experiences the highest growth rates and absorbs better than one third of sector investment. The emphasis on irrigation infrastructure is carried through into the first year of the Sixth Plan where the Irrigation sub-sector share increases to 45% while the Agriculture sub-sector declines to 34% of total sector investment resources. The low 14% of arable land that is irrigated emphasizes the need for increased and completed irrigation facilities if complementary inputs such as high yielding variety seeds and increased fertilizers are to be effectively

utilized. The continued investment in irrigation is necessary in order to complete a backlog of unfinished field canals and drains which will physically connect existing facilities with farm fields where the water is needed.

In spite of these favorable trends in budget expenditures favoring development of the agriculture sector, the budget has not been used as well as it could have been in three areas:

1. The Green Revolution demonstrated the strong link between fertilizers and water management in securing agricultural production increases. The FAO has estimated that approximately 80% of foodgrain yield increases, in effectively developing areas, has been due to incremental fertilizer use and better water management. However, the agriculture sector allotments in the GON annual development budgets have largely neglected these two areas, not directly but just as effectively through failure to provide adequate support to the extension service link that is necessary if water and fertilizer use methodologies are to be taken to the individual small farmer level where they are required. It should be noted, however, that the water/fertilizer technology referred to is most applicable to low land agriculture.
2. The relative share of domestic resources invested in agriculture appears impressive, even though the results seem to indicate they are insufficient. The World Bank has found that public investment in agriculture in developing countries often does not keep pace with requirements, and in many areas it has not matched the rate of physical deterioration. This may be the case in Nepal. The return on agricultural investment is normally at

least equal to if not higher than the rates of return in other sectors of the economy. Using the development budget as a crude measure of investment in human and material resource development in the sectors of the economy, investment in agriculture, (from 16.9% in the Third Plan up to an implied 26.9% in the Sixth Plan) in proportion to its 62% share of GDP, has fallen considerably short of a balanced investment program, despite recent improvement.

3. GON investments, toward solution of national requirements through the agriculture sector of the national budget, have focused almost exclusively on the production side, neglecting consumption. There is equal need for investment in physical and human infrastructure to promote the collection, transportation, processing and storage of food. Alleviation, even in a small measure, of the post-harvest loss burden will contribute significantly toward improvement in the standard of living.

B. Terms of Trade

The movement of relative prices is reflected in the distribution of resources to, and the subsequent flow of resources between, different sectors of the economy. The end result is reflected in the sectoral pattern and rate of overall economic growth, which in turn influences the flow of resources, and thus influences the terms of trade between sectors. In Nepal's mixed economy, fiat prices are set for a variety of goods in the agricultural, industrial and consumer sectors. Those prices do not always accurately reflect market conditions, and therefore the artificial pricing mechanism often does not promote rapid economic growth, the goal sought by the GON.

The GON is not presently, nor are there any indications that it desires to be, in a position to control the entire economy. Nevertheless, the GON's intrusion into the economy has been growing. Public expenditures as a share of estimated gross domestic product (GDP) have increased during the last decade from 8% to 14%. One way the GON has chosen to concentrate expenditures is through establishment of various price supports to facilitate low prices for (primarily urban) consumers. This policy appears to be impacting negatively on production. For example, since 1977 the support price to the farmer for coarse paddy has been 1.12 rupees/kilogram (this was raised to 1.42 rupees/kilogram in December 1980). That support price cannot be enforced throughout the countryside and often is ignored, especially during the harvest season when private rice merchants refuse to buy at the support price. Farmers are then forced to sell at a lower price if they need cash for living requirements or if they lack adequate storage facilities for holding the grain. On the production side, limited studies show that the variable costs of paddy production (for factors for which the GON does not control prices) average 0.50 NR/kg. in the Hills (as low as 0.38 NR/kg. in some areas) and average 0.70-0.75 NR/kg. in the Terai. These production costs do not include allowance for return on the cost of land. In the case of the Terai tenancy is estimated at a minimum of 28% of land holdings, with individual farmer tenancy payments from one-third to one-half of production. The lack of incentive to individual farmers is considerable, and the negative impact on overall production is serious as 82% of total paddy land and 77% of total paddy production occurs in the Terai. Thus, in the Terai where production possibilities are supposedly favorable vis-a-vis the Hills, per hectare paddy yields are currently 28% lower.

The modest growth in rice production in the 1970's was achieved primarily through extension of the cultivated area, in response to population increases, and not because of incentive prices, increased inputs of fertilizer, high yielding variety seeds, etc. The use of modern inputs in agricultural production in Nepal remains low. Although most crop research in Nepal has centered on the improvement of paddy rice, improved seeds are used on less than 6% of the paddy cultivated area, fertilizer is restricted to an estimated 7% of the land, and only 10% of the area planted to paddy has access to irrigation facilities. The low use of these modern inputs is in direct response to the terms of trade, currently against the agricultural sector. Farm gate prices for agricultural products are not available, and price indices are not compiled for other than the urban areas of Nepal. Thus Table 12, which shows the implied terms of trade, develops a relatively optimistic view of the terms of trade confronting the agricultural sector. The view is optimistic for two reasons: (1) addition of allowance for transferal expense of these goods from the urban to the rural sector would cause the terms of trade for those individual items to turn moreso against the agriculture sector, and, (2) use of lower farmgate prices rather than the urban area consumer prices used in the indices would also turn the terms of trade further against the agriculture sector.

Table 12
Agriculture Sector Implied Terms of Trade - Nepal

	Price Indices						Implied Terms of Trade							
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(1)	(1)	(2)	(2)	(2)		
	Grains	Vegetables and Fruits	Oil and Clarified Butter	Sugar	Clothing	Medical and Personal Care	(3)	(4)	(5)	(6)	(3)	(4)	(5)	(6)
1972/73	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1973/74	129.9	127.1	145.0	102.0	110.4	107.3	89.6	127.4	117.7	121.1	87.7	124.6	115.1	118.5
1974/75	149.5	138.8	157.5	115.6	117.6	129.2	94.9	129.3	127.1	115.7	88.1	120.1	118.0	107.4
1975/76	124.8	140.3	116.2	130.8	117.0	136.8	107.4	95.4	106.7	91.2	120.7	107.3	119.9	102.6
1976/77	118.8	159.7	146.0	134.9	122.8	148.5	81.4	88.1	96.7	80.0	109.4	118.4	130.0	107.5
1977/78	131.5	185.6	182.2	131.5	125.1	152.1	72.2	100.0	105.1	86.5	101.9	141.1	148.4	122.0
1978/79	134.0	190.4	175.5	111.8	132.7	160.3	76.4	119.9	100.9	83.6	108.5	170.3	143.5	118.8
1979/80 ^{2/}	149.6	156.7	215.5	149.1	142.8	167.4	69.4	100.3	104.8	89.4	72.7	105.1	109.7	93.6

^{1/} Source: Nepal Rastra Bank Quarterly Economic Bulletin, various issues. Consumer price index for Terai used because, (1) estimated greater degree of monetization than for other urban areas except Kathmandu, and (2) Terai contains approximately two-thirds of agricultural production, based on 1977 data.

^{2/} Nine months only.

There are definite influences impinging on GON ability to alter the terms of trade, the strength of which we do not know and which need in-depth study. The IBRD 1979 agricultural sector review determined that several factors-- absence of a well integrated national market, transportation difficulties, ease of unrecorded trade with India through a long open border, and a large non-monetized sector in the domestic economy -- constitute difficult challenges to effective pricing policies in Nepal. These and other factors require that the present pricing policies be reconsidered, especially in light of declining agricultural production and increased GON emphasis on use of agriculture as the leading sector for national development.

Under present pricing policies, producer incentives have been relegated to second place in preference to the maintenance of low and stable consumer prices. Given the extreme sensitivity of Nepalese agriculture to weather, and the declining production during the recent five year plan, producer incentives need higher priority if the massive investment in this sector during the past decade is to be effective. However, limited and brief comments in the GON "Fundamental Principles of The Sixth Plan" do not indicate that substantial changes are planned. The document says only: "Prices of some of the food and cash crops will be fixed in such a way that the benefit of such prices goes to the peasants themselves" (p. 29). It is not expected that the present pricing situation -- support prices to the producers as well as subsidized prices paid for inputs -- will be altered substantially or indeed that they can be. For example, agricultural prices in Nepal -- basically for foodgrains which constitute 80-85 percent of the Nepalese diet -- are so heavily influenced by prices in India as to effectively negate GON efforts which result in any substantial difference between the two areas. Agriculture in the Terai accounts for an estimated

65% of total production, and the transportation system/network promotes marketing southward to India. Regardless of whether India's prices result from bumper crops, economies of scale, massive subsidized imports, etc., the establishment of grain prices in Nepal substantially different from those in India results in increased unrecorded trade that effectively nullifies the price difference, and/or negatively impacts on other GON priorities.

Given the predominance of the agricultural sector, the limited potential for levying taxes on agricultural land/production and the lack of substantial opportunity to further tax other non-agriculture sectors (tourism, industry, etc.), the rapid economic growth sought by the GON must be financed by a marketable agricultural surplus. That surplus is presently insufficient. To supplement the flow of agricultural surplus, the GON has chosen to implement a variety of policies -- extensive dissemination of financial institution branches throughout the rural sector to encourage and absorb small scale savings; reliance on contributory labor in local projects, particularly in the Sixth Plan where emphasis is to be placed at the district and local level for project initiation and implementation; etc. -- as means to mobilize agriculture sector surpluses. However, experience to date indicates that the mobilization of surplus from the agricultural sector through taxation, borrowing, small-scale savings, and contributory local labor, etc., is not only difficult but that these measures do not yield the required surpluses. One notable exception in Nepal's recent past was the Panchayat Development Land Tax (PDLT). Successful use of the PDLT resulted from the distribution pattern used by the GON, i.e., the tax revenues went significantly to the local area from which they were derived. The tax was

rescinded for political reasons in 1979/80 during the national referendum. There is interest in some parts of the GON to re-institute this tax, but there is also a large question concerning the will of the GON to enforce the tax. The general election, expected in 1981, will probably stimulate a continuation of the tax rescission for the present.

Two additional conditions should be noted which may negatively impinge on the implementation of new policies designed to alter the terms of trade more in favor of the agriculture sector as a stimulant to production: (1) One of the key reasons the GON imposes unrealistically low prices on agricultural products is an attempt to keep prices low for urban consumers. The GON is already under severe pressure from urban -- both student and worker -- groups to further subsidize their consumption levels. Any move to raise prices paid to farmers would have the political cost of further alienating urban, especially Kathmandu, Nepalis. (2) Also, a large segment (estimated by GON and private analysts at 40% to 50%) of the agricultural sector is non-monetized and not integrated into the market economy. Rural sector purchases of non-farm products, or even of farm products by sub-subsistence level units which are primarily self-sustaining, is probably insignificant. Hence, a possibly large portion of the rural population will remain largely unaffected by the movement of prices.

C. Short-term Considerations

The technology-weighted projections (Tables 9, 10) assume that the technological interventions will be phased equally over the ten-year period 1981-1990. The phased application of these interventions translates into annual technology-induced improvements of 6.5% (4% in the Terai and 2.5% in the Hills). During the short-run (taken here to mean 3 to 5 years), until

cereal available for consumption reaches 166 or 167 kgs per capita (about 88% of caloric requirements), consideration must be given to short-term measures.

Until 1980, Nepal was a grain-exporting country, even though the distribution problems already referred to often left food deficit pockets in the Hill areas. When it became clear that the 1979/80 harvest was going to be well below expectations, the GON requested emergency food assistance from the donor community. On an emergency basis, some 40,000 MT of grain were actually provided to Nepal from a number of sources, including the U.S.

While USAID/N believes it essential to begin immediately trying to shore up production in the Hills, it is reasonable to assume that Nepal will need to import grain in the range of 50,000-100,000 MT each year, through about 1985, even with technical interventions to raise production. If the annual rate of technology adoption can be increased (from 6.5% per year), the food grain import requirement could be of lesser duration. However, in the interim, some provision must be made to import the shortfall and get it to where it is needed. The GON projected, in the materials prepared for the Nepal Aid Group meeting held in January 1980, a requirement for food aid from the donor community until Nepal is able to stabilize its food situation. USAID/N believes that serious consideration should be given by the U.S. to assist in such an endeavor. Accordingly, USAID/Nepal has requested funding in FY 1981 to explore the best ways to design a well-targetted food import program so as not to serve as a disincentive to increasing agricultural production in the food deficit areas. The GON has shown particular interest

in food for work schemes as a method of distributing food in deficit areas. The GON believes that this approach can increase the purchasing power of rural people and help to alleviate unemployment in the Hills at the same time. USAID/N does not now have cost data that can be used as a basis for choosing one or another approach to assist the GON. The survey that the USAID plans to conduct during FY 1981 should shed light on the various alternatives available. It is clear already, however, that the question is not whether such a short-term program is needed, but rather how best to construct and target the program. It is also clear that the program must be regarded at the outset as temporary, that efforts to spread technology-inspired production increases must go on simultaneously, and that the program will be expensive given the logistics problems which must be overcome.

IV. Resource Mobilization

A. GON Efforts and Accomplishments

1. Revenue/GDP Ratio

To continue the pace of present development efforts of Nepal, the World Bank estimates that total annual government expenditures will need to grow at a rate of 12%. In order to achieve this goal, efforts are needed to mobilize both domestic and foreign resources. In the past, GON has been greatly successful in mobilizing domestic resources through discretionary tax measures, e.g., increasing tax rates and taxable items. In the Third Plan, tax revenues grew at an average annual rate of 19.3%, in the Fourth Plan at 17.6% and in the Fifth Plan at 11.9% in comparison to the average annual growth in GDP of 8.9% during the same fifteen-year period. Tax revenue as a percentage of GDP was 3% in 1963/64 but had risen to 9% in 1979/80 (Table 13).

Table 13

Resource Mobilization - Nepal

(Millions NR)

Year	Agriculture Sector			Total Economy		
	Ag. GDP at Current Prices	Land Revenue at Current Prices	Land Rev. as a % of Ag. GDP	Total GDP at Current Prices	Total Rev. at Current Prices	Total Rev. as a % of Total GDP
1963/64	3654	40.0	1.1	5602	157.9	2.8
1966/67	4292	56.6	1.3	6411	255.6	3.9
1970/71	6034	76.4	1.3	8938	455.1	5.1
1971/72	7106	83.2	1.2	10369	546.1	5.3
1972/73	6578	74.5	1.1	9969	616.4	6.2
1973/74	8851	96.9	1.1	12808	766.4	5.9
1974/75	9949	90.9	0.9	14802	1009.2	6.8
1975/76	9709	94.8	0.9	15180	1115.6	7.3
1976/77	N.A.	97.9	N.A.	17344	1322.9	7.6
1977/78	N.A.	88.6	N.A.	17635	1582.0	8.9
1978/79	N.A.	59.3	N.A.	18371	1811.9	9.8
1979/80	N.A.	65.3	N.A.	19212	1747.5	9.1

The increase in tax revenues has been impressive but the Revenue/GDP ratio remains low compared to an average of 15.8% for developing countries as a whole, and low in comparison to other countries in South Asia (see Table 14). Normally, at least 20% of GDP needs to be collected in order to fully meet a country's needs through increasing the level of investment.

Table 14

Tax Revenue as a Percentage of Gross National Product^{1/}

	<u>Tax/GNP</u>	<u>Direct Tax/GNP</u>	<u>Indirect Tax/GNP</u>
Burma	7.5	2.7	3.9
India	13.8	2.5	9.9
Pakistan	11.3	1.8	8.7
Sri Lanka	17.9	3.4	14.5
Afghanistan	5.6	0.9	4.5
Bangladesh	5.8	0.5	4.1
Nepal ^{2/}	5.3	1.2	4.1
Avg. for 47 Developing Countries	15.8	5.1	9.8

^{1/} Source: Tait, Gratz, and Echengreen; International Comparisons of Taxation for Selected Developing Countries 1972-76, Fiscal Affairs Department, IMF, 1978.

^{2/} Based on GDP, as GON does not calculate GNP.

The low Revenue/GDP ratio of just 9% in 1979/80 (Table 13) can be primarily attributed to Nepal's economic concentration on agriculture at a subsistence level. However, the 1979/80 revenue collections declined by 4% from that of the previous year due to domestic political events but should not be interpreted as the beginning of a new and negative trend. Preliminary data for the first quarter of the Nepalese fiscal year 1981 show a 35.3 percent increase over the first quarter of 1980, indicating

that the decline in 1980 collections was transitory. Major constraints to increasing total tax revenues, however, still exist and include the following: a low degree of monetization, the long open border with India, and problems of export promotion.

Historic data show that the GON successfully increased total domestic resources through 1979, despite decreasing land revenues (through 1976 - the last year for which we have data), by increasing indirect taxes. Direct taxes as a whole (land revenue, income and property taxes, house and land registration levies, etc.) have declined as a percentage of GDP in every year since 1970, except 1973/74 when there was a very slight increase. Disaggregated data are not yet available for the apparent substantial increase in revenue collection for the first quarter, of the current fiscal year, but the trend of declining direct taxes is expected to hold.

2. Resource Gaps in Nepalese Finances

The GON estimates that during the Sixth Plan period, the resource gap will be the equivalent of between \$415 and \$905 million. The gap has been widening every year since 1965. During the Sixth Plan the GON projects a requirement of additional resource mobilization of between \$83 and \$180 million per annum, a substantial increase. The revised "Basic Principles of the Sixth Plan" suggests that more revenue can be obtained from indirect taxes with improved tax administration.

Historical direct tax revenues vis-a-vis GDP are shown in Table 15.

Table 15

Direct and Indirect Taxes in Relation to GDP-Nepal
(percentage)

	<u>Direct Taxes as a Percentage of GDP</u>	<u>Indirect Taxes as a Percentage of GDP</u>	<u>Other Taxes as a Percentage of GDP</u>
1970/71	1.26	3.08	0.08
1971/72	1.19	3.20	0.12
1972/73	1.18	3.87	0.18
1973/74	1.24	3.61	0.17
1974/75	1.19	4.31	0.20
1975/76	1.47	4.30	0.24
1976/77	1.59	4.46	0.30
1977/78	1.58	5.08	0.39
1978/79	1.19	6.40	0.45
1979/80	1.07	6.01	0.36

If we assume that direct taxes as a percentage of total collections will continue to decline and that increases in indirect taxes are limited, the conclusion is that additional reliance must be placed on increased foreign aid to supplement the low domestic savings ratio. This view is of concern to USAID/N in that we would like to see Nepal becoming less, not more dependent on external assistance. This Sixth Plan projection for an increasing reliance on external aid represents a reversal of a long term trend of external aid comprising an increasingly smaller percentage of the GON's overall budget.

3. HMG's Efforts to Increase Resource Generation

As mentioned earlier, the Government has had great success in mobilizing resources in the past (see also Table 16). There was, however, a slight (4%) decrease in domestic resource collections in FY 1979/80. This was due in large part to the fact that the Panchayat Development and Land Tax was suspended in that year. The rescission of the PDLT was the result of a political decision by the GON during an intense political confrontation. The political situation continues to militate against such a tax, at least for the near term.

Table 16

Average Annual Growth of Revenues - Nepal

(Percentages)

	<u>Fourth Plan</u> <u>(1970/71-1974/75)</u>	<u>Fifth Plan</u> <u>(1975/76-1979/80)</u>
Direct Tax	8.5	4.8
Indirect Tax	18.4	13.2
Other Taxes	36.7	20.9
Tax Revenue	16.1	11.5
Non Tax Revenue	28.1	15.7
Total Revenue	17.6	11.9

If the 1979/80 decline in domestic revenues continues, some doubt may arise as to whether the GON can continue to support counterpart funding to donor projects. The FY 1979/80 Economic Survey published by the Ministry of Finance, expressed the concern that future external resources are likely to be limited because of lack of counterpart financing. In line with this possibility, the World Bank has also called for increased non-project assistance to Nepal.

The urgent need facing the country is for the GON to increase revenues - mainly tax revenues. The tax proposals made by the GON for FY 1980/81 envision increased revenues through export promotion, improved efficiency and management of public enterprises, healthy growth of national and international trade, discouragement of smuggling and deflections of trade, and maintenance of favorable prices of agro-inputs. Most of these goals are, however, limited by the open border with India. To our knowledge only one analysis of the GON overall tax system has been conducted, that by the National Planning Commission, and its findings and any recommendations are not yet publicly available. However, USAID/Nepal understands that the IMF has recently been assisting the GON to review its tax system with a view toward improving resource mobilization.

The low level of taxes collected from the agriculture sector highlights the importance of increasing direct taxes. While over 60% of GDP is contributed by agriculture only the equivalent of one percent of agricultural GDP is collected as land revenue. Table 17 shows that the small amount of land taxation that is collected is relatively progressive in that higher amounts of tax revenues per hectare have been collected from the Terai regions and lower amounts from the Hill regions. A number of factors, other than progressive tax rates, may account for this: infrastructure that provides ease of access to farmers, larger more easily identified taxable units, larger production for tax purposes, smaller total population to canvas, more efficient tax bureaucracy, etc. Nonetheless, although only one-third of cultivated land is in the Hills, improving tax administration there to a level equal to that in the Terai would boost land tax collections by fifteen to twenty percent.

Table 17

Land Tax by Region - Nepal

		Land Tax collected in 1976/77 (Rupees)	Area under cultivation (000 ha.)	Tax/cultivated hectare of land (Rupees)
<u>Central Region</u>				
Hills	Kathmandu	947.0	24.9	38.03
"	Bhaktapur	392.2	8.6	45.60
"	Lalitpur	717.1	14.3	50.15
Terai	Mahotari	4281.7	95.8	44.69
"	Sarlahi	5493.4	48.6	113.03
<u>Eastern Region</u>				
Hills	Taplejung	89.5	10.0	8.95
"	Panchthar	83.7	15.0	5.58
Terai	Jhapa	4152.9	83.9	49.50
"	Morang	5680.5	107.9	52.65
"	Siraha	7647.7	76.4	100.10
<u>Western Region</u>				
Hills	Manang	3.6	2.1	1.71
"	Gorkha	243.9	10.9	22.38
"	Gulmi	119.1	15.0	7.94
"	Arghakhanchi	89.1	8.5	10.48
Terai	Rupendehi	5107.6	78.0	65.48
<u>Far West Region</u>				
Hills	Rukum	91.4	4.7	19.45
"	Rolpa	88.6	4.3	20.60
"	Surkhet	1000.8	14.8	67.62
Terai	Dang-Deo.	672.2	55.0	12.22
"	Kailali	3543.8	51.5	68.81

Another possibility for raising domestic tax revenue lies in increasing income and property taxes, whose shares to GDP have also declined. The government's present attitude to satisfy its employees with low income taxes does not help to mobilize resources. There is an income tax exemption limit of Rs 7,500 (six times the average annual per capita income) for individuals and Rs 10,000 for married couples or families. The tax rates are progressive, but due to lack of efficient tax administration, there are many loopholes for evasion or avoidance.

The growth in tax revenue from new tax proposals has been gradually declining on a yearly basis, so that renewed efforts will be needed in this direction. In the past, the GON has not been faithful to prior decisions and has swayed between different ideals. Compulsory saving, agricultural income tax and PDLT have all been unsuccessful because of lack of determination by the GON to administer the measures. Administration will still be the acid test of GON resolve, but some flexibility to increase tax revenues lies in:

1. Increasing direct taxes, mainly income, property and land taxes.
2. Savings from avoiding unnecessary spending.
3. Increasing rates of non-tax revenues, where possible.

B. Project Support Requirements

Counterpart funding is required for projects assisted by World Bank, U.S.A., and a number of other donors. The GON share for such projects ranges from 15% - 30%. Projects assisted by countries like India, China, Germany, the U.K., and some others, do not require counterpart funding other than the provision of land and local staff personnel. Nonetheless, there is a high cost for the GON to maintain projects after donor assistance has terminated,

regardless of requirements during project implementation. Data on the cost to the GON of maintaining such projects are not available, but there is an indication of the order of magnitude. Revenue surplus as a percent of development expenditures is fluctuating but appears to be decreasing (Table 18). The obvious implication is that the country's dependence on foreign aid will probably increase as domestic revenues will be utilized in the form of regular expenditures to maintain completed projects. Current revenue surplus, however, (actual and in relation to development expenditures) would indicate that maintenance of completed projects will continue to be possible for the GON, probably for several years to come.

Table 18

Revenue Surplus During 1970/71 - 1980/81 - Nepal
(Rs in Millions)

<u>Years</u>	<u>Total Revenue</u>	<u>Reg. Exp.</u>	<u>Rev. Surplus</u>	<u>Dev. Exp.</u>	<u>Rev. Surplus as % of Dev. Exp.</u>
1970/71	455.1	304.5	150.6	465.0	32.39
1971/72	546.9	325.0	221.9	564.6	39.30
1972/73	616.4	374.2	242.2	608.6	39.80
1973/74	766.4	474.8	291.6	751.5	38.80
1974/75	1009.2	546.5	462.7	967.2	47.84
1975/76	1115.6	674.5	441.1	1238.9	35.60
1976/77	1322.9	832.1	490.8	1498.3	32.76
1977/78	1582.0	866.9	715.1	1808.0	39.55
1978/79	1811.9	1041.7	770.2	1978.8	38.92
1979/80	1747.5	1195.5	552.0	2346.6	23.52
1980/81 ^{1/}	2414.5	1454.2	960.3	3413.9	28.13

^{1/} Original Estimates

V. Other Donor Assistance

To finance the Sixth Plan, the GON estimates a total outlay during the plan period of nearly \$2 billion, about 65% of which is to come from the public sector. Of the nearly \$1.3 billion that is to be financed by the public sector, as much as 65% (average annual input of \$170 million) is expected to come from

external assistance. Since most other donors (with one or two notable exceptions) do not make available multi-year funding projections, we cannot assess with any confidence whether this level of funding is likely to be forthcoming. Overall external commitments have been running about \$200 million for each of the last two years. However, average annual disbursements were \$107 million during the Fifth Plan, therefore, the projected Sixth Plan requirement calls for a 63% increase in external assistance disbursement.

All the major donors, except India and China, coordinate their assistance flows through the World Bank-led Nepal Aid Group, which was formed in 1976. In addition to annual formal meetings, there have also been frequent ad hoc meetings among donors, including some who are not members of the Nepal Aid Group, to coordinate programs in a number of sub-sectors. Day to day coordination among donors is necessary and is especially effective in the population and health sectors.

External assistance is becoming increasingly important as a measure to help close the resource gap for financing development activities in Nepal. Including bilateral and multilateral donors, some 40 separate entities are extending aid of some kind to Nepal.

Other donor assistance and U.S. assistance are complementary. Nepal still requires large investments in irrigation, power, communications, and other areas where the U.S. cannot help. The multilateral agencies, and other bilateral programs are assisting in these areas. Moreover, since the U.S. assistance flows are limited, even for those few areas where our assistance is provided, other bilateral projects in the same area are required.

A. Other Donor Aid By Type and Value

Of the estimated \$225 million in annual external aid commitments to Nepal over the Sixth Plan period, the U.S. share is estimated to average \$28 million, or just over 12% of the total. The U.S. share is expected to remain at about the same level since total annual external assistance commitments are expected to rise (to about \$350 million) for the Seventh Plan period. USAID proposed funding levels (1983-1987) are as follows:

Proposed Assistance Planning Level

(\$ Millions)

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Population and Health	10	11	12	15	15
Agriculture, Rural Development & Nutrition	<u>20</u>	<u>24</u>	<u>30</u>	<u>35</u>	<u>35</u>
Total	30	35	42	50	50

Of the estimated \$225 million expected in annual external assistance, about \$130 million is expected to come from the multilateral organizations (World Bank, Asia Development Bank, IFAD, and the UN family). Sixty-five percent of the assistance from this source (all except that from the UN organizations) will be in the form of low interest loans. Another \$65-70 million, annually, is expected to come from bilateral sources, other than the U.S. Clearly, the largest single category of other donor assistance falls outside the areas of USAID concentration. For the multilateral organizations, the largest category of assistance during the Sixth Plan period is for infrastructure (Power, Irrigation and Communications). They plan nearly \$300 million in this category (annual average of \$60 million) over the five-year period, accounting for roughly 45% of their total commitments. Bilateral donors (excluding the U.S.), when viewed in the aggregate, are expected to allocate

a similar proportion of their assistance to infrastructure. Most bilateral aid is expected to be provided as grants.

On the other hand, other donor assistance considerably complements the three broad areas of USAID programs:

<u>Focus Areas</u>	<u>Donors</u>	<u>Estimated Sixth Plan Other Donor Assistance (\$ Millions)</u>
Health/Family Planning	Australia, Canada, FRG, India, Japan, The Netherlands, Switzerland, UK, UNFPA, UNDP, WHO, UNICEF	110
Natural Resource Management	Australia, Canada, FRG, India, Switzerland, UK, Asia Development Bank, World Bank, FAO, UNDP	75
Rural Area Development	Canada, FRG, Japan, Switzerland, UK, Asia Development Bank, UNDP, World Bank	110

B. Joint Financing Opportunities

USAID/Nepal continues to look for opportunities of jointly planning and implementing projects with other donors. To date, however, very little of a concrete nature has been accomplished under this concept. We have talked with the Japanese about joint financing of projects and have concluded that, with one possible exception, it will be several years before our assistance approaches coincide in a way that joint financing might be feasible. This conclusion reflects the heavy emphasis of current Japanese programs in Nepal on commodity aid and infrastructure development (including hydropower and transportation, particularly). The one possible exception is for cooperation on the long-standing U.S.-supported project with the Institute of Agricultural and Animal Sciences. We have discussed the possibility of the Government of Japan providing funding for additional construction under that project while

USAID would continue to provide technical assistance. No decision has yet been taken in this regard.

In another effort, USAID will be exploring with the Asia Development Bank the possibility of jointly preparing an assessment of Nepal's agriculture sector. This effort will attempt to begin cooperating with ADB, and perhaps later with other donors, at the programming stage.

Finally, USAID continues to be interested in cooperating with the World Bank and other donors in supporting the GON's efforts to assess and eventually exploit the country's hydroelectric capacity. Resolution of the political questions between Nepal and its neighbors, however, is requisite before USAID can make any definitive proposal in this regard.