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INTERNATIONAL
DEVELOPMENT**

**COUNTRY FIELD SUBMISSION
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INDIA

ANNEXES A, B, D, E, G, I, K

**DEPARTMENT
OF
STATE**

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ANNEX A
AID LEVELS AND THE RESOURCE GAP

In India's present situation it would appear that aid is required to fill the gap in total resources needed to achieve a satisfactory rate of growth of the economy. This resource gap, in its simplest terms the difference between the aggregate investment required for a given rate of growth in the national product and the domestic saving that can be generated out of that national product, is larger than the balance of payments gap calculated as the difference between the level of imports required to sustain a given growth rate in the national product, taking into account the economy's import substitution capability, and the obtainable level of export earnings.

Imports have a somewhat different function in the two situations. In considering the balance of payments (or foreign trade) gap, the level of required imports is determined by the imported input needs of the productive sectors of the economy: the sum of (a) the maintenance import requirements of agriculture, industry, and services, and (b) the imported equipment component of fixed investment. The import of final consumer goods is in any case severely limited and permitted only under special circumstances. The balance of payments gap is determined from the level of required imports. In the resource gap formulation, imports enter only after the gap is determined. The level of imports necessary to fill the resource gap is the sum of export earnings and the gap. The composition of the required level of imports is still to be determined.

No conceptual problem arises if the size of the two gaps is the same, and foreign aid is indeed available to fill them. If, however, the balance of payments gap is larger than the resource gap, filling the balance of payments gap will permit a relaxation of the resource constraints: the economy can consume more and save less. If, on the other hand, the resource gap exceeds the balance of payments gap, filling the resource gap will permit (or force) the economy to import more than it "requires" with existing government policies on import restrictions. If the difference is large, filling the resource gap would require major changes in government import policies, as discussed in Annex C.

The aid requirement projections discussed in Section I.C.2 for three alternative rates of growth in net domestic product (NDP) at market prices were calculated primarily as resource gaps derived from specific assumptions as to incremental capital/output ratios (ICOR's) and marginal savings ratios. The calculations are shown in Tables 1, 2 and 3. A basic premise on which the tables were constructed was that,

within the relevant ranges, the resource constraints are less severe for higher than for lower growth rates. With regard to marginal savings ratios, we assert the obvious proposition that the faster the rate of growth of income, the easier it is to generate savings out of the income increases. Thus we used an aggregate marginal saving ratio of 0.25 for 7 percent growth, 0.20 for 5.5 percent growth, and 0.12 for 4 percent growth. This variation in aggregate marginal saving ratios with different growth rates is broadly consistent with the constant 30 percent per capita marginal saving ratio used in the DMS (see Annex E). With regard to the incremental capital/output ratio, we assert the less obvious proposition that the faster the rate of growth in NDP, the lower is the ICOR required to generate it. Our basic rationalization of this proposition is that a moderate rate of growth will bring into use a moderate volume of the unutilized capacity in the economy; a faster rate of growth will bring into use a greater volume of unutilized capacity. With slow growth, the existing degree of unutilized capacity will be reduced even less and new investment will be less efficiently used than at higher rates of growth, particularly if the investment is directed to import substitution activities that might be postponed if the foreign exchange situation were easier. We therefore used an ICOR of 2.1 rising to 2.2 for 7 percent growth, 2.2 for 5.5 percent growth, and 2.4 for 4 percent growth.

In our aid requirement projections in Tables 1-3, net invisibles are entered at a zero level so that the resource gap is reflected as the merchandise trade deficit. Exports are projected to rise at a steady 6 percent annual rate of growth from their 1968/69 level. Imports required to fill the resource gap are derived as the sum of the merchandise trade deficit and exports. The projections are made for a 10-year period in order to gauge the length of the period within which the resource gap phases out to zero. Through 1973/74, the tables also show scheduled (or re-scheduled) repayments to the IMF and the IBRD which are added to the resource gap (merchandise trade deficit) to arrive at the net aid requirement.

The figures for 1968/70 in all three tables are a forecast for the current year, with NDP determined by the prospects for agriculture in a year of satisfactory rainfall and continued slow recovery in manufacturing, and net investment determined by the budgeted investment outlays of the public sector, the apparently cautious attitude toward expansion of the private sector, and a Rs. 200 crores increase in the rate of inventory accumulation as foodgrains buffer stocks are built up. The alternative growth tracks start only in 1970/71.

For 1970/71, the figures are mostly a forecast, with NDP determined largely by the agricultural output expected from normal weather and a further rise in manufacturing based partly on increased demands of the agricultural sector, and a net investment set largely on reasonable expectations of what the Government's expenditure intentions will be and a forecast of a decline in the rate of inventory accumulation from the previous year. The projections for 1970/71 were made on the assumption that the GOI will react less conservatively than it habitually does and will encourage a level of activity that would step up the flow of imports to the maximum that could be generated by the aid flow, rather than holding back and trying to create a greater degree of protection against crisis by some further build up in the aid pipeline.

The 1970/71 aid utilization level in the middle (5.5 percent) growth case assumes that \$385 million is the U.S. commitment for 1969/70 and that it is made available entirely as non-project aid. In the higher growth case, an additional \$50 million of imports is included in 1970/71, but this outlay could be made only in the event of additional commitments by IDA or the Consortium by the end of 1969, which could happen if the Pearson Commission report in the fall of 1969 does have an immediate and positive impact on aid donors. In the lower growth case, the aid utilization level is below the middle case by only \$135 million, which assumes that the Consortium does not react immediately to a reduction in the U.S. commitment for 1969/70 to \$250 million.

Table 1 shows the net aid requirement for 7 percent NDP growth rising to a peak of \$1.6 billion in 1973/74 and declining thereafter to reach the zero level in 1978. Table 2 shows the net aid requirement for 5.5 percent NDP growth reaching its peak in 1971/72 and declining thereafter to reach the zero level in 1977. Table 3 shows the net aid requirement for the low (4 percent) growth rate declining from 1970/71 and reaching zero in 1975.

We have also derived an estimate of the direct import requirements for the same three alternative NDP growth rates over the next 5 years (1969/70-1973/74) by applying regression coefficients that relate imports to industrial value added and net investment and also to time, the latter representing the established trends of import substitution. The regression analysis and these estimates are described in Annex C. The balance of payments (or foreign trade) gaps implied by the direct import requirement estimates and exports growing at 6 percent per year from 1968/69 are shown in Table 4 where they are compared with our resource gap estimates for the same years.

Table 1

Economic aggregates and aid levels, 1963/69-1978/79; aid requirement for 5.5% NDP growth (AID/W guidance level I: U.S. commitment of \$385 million in 1970/71)

Item	Fourth Plan period				Fifth Plan period				5-year totals IV Plan V Plan period period		
	1968/69	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77		1977/78	1978/79
A. Macroeconomic balances:											
Provisional	510	472	416	451	393	388	218	143	66	-138	-362
Merchandise trade deficit	482	472	413	451	393	388	218	143	66	-138	-362
Net imports of goods & services	31,540	33,610	35,355	37,175	39,220	41,375	43,650	46,030	48,585	51,255	54,075
NDP at market prices	3,059	3,423	3,648	4,000	4,330	4,755	5,040	5,450	5,875	6,205	6,545
Net investment	2,577	3,023	3,222	3,549	3,937	4,367	4,822	5,302	5,809	6,343	6,907
Net domestic saving			(ratios)								
NDP growth rate	0.066	0.052	0.051	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055
Net investment growth rate	0.142	0.042	0.098	0.032	0.098	0.098					
Net investment : NDP	0.097	0.104	0.103	0.108	0.110	0.115					
Net domestic saving : NDP	0.082	0.090	0.091	0.095	0.096	0.105					
Incremental output/capital ratio	0.677	0.500	0.500	0.511	0.511	0.498					
Incremental capital/output ratio (ICOR)	1.480	2.000	2.000	2.000	1.955	2.009	2.090	2.100	2.200	2.200	2.200
Marginal saving ratio	0.214	0.115	0.180	0.190	0.200	0.200	0.200	0.200	0.200	0.200	0.200
B. Balance of payments:											
Imports	2,485	2,540	2,587	2,751	2,804	2,917					
Foodgrains	(425)	(366)	(200)	(99)	(-)	(-)					
Other	(2,060)	(2,174)	(2,387)	(2,652)	(2,804)	(2,917)					
Exports	1,805	1,910	2,020	2,150	2,280	2,400					
Merchandise trade deficit(-surplus)	680	630	567	601	524	517	291	197	88	-184	-483
Net services deficit(-surplus)	-38	-	-	-	-	-	-	-	-	-	-
Net imports of goods & services	642	630	567	601	524	517	291	197	88	-184	-483
Repayments to IMF	73	169	65	47	47	47					
Repayments to IERD(special deposit)	30	15	-	-	-	-					
Net aid requirement	750	814	622	648	571	564	291	197	88	-184	-483
Debt service	518	547	560	601	604	606	597	628	639	677	684
Gross aid requirement	1,268	1,361	1,182	1,249	1,175	1,170	888	825	727	493	201

Table 2

Economic aggregates and aid levels, 1968/69 - 1978/79: aid requirement for 4% NDP growth (AID/W guidance level II: U.S. commitment of \$250 million in 1970/71)

Item	Fourth Plan period				Fifth Plan period				5-year totals			
	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	IV Plan V Plan period
(Rs. crores)												
Provi-sional												
(ratios)												
(\$ millions)												
A. Macroeconomic balances:												
Merchandise trade deficit	510	472	418	268	99	54	21	-24	-67	-104	-145	-145
Net imports of goods & services	482	472	418	268	99	54	21	-24	-67	-104	-145	-145
NDP at market prices	31,540	33,610	35,355	36,945	38,605	40,150	41,755	43,424	45,160	46,965	48,845	48,845
Net investment	3,059	3,493	3,640	3,660	3,710	3,850	4,010	4,165	4,330	4,510	4,695	4,695
Net domestic saving	2,577	3,021	3,222	3,412	3,611	3,796	3,989	4,189	4,397	4,614	4,840	4,840
NDP growth rate	0.066	0.052	0.045	0.045	0.045	0.049	0.040	0.040	0.040	0.040	0.040	0.040
Net investment growth rate	0.097	0.104	0.103	0.097	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096
Net investment ÷ NDP	0.082	0.090	0.091	0.092	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094
Net domestic saving ÷ NDP	0.677	0.500	0.500	0.485	0.435	0.417	0.417	0.417	0.417	0.417	0.417	0.417
Incremental output/capital ratio	1.480	2.000	2.060	2.060	2.300	2.400	2.400	2.400	2.400	2.400	2.400	2.400
Incremental capital/output ratio(ICOR)	0.214	0.115	0.120	0.120	0.120	0.120	0.120	0.120	0.120	0.120	0.120	0.120
Marginal saving ratio												
B. Balance of payments:												
Imports	2,435	2,540	2,587	2,507	2,412	2,472	2,472	2,472	2,472	2,472	2,472	2,472
Foodgrains	(425)	(366)	(200)	(99)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
Other	(2,060)	(2,174)	(2,387)	(2,408)	(2,412)	(2,472)	(2,472)	(2,472)	(2,472)	(2,472)	(2,472)	(2,472)
Exports	1,805	1,910	2,030	2,150	2,280	2,400	2,400	2,400	2,400	2,400	2,400	2,400
Merchandise trade deficit	680	630	557	357	132	72	28	-32	-89	-139	-193	-193
(= surplus)	-33	-	-	-	-	-	-	-	-	-	-	-
Net services deficit(= surplus)	642	630	557	357	132	72	28	-32	-89	-139	-193	-193
Net imports of goods & services	78	169	65	47	47	47	47	47	47	47	47	47
Repayments to IMF	30	15	-	-	-	-	-	-	-	-	-	-
Repayments to IRRD(special deposit)	750	814	622	404	179	119	28	-32	-89	-139	-193	-193
Net aid requirement	518	547	560	601	604	606	597	628	639	677	684	684
Debt service												
Gross aid requirement	1,268	1,361	1,182	1,005	783	725	625	596	550	538	491	491
												5,056
												2,800

BEST AVAILABLE

Table 4

Resource gap and foreign trade gap for alternative growth cases^{a/}
(\$ millions)

	<u>1969/70</u>	<u>1970/71</u>	<u>1971/72</u>	<u>1972/73</u>	<u>1973/74</u>
1. Medium (5.5%) NDP growth:					
a. Resource gap	630	557	601	524	517
b. Foreign trade gap	630	459	410	346	392
2. High (7%) NDP growth:					
a. Resource gap	630	635	935	1,265	1,600
b. Foreign trade gap	630	485	576	637	818
3. Low (4%) NDP growth:					
a. Resource gap	630	557	357	132	72
b. Foreign trade gap	630	428	249	90	31

^{a/} The "gap" in each case is the merchandise trade deficit

ANNEX B

ECONOMIC OUTLOOK

The Indian economy has just completed its second year of recovery following the drought years of 1965/66 and 1966/67. The recovery started in 1967/68 with a 23 percent increase in agricultural production. This had the immediate effect of increasing National Income by 8.9 percent despite virtual stagnation in the industrial sector. The agricultural revival began to affect the other sectors of the economy during the last quarter of 1967/68 when consumer goods production, spurred by increased consumer demand and the increased availability of agricultural raw materials, showed a year-to-year increase of about 9 percent. This group of industries continued to lead the way throughout most of 1968/69. The capital goods sector experienced a mild recovery during the last 6 months of 1968/69 which at first was mainly due to increased exports and a strong demand from agricultural areas for trucks and farm equipment but later reflected a more widespread increase in overall investment demand.

During 1968/69 industrial production rose by about 7 percent stimulated mostly by increased consumer demand and larger availabilities of agricultural raw materials. In the meantime agricultural production dropped slightly from the previous year's record level. Foodgrain production is estimated to have declined by about 2 percent while non-foodgrain production remained virtually unchanged. Sharp declines in raw jute, oilseeds and cotton were approximately offset by a 10 percent increase in sugarcane production and increased production in several other minor crops. Because 1967/68 had been such a good year and inventories had been built up, the drop in foodgrain production had no discernible effect on availabilities. As a result, foodgrain prices are still about 6 percent lower than a year ago. This is the main reason why the overall price level has remained stable through 1968 and the early months of 1969 despite sharp increases in the prices of jute and oilseeds.

As a result of the above developments National Income in 1968/69 increased by only 2-2.5 percent which is not surprising in view of the bumper crop and sharp rise in National Income in 1967/68. The economy is now generally buoyant - except for capital goods where demand is picking up but large amounts of capacity remain unutilized - and conditions appear favorable for faster growth in 1969/70. Whether rapid growth does in fact come about and whether it continues into 1970/71 depends on several crucial factors notably agricultural production and the availability of and demand for resources for investment.

Agricultural Production

In many ways agriculture is the most promising sector of the Indian economy. The GOI, recognizing that a more rapid agricultural growth is necessary if the development process is to be sustained, has given highest priority to this sector in the revised Fourth Plan. In addition, a new technology has been introduced which is capable of dramatically increasing the rate of growth in agricultural production. Finally, it has been demonstrated that the Indian farmer is willing and has the necessary skills to adopt the inputs and practices which make up the new technology.

In determining what agricultural production will be in 1969/70 and 1970/71 two factors are relevant: rainfall and the availability and consumption of the inputs necessary to shift the growth rate significantly upward. For purposes of forecasting, normal rainfall is the only reasonable assumption. It should be noted, however, that, since normal rainfall is defined as an average over a number of years and there have historically been significant yearly fluctuations around this average, the amount of rainfall in any one year is unlikely to be "normal". Even assuming adequate consumption of agricultural inputs, a significant lack of rainfall in 1969/70 would have the immediate effects of reducing agricultural production, slowing down the growth rate in National Income, and pushing up prices. Also, reduced availabilities of agricultural raw materials would have a dampening effect on industrial production. This possibility should be kept in mind when considering the forecasts shown in Table 4 below.

Regarding agricultural inputs, the following table shows the Mission's latest estimates of availabilities in 1969/70 and projections of likely availabilities in 1970/71. These inputs account for the

Table 1

AVAILABILITY OF MAJOR AGRICULTURAL INPUTS

	Unit (thous.)	1968/69 (est.)	1969/70 (est.)	1970/71 (proj.)
Gross irrigated area	acres	89,000	94,500	100,000
H.Y.V. area	acres	21,000	27,000	32,500
Fertilizers	tons	1,980*	2,361	3,178

* distribution

bulk of the increased agricultural production which can be attributed to the new technology. On the basis of observed responses of production to the use of these inputs, it is estimated that, if 1968/69 had been a year of normal rainfall, the use of the inputs shown in the above table would have brought foodgrain production to a level of about 98 million tons. It is also estimated that the inputs shown for 1969/70 and 1970/71 are sufficient to keep foodgrain production growing slightly more than 5 percent a year.*

The question now becomes whether or not these inputs will be used by the farmers. Thus far, wheat has experienced the most dramatic growth rates. In this area there is no doubt, either among the experts or among the farmers, that the new technology has been successful. Assuming that increases in production will not have too adverse an effect on prices, which seems reasonable in view of the GOI's policy of price supports, the use of inputs is certain to increase in wheat growing areas. Eventually, however, the rest of the agricultural sector, especially rice, will have to share in the new technology if the 5 percent growth rate is to be sustained. In rice there are some indications that a breakthrough will occur in the near future. Rice researchers have developed high yielding varieties suitable to Indian conditions. The chances are very good that the use of these varieties will have increased substantially by 1970/71. This will assure that the new inputs whose availabilities are continually increasing will actually be used.

Therefore, on the basis of the likely availability and consumption of agricultural inputs, especially in wheat and rice, it seems reasonable to conclude that Indian agriculture has in fact shifted to a 5 percent growth rate. This implies foodgrain production of 103 million tons in 1969/70, an increase of 8 percent over the previous year when rainfall was below normal. An additional 5 percent growth in 1970/71 would put foodgrain production at about 108 million tons. While the new technology has not yet affected non-foodgrains in a big way, production of these commodities which accounts for about one third of total agricultural production has historically grown at about 4 percent. Since foodgrains are projected to grow at slightly more than 5 percent a year, this is consistent with an overall 5 percent growth rate for agriculture.

Investment Outlook

In an economy such as India's, a buoyant agricultural sector has wide ranging effects throughout the other sectors. Prosperity in the rural areas creates a demand for new construction and other forms of

* See Annex F.

fixed capital formation in the agricultural sector. With about 45 percent of National Income stemming from agriculture and allied activities, any increase in production in this sector is bound to affect consumer demand. In addition, consumer demand in the urban areas increases as a result of increased production in the agri-based industries and low food prices. While agri-based consumer goods often respond erratically to changes in demand, non-agri based consumer goods are a good indication of the strength of consumer demand. A selected group of these commodities is shown in Table 2. It will be noted that, not only is production growing rapidly in most of these industries, but rates of capacity utilization are at a very high level. There is no doubt that investment demand in this sector will be strong in 1969/70.

Table 2

PRODUCTION AND CAPACITY UTILIZATION
IN SELECTED CONSUMER AND INTERMEDIATE
GOODS INDUSTRIES

<u>Industry</u>	<u>Capacity Utilization(%)*</u>		<u>% change in production in 1968</u>
	<u>1967</u>	<u>1968</u>	
Electric fans	87.2	100.7	+ 8.9
Radio receivers	154.7	162.7	+ 51.5
Domestic refrigerators	147.3	186.6	+ 26.6
Room air-conditioners	90.1	79.8	- 11.5
Paper and paperboard	86.9	86.3	+ 3.4
Cigarettes	96.2	113.6	+ 19.3
Bicycles	103.3	85.6	+ 10.1
Scooters	n.a.	n.a.	+ 32.0
Automobiles	68.0	76.0	+ 11.9
Bicycle tires	108.6	110.3	+ 7.4
Automobile tires	82.7	100.0	+ 22.0

* measured on a one shift basis.

Source: Directorate General for Technical Development

The intermediate goods sector consisting of such items as petroleum, chemicals, tires and paper has been growing at 13 to 14 percent a year since 1960. As demand from India's expanding industrial sector continues to increase and as India proceeds with its program of rapid import substitution, opportunities for investment in a wide range of intermediate goods will continue to arise. Table 3 gives some indication of the outlook for these industries during the next five years.

Table 3

ANNUAL GROWTH RATES
IN THE CAPACITY FOR THE PRODUCTION OF SELECTED
INTERMEDIATE GOODS - FOURTH PLAN TARGETS

<u>Commodity</u>	<u>Annual growth rate</u>	<u>Commodity</u>	<u>Annual growth rate</u>
<u>Agricultural inputs:</u>		Polyethylene	23.0
Fertilizers - N	29.5	Nylon yarn	34.0
P ₂ O ₅	35.5	<u>Others</u>	
Pesticides - DDT	19.3	Petroleum	9.5
Tractors	28.0	Dry batteries	8.5
<u>Chemicals</u>		Storage batteries	16.0
Sulphuric acid	16.0	Paper and paperboard	5.0
Polystyrene	11.4	Dry core cables	5.0
		Automobile tires	12.0

Source: Draft Fourth Five-Year Plan, pp. 261-265.

One recent development which reflects the current strong position of the private sector is the 20 percent rise in equity share prices since the beginning of the year. The gain has been most marked in shipping, but shares of manufacturing and processing enterprises have also registered large advances, especially edible oil processing, chemicals, paper, rubber products, machinery, and cotton textiles. A contributory factor in the rise

in equities is probably the easy credit situation, which facilitates speculative activity, despite all the measures of the Reserve Bank to prevent such use of credit. Whatever temporary factors have contributed to this interest in equity shares, however, it provides a clear indication of revival of faith in the future of at least some segments of the private corporate sector.

There is every likelihood that if the monsoon is normal this summer private investment, corporate plus non-corporate, will rise by about 8 to 9 percent as compared to an increase of 5 or 6 percent last year. The availability of funds appears to be more than adequate for the corporate sector. Commercial banks which experienced slack credit demand and unexpectedly large deposit growth in 1968/69 are in a good liquidity position and most financial institutions currently find themselves with more investment funds than they can place. While financing is a problem in the agricultural sector, the commercial banks with one year of experience under "social control" should begin to play a larger role in facilitating the purchase of inputs related to the new technology.

It should be noted, however, that an increase of this kind in private investment will not have a major effect on the capital goods sector. While the private sector is expected to account for 45 percent of total investment during the Fourth Plan period, its share of fixed investment in industry, power and transport and communications, the most capital intensive areas, is only about one third. In other words, investment demand and especially demand for capital goods very much depends on what happens in the public sector. Here, all there is to go on are the 1969/70 Center and State budgets and the Draft Fourth Plan. The 1969/70 budgets show Plan outlays of Rs. 2,219 for 1969/70 of which the investment component is Rs. 1,959 crores. This represents an increase of about 7.5 percent over the latest estimates of 1968/69 Plan investments. In constant prices the rate of increase would be somewhat smaller.

The increases in investment discussed above are moderate when compared with either Third Plan achievements or Fourth Plan targets. As a result, capital goods production which grew by an average of 12 percent a year during the Third Plan is not likely to increase by that much in 1969/70. However, if investment increases as expected, the capital goods sector is certain to continue its recovery into the next year. After dropping by 4.8 percent in 1967/68, production of capital goods increased by about 7.5 percent in 1968/69. Much of this

increase was due to exports of engineering goods and iron and steel products which rose by about 75 percent. In 1969/70 the situation will be reversed with domestic investment accounting for virtually all of the increase in production and exports increasing only marginally. The net effect should be an increase of about 9 percent in capital goods production this year. This impression is confirmed by reports from capital goods producers in the public and private sectors that orders are picking up and that production will be substantially higher this year than it was in 1968/69. While a 9 percent growth rate is an improvement over the performance of the last two years, many industries will still be operating at much less than full capacity and some will not have returned to their 1965 production levels. This is especially true of the industries that are dependent on government investment. The situation was aggravated in these industries by the fact that substantial amounts of additional capacity came on stream in 1966/67 and 1967/68 precisely when demand for their products dropped.

While investment demand can be estimated fairly accurately for the current year, it is really too early to make any predictions for 1970/71. Assuming that the economy in 1969/70 performs as described above and assuming that agriculture remains on its 5 percent growth track, however, investment should rise faster in 1970/71 than in 1969/70. Incomes and savings will have increased sufficiently to provide confidence and funds to private investors. In the public sector, the Fourth Five Year Plan implies an annual growth rate of 12.6 percent. This is equivalent to an 8 to 10 percent annual increase in investment since Plan current outlays normally increase at a much faster rate than investment. The main question is whether the GOI will be sufficiently successful in increasing revenues, holding down current expenditures and will have sufficient confidence in its foreign exchange prospects to proceed with its Fourth Plan on schedule.

Money and Credit

Deficit financing in 1969/70 is likely to be considerably larger than last year, even after allowing for substantial exaggeration in State Government budget deficits, which now total almost Rs. 300 crores. The Center will be obliged to cover a large part of this amount. Furthermore, a shortfall in the Center's tax receipts now seems likely. Last year's receipts are expected to be about Rs. 45 crores less than shown in the revised estimates presented in February on which budget projections for this year were based, and the post-budget tax concessions made by the Center will add a little more to the shortfall. Unless, therefore, there is an unexpected increase in other revenue receipts or unexpected buoyancy in tax collections, total revenue is likely to be less than budgeted.

The sum of State Government budget deficits this year is so much higher than in any past year that it is obvious that almost all States have in varying degrees boosted them with a view to obtaining larger assistance from the Center. However, there is little doubt of the stringency in the financial position of most States. One reason for this is that many State development programs which had been financed with loans from the Center have failed to yield revenues sufficient to service the loans, much less yield a surplus to the States.

A notable feature of State budgets this year is the size of deficits on revenue account. Previously the States have at least tried to balance their revenue budgets and even to produce surpluses for capital expenditure. This year revenue budget deficits amount to Rs. 288 crores, compared with revised estimates for last year of Rs. 112 crores. In face of this situation, only three States have imposed additional taxes and two others modified existing ones, the resultant yield expected from all these measures being the modest sum of Rs. 16 crores.

Taking into account as far as possible all the factors in a confused situation, it seems that the combined Center-State deficit may be somewhere around Rs. 400 crores. A deficit of this order, in combination with a possible increase in net bank credit to the private sector of possibly Rs. 100 crores (as against an increase of only about Rs. 50 crores in 1968/69), would result in an increase in money supply of perhaps as much as 9 percent. In 1968/69, a deficit of about Rs. 350 crores and an increase in the money supply of 7.8 percent were accompanied by slight declines in both the wholesale and consumer price indices. This was due mainly to the good harvests of 1967/68 and 1968/69. If agricultural production increases as expected this year prices should again remain relatively stable.

The moderately expansionary budget picture described above is likely to be accompanied by a relatively easy credit situation. The feature of commercial banking in 1968/69 was a sluggish demand for credit accompanied by unexpectedly large deposit growth, resulting in a fall in the credit-deposit ratio from 78.6 to 77.3 percent. Compared with the year before, credit expansion was Rs. 3 crores less and deposit expansion Rs. 40 crores more. Even more noteworthy was the very large increase in time deposits, in spite of the fall in deposit interest rates following the bank rate reduction from 6 to 5 percent on March 1, 1968. The larger deposit growth was in fact made up of a fall of Rs. 121 crores for demand deposits and a rise of Rs. 161 crores for time deposits.

Since the end of the financial year, up to May 30, 1969, credit expansion has been much greater than in the corresponding period a year ago, with an almost exactly matching increase in deposits. However, the credit increase is largely, if not entirely, accounted for by the State Bank of India's advances, mainly to the Food Corporation of India, for grain procurement. As a result, the State Bank's credit deposit ratio increased during the year prior to May 30, 1969 from 73.5 to 85.9 percent, that of the other banks decreased from 80.4 to 76.2 percent.

Thus commercial bank statistics provide no evidence that economic recovery has been impeded by credit stringency. There are, however, some factors that might produce a tighter credit situation in the next "busy season", beginning some time in November. If present crop expectations are fulfilled the quantity of agricultural produce marketed may, with farm inventories now largely replenished, be substantially larger than last year. Furthermore, the commercial banks, which have been struggling with less than complete success to meet their obligations, under "social control" of banking, to extend a certain quota of credit to agriculturalists and small industrialists may have advanced further into these difficult and unfamiliar fields. Nevertheless, the Reserve Bank should have no difficulty in preventing any credit tightness detrimental to economic expansion during the current fiscal year, unless an unacceptable degree of price inflation is threatening, a situation that at present seems unlikely to develop.

Balance of Payments

India's greatly improved export performance, continued import restrictions and the GOI's policy of rapid import substitution suggest that no balance of payments crisis is likely to occur in 1969/70. Last year the trade deficit dropped by about \$470 million below the 1967/68 level mostly because of lower PL 480 shipments and a 13 percent increase in exports. Foreign exchange reserves increased by \$51 million and India was able to repay on schedule the \$78 million due to the IMF, thereby increasing its second line reserves. In addition the non-project aid pipeline at the end of 1968/69 was probably about \$80 million higher than at the end of the previous year. In short, India's balance of payments situation improved considerably during 1968/69. Details on imports, exports, debt service and aid are shown in Annex C.

In 1969/70 imports are likely to increase to about \$2,540 million, the result of higher maintenance goods requirements in the industrial sector. Exports should move ahead by about 5-6 percent over last year's exceptionally high level with much of the advance coming from

traditional goods. Although the trade deficit is projected to decline slightly, non-project aid requirements will be higher mainly because of increased debt service reduced PL 480 financing and IMF repayments.

The trends which are expected to prevail in 1969/70 will most likely continue into 1970/71. Foodgrain imports should continue to drop (perhaps by \$165 million) if normal weather prevails. Industrial maintenance imports will again grow at a slower rate than industrial production, reflecting the continuing emphasis on import substitution. The 6-7 percent export growth should continue assuming reasonable price stability in world markets for India's traditional goods.

Conclusions

The critical factors which will determine whether the Indian economy will continue its recovery of the last two years are agricultural production and investment. Based on the likely increased use of inputs during the next two years, the agricultural sector looks promising. Assuming normal weather, agricultural production is projected to increase by 8 percent in 1969/70 over 1968/69, a year of sub-normal rainfall, and by 5 percent in 1970/71. If this happens, investment demand is almost certain to pick up for two reasons. First, increased agricultural production will result in increased incomes which will lead to increased consumption, savings and investment in the rural areas and consumer goods industries. Second, the increased availabilities of foodgrains and other agricultural raw materials will dampen inflationary pressures. It is only under conditions of price stability that the government can follow truly growth oriented policies and the private sector can be induced to increase savings and investment. It is estimated that if the agricultural sector performs as expected net fixed investment will increase by about 8 percent in 1969/70 and 10 percent in 1970/71. This combination of high agricultural production and moderately rapid increases in investment should result in National Income growth rates of 6.25 percent and 5.3 percent in 1969/70 and 1970/71 respectively. * The National Income Accounts for the years 1967/68 to 1970/71 by sector of origin are shown in Table 4.

* See Table C-1, Gross National Product

Table 4

Estimates of National Income by Sector of Origin
(Rs. Crores at 1967/68 prices)

	<u>1967/68</u>	<u>1968/69</u>	<u>1969/70</u>	<u>1970/71</u>
1. Agriculture and allied activities	14,973	14,935	15,888	16,498
2. Mining, Industry and Small Enterprise	5,109	5,426	5,814	6,259
3. Transport and Trade	4,122	4,342	4,637	5,002
4. Other Services	3,983	4,119	4,284	4,489
5. Total, Net Domestic Product	28,187	28,822	30,623	32,248
6. Net factor income from abroad	-265	-315	-333	-348
7. Total, National Income	27,922	28,507	30,290	31,900
7a. Percent change from previous year		2.1	6.25	5.3

The main uncertainties with respect to this forecast concern agriculture and foreign exchange. If the 1969/70 agricultural growth rate is only 5 percent, for example, National Income will be reduced slightly but the situation will remain basically as projected. However, if there is a drastic fall in production, not only would National Income not increase as forecast but the process of recovery in the other sectors would be interrupted as well. If the foreign exchange situation and prospect weakens in 1969/70 the government is likely to slow down public sector Plan expenditure which would begin to dampen the expansion in 1970/71.

ANNEX D
FOURTH FIVE-YEAR PLAN

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ANNEX D

FOURTH FIVE-YEAR PLAN

1. Introduction

A revised Fourth Five-Year Plan 1969-74: Draft (which we will refer to as the Fourth Plan) was presented to Parliament in April 1969 after a heated and inconclusive discussion by the National Development Council. The new Fourth Plan replaced the suspended Fourth Plan Draft Outline of August 1966 as India's official framework for planned development, after three years of Annual Plans of reduced size. A final version of the new Fourth Plan is to be issued in October 1969.

The hostile reception given the Fourth Plan by the National Development Council had two elements: criticism by leftist members of the Council of the Plan's lack of socialist thrust; and discontent on the part of most of the representatives of the States with the size of the Center's transfers for Plan expenditures by the States. The final version of the Fourth Plan is expected to increase somewhat the size of the Center's transfers to the States.

This Annex comments on some of the highlights of the Fourth Plan as they affect the discussion in the body of the Country Field Submission. It is not intended as a full-scale and balanced analysis of the details of the Plan.

2. Fourth Plan Magnitudes

The sectoral growth targets of the Fourth Plan are summarized by the figures on value added in Table 1. From the base year used by the Planning Commission for its projections (1967/68) to the terminal year of the Fourth Plan period (1973/74), net domestic product at factor cost is expected to increase at an annual rate of 5.3 percent, value added in agriculture at 4 percent, and value added in industry at 8.3 percent. Within industry, large-scale manufacturing is expected to grow at 10.3 percent; electricity, gas and water at 10.4 percent; and construction at 7 percent. Trade and transport fall between agriculture and industry with a growth rate of 7.4 percent, while other services trail behind at 3.5 percent (an oddly low figure since it includes among others housing, education and other government services). Since 1968/69 was a year of

Table 1

Draft Fourth Plan projection of net domestic product at factor cost by sector, 1967/68 - 1973/74

Sector	Rs. crores at 67/68 prices		Average annual growth rate (%)		Per cent	
	1967/68	1968/69 1973/74	67/68 to 73/74	68/69 to 73/74	1967/68	1968/69 1973/74
1. Agriculture	14972	14935	4.0	4.9	53.1	51.8
a. Agriculture, livestock	14430	18290	4.0		51.4	47.6
b. Forestry, logging	344	511	6.8		1.2	1.3
c. Fishing	149	197	4.1		0.5	0.5
2. Industry	5109	5426	3.3	3.7	18.1	18.8
a. Mining, quarrying	283	294	8.2	9.1	1.0	1.0
b. Large scale mfg.	2050	2191	10.3	11.0	7.3	7.6
c. Small scale mfg.	1456	1536	5.6	5.7	5.1	5.3
d. Construction	1123	1179	7.0	7.5	4.0	4.1
e. Electricity, gas, water	197	226	10.4	9.6	0.7	0.8
3. Trade and transport	4121	4342	7.4	7.8	14.6	15.1
a. Transport, communication	1102	1156	7.1	7.6	3.9	4.0
b. Trade, storage, hotels, restaurants	3019	3186	7.5	7.9	10.7	11.1
4. Other services	2992	4119	3.5	2.6	14.2	14.3
Net domestic product at factor cost	28196	28822	5.3	5.9	100.0	100.0
Commodity producing sectors	20082	20361	5.2		71.2	70.6
Non-commodity producing sectors	8116	8461	3.7		28.8	29.4

Sources: 1967/68 and 1973/74: Draft Fourth Plan, p. 57
1968/69: USAID estimate (6-18-69)

low growth, reaching the 1973/74 targets from the actual levels of the year before the Plan started will require somewhat higher rates of growth, as shown in the table. The average annual growth rate for NDP at factor cost will have to reach 5.9 percent to arrive at the 1973/74 target.

The key figure in the table is the 4 percent projected growth rate for value added in agriculture, which implies a growth rate of 5 percent for the value of agricultural production. It is the real prospect of achieving the agricultural target as a consequence of the application of the "new" inputs and practices of the green revolution that gives the Plan its main chance for success.

The Plan's targets for investment and national product are shown in the national expenditure projections of Table 2, which has net investment rising at an annual rate of 8.5 percent from 1967/68 to 1973/74. The poor showing of 1968/69 is again of significance in this respect since, as far as investment is concerned, a year of growth has been lost. Reaching the 1973/74 target level from 1968/69 will require an average annual growth rate of 11.3 percent.

The magnitude of the incremental capital output ratio (ICOR) implied by the Plan projection depends on the definition of national product used. Projecting the national product aggregates by 5.5 percent for an additional year, and dividing the 5-year (1969/70 - 1973/74) total of net investment by the increment in national product from 1969/70 to 1974/75, we get the following versions of the ICOR:

<u>National Product Aggregate</u>	<u>ICOR</u>
NDP at factor cost	2.278
NDP at market prices	2.067
NNP at factor cost (national income)	2.302

The marginal saving ratio in the Fourth Plan projection from 1967/68 to 1973/74 also depends on which definition of national product is used:

<u>National Product Aggregate</u>	<u>Marginal Saving Ratio</u>
NDP at factor cost	0.246
NDP at market prices	0.219
NNP at factor cost (national income)	0.249

Table 2

Draft Fourth Plan national expenditure projections: 1967/68 - 1973/74

Category	Rs. crores in 1967/68 prices		5 year totals 1969/70- 1973/74	Average annual growth rate (%)	
	Estim. actual	Plan		67/68 to 73/74	66/67 to 73/74
1. Net domestic product (NDP) at factor cost	28,190	28,822	38,470	5.3	5.9
2. Indirect taxes <u>less</u> subsidies	2,480	2,718	3,770	7.2	6.8
3. Net domestic product (NDP) at market prices	30,670	31,540	42,240	5.5	6.0
4. Net imports of goods and services	780	640	300	xx	xx
5. Total available resources (net)	31,450	32,180	42,540	5.2	5.7
6. Net investment	3,250	3,100	5,300	8.5	11.3
7. Consumption	28,200	29,080	37,240	4.7	4.9
8. Net domestic saving = (3)-(7) = (6)-(4)	2,470	2,460	5,000	12.5	15.2
9. Net factor income from abroad	-260	-315	-370	xx	xx
10. Net national product (NNP) at factor cost (national income) = (1)+(9)	27,930	28,507	38,100	5.3	6.0
11. Net national product (NNP) at market prices = (3)+(9)	30,410	31,225	41,870	5.5	5.9
(ratios)					
Net investment : NDP at market prices	0.106	0.098	0.125		
Net domestic saving					
: NDP at factor cost	0.088	0.085	0.130		
: NDP at market prices	0.080	0.078	0.118		
: NNP at factor cost (national income)	0.088	0.086	0.131		

Sources: 1967/68 and 1973/74: Draft Fourth Plan, p.31
 1968/69: USAID estimate (6-18-69).

The Planning Commission's annual projection of net investment and its breakdown between the public and private sectors is shown in Table 3. For the entire Plan period, the public sector's share comes to 55 percent of total net investment.

Net imports of goods and services are projected to decline from Rs. 780 crores in 1967/68 to Rs. 300 crores in 1973/74, reducing considerably the contribution of the rest of the world to India's total available resources, and increasing the share of net investment financed out of net domestic saving. The small foreign deficit projected as a target by the Planning Commission is the result of a combination of other optimistic assumptions whose joint fulfillment seems doubtful. The first is that the rate of import substitution can be stepped up over the already intense experience of the 1960's. As indicated in Annex C, our estimates of the maintenance imports required by the economy are in themselves higher than the Plan's projections. A second is that exports will achieve a 7 percent growth rate over the period, in itself a target we endorse with enthusiasm, but one that will be difficult to achieve as domestic demand picks up from its current slack levels. A third is that the required amount of domestic savings to help finance the Plan's investment levels will indeed be mobilized. This is discussed in Section 4 below.

The details of the Planning Commission's balance of payments projections differ somewhat from ours. For reference, the Planning Commission's balance of payments figures for 1967/68 and 1973/74 are shown in Table 4 (in rupees and dollars), with a year-by-year interpolation which we have reconstructed from their assumptions.

Some of the Plan's specific commodity production targets are set out in Table 5, which also highlights the import substitution categories by showing the proportion of domestic consumption met by production in the target year as compared with the base year. Newsprint production is targeted to rise from 27 percent of internal demand in 1967/68 to 75 percent in 1973/74, nitrogenous fertilizers from 30 percent to 81 percent, alloy and special steels from 27 percent to 92 percent, aluminum from 68 percent to 95 percent, machine tools from 37 percent to 65 percent. The growth rates for these categories and for generators and turbines are all well over 30 percent per year (except aluminum for which it is 14 percent). Mild steel production is expected to outpace domestic consumption. In a way, much of the planners' real enthusiasm is for these "key" import substitution activities, which not only reduce direct foreign exchange outlays but also broaden the base for India's eventual emergence as an industrial power. The solidity of the base will, however, eventually depend on the cost structure and efficiency of operation of the major import substituting industries cited in the table.

Table 3

Draft Fourth Plan: Planning Commission's annual net investment projections
(Rs. crores)

	Fourth Plan period				5 year total 1969/70 - 1973/74		
	1967/68	1970/71	1971/72	1972/73 1973/74			
Public sector investment	1,890	2,060	2,320	2,455	2,625	2,790	12,250
Private sector investment	1,360	1,610	1,710	1,955	2,215	2,510	10,000
Total net investment	3,250	3,670	4,030	4,410	4,840	5,300	22,250

Sources:

1967/68, 1973/74, 5-year totals: Draft Fourth Plan, pp. 31, 48

1969/70 - 1972/73:

Total net investment : USAID interpolation.

Public sector investment: Planning Commission, Perspective Planning Division, direct communication.

Private sector investment: Residual.

Table 4

Draft Fourth Plan: Planning Commission's implied annual balance of payments projections

A. Rs. crores

	1967/68	Fourth Plan period				5 year total 69/70 <u>-73/74</u>	
		1969/70	1970/71	1971/72	1972/73 1973/74		
1. Imports	-2,059	-1,925	-1,930	-1,822	-1,923	-2,030	-9,630
a. Foodgrains	518	(- 295)	(- 205)	(-)	(-)	(-)	(- 500)
b. Other	1,541	(-1,630)	(-1,725)	(-1,822)	(-1,923)	(-2,030)	(-9,130)
2. Exports	1,199	1,430	1,530	1,640	1,800	1,900	8,300
3. Trade balance	- 860	- 495	- 400	- 182	- 123	- 130	-1,330
4. Net invisibles	80	80	30	-	80	170	- 140
5. Net exports of goods & services	- 780	- 415	- 370	- 182	- 203	- 300	-1,470
6. IMF repayments	-	127	153	-	-	-	- 280
7. Net aid requirement		542	523	182	203	300	1,750
8. Debt service		428	444	465	471	472	2,280
a. Principal		(277)	(286)	(305)	(309)	(310)	(1,486)
b. Interest		(151)	(158)	(160)	(162)	(162)	(794)
9. Gross aid requirement		970	967	647	674	772	4,030
a. PL 480		(230)	(150)	(-)	(-)	(-)	(380)
b. Other		(740)	(817)	(647)	(674)	(772)	(3,650)

Table 4 (contd.)

Draft Fourth Plan: Planning Commission's implied annual balance of payments projections

B. \$ millions

	1967/68	Fourth Plan period				5-year total	
		1969/70	1970/71	1971/72	1972/73		1973/74
1. Imports	-2,745	-2,567	-2,573	-2,430	-2,564	-2,706	-12,840
a. Foodgrains		(- 393)	(- 273)	(-)	(-)	(-)	(- 666)
b. Other		(-2,174)	(-2,300)	(-2,430)	(-2,564)	(-2,706)	(-12,174)
2. Exports	1,599	1,907	2,040	2,187	2,400	2,533	11,067
3. Trade balance	-1,146	- 660	- 533	- 243	- 164	- 173	- 1,773
4. Net invisibles	107	107	40	-	- 107	- 227	- 187
5. Net exports of goods & services	-1,039	- 553	- 493	- 243	- 271	- 400	- 1,960
6. IMF repayments	-	- 169	- 204	-	-	-	- 373
7. Net aid requirement		722	697	243	271	400	2,333
8. Debt service		571	592	620	628	629	3,040
a. Principal		(- 370)	(381)	(407)	(412)	(413)	(1,983)
b. Interest		(201)	(211)	(213)	(216)	(216)	(1,057)
9. Gross aid requirement		1,293	1,289	863	899	1,029	5,373
a. PL 430		(307)	(200)	(-)	(-)	(-)	(507)
b. Other		(986)	(1,089)	(863)	(899)	(1,029)	(4,866)

Table 4 (contd.)

Sources:

Exports, imports, net invisibles (lines 1 through 5):

5-year totals: Draft Fourth Plan, pp. 91-92.
1967/68, 1968/69, and 1973/73: Draft Fourth Plan, pp. 31, 39, 40
1969/70 - 1972/73:

Imports:

Foodgrains: Ministry of Finance, Dept. of Economic Affairs
"Fourth Plan Foreign Exchange Financing", (April, 1969)

Other : Extrapolated backward from 1973/74 at 5.5% annual rate

Exports: Extrapolated backward from 1973/74 at 7% annual rate

Net invisibles: Arbitrary interpolation

IMF repayments (line 6):

5-year total: Draft Fourth Plan, p. 92
1969/70 - 1970/71: IBRD, "Economic Situation and Prospects of India",
April 18, 1969, Table 25

Net aid requirement (line 7):

5-year total: Draft Fourth Plan, p. 92
Annual figures: line 5 plus line 6

Debt service (line 8): Ministry of Finance, Dept. of Economic Affairs,
"Fourth Plan Foreign Exchange Financing", (April 1969)

Gross aid requirement (line 9): line 7 plus line 8

PL 480 (line 9a): USAID estimate

Other (line 9b): residual.

Table 5

Draft Fourth Plan projections of consumption and production of selected commodities, 1967/68 & 1973/74

Commodity	Unit	1967/68		1973/74		Production as % of domestic consumption	Production as % of domestic consumption	Production average annual % growth (6 years)
		Domestic consumption	Production as % of domestic consumption	Domestic consumption	Production as % of domestic consumption			
1. Foodgrains	mill.T	87.6	109.1	112.8	129	114.4	114.4	5.1
2. Sugarcane(gur equiv.)	mill.T	9.8	102.0	13.4	15	111.9	111.9	7.0
3. Oilseeds	mill.T	8.5	96.5	10.6	10.5	99.0	99.0	4.2
4. Cotton yarn	'000 T	910	101.1	1130	1150	101.8	101.8	3.8
5. Sugar	'000 T	2248	111.3	4300	4700	109.3	109.3	13.1
6. Paper and paper board	'000 T	625	93.7	940	960	102.1	102.1	7.6
7. Newsprint	'000 T	112	26.8	200	150	75.0	75.0	30.9
8. Fertilizers: nitrog.(N)	'000 T	1233	29.7	3700	3000	81.0	81.0	42.0
9. Coal	mill.T	68.2	100.4	92.9	93.5	100.6	100.6	5.3
10. Petroleum products	mill.T	14.1	95.7	23.5	26	110.6	110.6	11.5
11. Electricity: generation	'000							
	mill.KW	36.5	120.5	68	82	120.6	120.6	10.9
12. Iron ore	mill.T	12	216.7	22	53.4	242.7	242.7	12.7
13. Cement	mill.T	11.4	100.0	17.2	18	104.6	104.6	7.9
14. Finished steel	mill.T	3.9	105.1	7.2	8.1	112.5	112.5	12.0
15. Alloy & special steel	'000 T	152	26.3	295	270	91.5	91.5	37.5
16. Aluminum	'000 T	148	67.6	232	220	94.8	94.8	14.1
17. Generators & turbines	mill.KW	n.a.	n.a.	2.0	3.0	n.a.	n.a.	77.0
18. Machine tools	Rs.mill.	756.3	37.4	1000	650	65.0	65.0	14.9
19. Commercial vehicles	'000	30.8	100.0	83.5	85	101.8	101.8	18.4

Source: Draft Fourth Plan, pp. 37-38; and Planning Commission, Perspective Planning Division, direct communication.

It is possible to criticize several of the commodity demand projections, in particular fertilizers, steel and electricity. There is some ground for thinking that the Planning Commission's fertilizer demand estimate is too high, in that the agricultural production targets can be met with less fertilizer input than the Planning Commission projects. Some slippage in Plan implementation will, therefore, not cause serious difficulties. Steel demand, on the other hand, may have been underestimated by the Planning Commission. With regard to electricity, the State Ministers of Power have recently leveled a barrage of criticism against the Plan on the ground that the Planning Commission did not accept the Ministers' demand projections. The Planning Commission merely suggests that the difference between the two estimates could be eliminated if the State Electricity Boards reduced electricity line and other losses to more respectable levels.

3. Plan Outlay

The breakdown of Plan outlays by agent and by sector for the Fourth Plan period 1969/70 - 1973/74 is shown in Table 6, where it is compared with the same categories as contained in the old Fourth Plan Draft Outline for 1966/67 - 1970/71. In order to achieve greater comparability in real terms, the Draft Outline numbers in Table 6 have been recalculated at something approximating 1968/69 prices, by adding 10 percent to each item to take account of the rise in prices of investment goods since the Draft Outline was issued.

A major shift in general strategy is reflected in the new numbers. Although the total size of Plan outlays in the revised Plan is a little (3 percent) larger than in the Draft Outline in current rupees, it is somewhat (7 percent) smaller in real terms. It is, furthermore, to start from the base of a projected national product at constant prices in 1969/70 over 15 percent higher than in 1966/67. More significantly, the Plan outlay projection for the public sector has been sharply reduced (by 10 percent in current prices and by some 18 percent in constant prices), while the projection for the private sector has been sharply increased (by 29 percent in current prices and 17 percent in constant prices). Although only public sector outlays are under the direct control of the Government, while investment projections for the private sector are at best "indicative", the shift in shares of total Plan outlay represents a major change in the Government of India's investment policies away from direct government investment toward encouragement of the private sector. Within the Plan outlay of the public sector, outlays for which the States and Union Territories are the agent have been reduced more than those for which the Center is the agent.

Table 6

Plan Outlay: Fourth Plan Draft Outline (Sept. 1966) and Draft Fourth Plan (March 1969)

Sector and development head	Es. crores			Relation of Draft Outline to Draft Outline (per cent)		Distribution within Plan (per cent)	
	Draft Outline 1966/67-1970/71		Draft 1969/70-1973/74	Current prices	Constant prices	Draft Outline	Draft
	(1)	(2)	(3)	(3) ÷ (1)	(3) ÷ (2)	(6)	(7)
<u>Total Plan outlay (by agent):</u>							
Total Plan outlay	23,750	26,125	24,398	103	93	100.0	100.0
Public sector Plan outlay	16,000	17,600	14,398	90	82	67.4	59.0
Center ^{a/} States	8,536	9,390	8,332	98	98	36.0	34.1
	7,464	8,210	6,066	81	74	31.4	24.9
Private sector investment	7,750	8,525	10,000	129	117	32.6	41.0
<u>Total Plan outlay (by development category):</u>							
Total	23,750	26,125	24,398	103	93	100.0	100.0
Agriculture, community development	3,310	3,640	4,017	121	110	13.9	16.5
Irrigation	964	1,060	964	100	91	4.1	4.0
Mining, Manufacturing	6,976	7,680	6,035	86	79	29.4	24.7
Power	2,080	2,285	2,135	103	93	8.8	8.8
Transport, communications	3,640	4,000	4,183	115	104	15.3	17.1
Housing, social services, other	4,880	5,370	5,304	109	99	20.5	21.7
Inventories (private sector only)	1,900	2,090	1,760	93	84	8.0	7.2

a/ Center, Centrally sponsored schemes, and Union territories.

Table 6 (contd.)

Plan Outlay: Fourth Plan Draft Outline (Sept. 1966) and Draft Fourth Plan (March 1969)

Sector and development head	Rs. crores			Current prices (3) ÷ (1)(3) × (2)	Constant prices 1968/69 prices (3) ÷ (1)(3) × (2)	Distribution within Plan (per cent)	
	Draft Outline 1966/67-1970/71	Draft 1969/70- 1973/74	Draft 1968/69			Draft Outline	Draft
	prices 1968/69	prices 1968/69	prices 1968/69			(6)	(7)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Public sector (by development category):							
Total Plan outlay	16,000	17,600	14,398	90	82	100.0	100.0
Agriculture, community development	2,410	2,650	2,217	92	84	15.1	15.4
Irrigation	964	1,060	964	100	91	6.0	6.7
Mining, manufacturing	4,306	4,740	3,385	78	71	26.9	23.5
Power	2,030	2,230	2,085	103	93	12.7	14.5
Transport, communications	3,010	3,210	3,173	105	96	13.8	22.0
Housing, social services, other	3,280	3,610	2,574	73	71	20.5	17.9
Private sector (by development category):							
Total investment	7,750	8,525	10,000	129	117	100.0	100.0
Agriculture, community development	900	990	1,800	200	182	11.6	18.0
Irrigation	-	-	-	-	-	-	-
Mining, manufacturing	2,670	2,940	2,650	99	90	34.5	26.5
Power	50	55	50	100	91	0.7	0.5
Transport, communications	630	690	1,010	160	146	8.1	10.1
Housing, social services, other	1,600	1,760	2,730	171	155	20.6	27.3
Inventories	1,900	2,090	1,760	93	84	24.5	17.6

Sources:

Draft Outline:

In 1966 prices: Fourth Five Year Plan: A Draft Outline, pp. 41-44.

In 1968/69 prices: Using index of 110 as rough adjustment factor.

Draft:

Fourth Five Year Plan 1969-74: Draft (Draft Fourth Plan), p. 48.

The major changes in regard to heads of development are: a significant increase in projected Plan outlay for agriculture, with a decrease in public sector outlays but a doubling (in current rupees) of projected private sector investment; an increase for transport and communication, again most of it to come in the private sector; and a significant decline for mining and manufacturing, with most of the decline being absorbed by the public sector.

Public sector Plan outlay shows some major shifts in intentions with regard to heads of development. Agriculture and irrigation increase slightly their share of the reduced total public sector Plan outlay, while mining and manufacturing show a significant reduction in their share. The power and transport and communications categories increase their share while the housing, social service and other categories show a decline. For no category is the absolute amount of public sector outlay in the revised Plan higher than the Draft Outline figure adjusted for the intervening price increase.

Within the revised Plan target for private sector investment, agriculture, transport and housing show substantial increases and together account for all of the increase in the total private investment target. However, the revised Plan target for private sector mining and manufacturing comes to only 44 percent of total Plan outlays in mining, manufacturing and small industry, leaving the public sector still investing the leading share in these sectors. The figure for accumulation of inventories by the private sector is also lower than in the Draft Outline.

Within total Plan outlay of the public sector, as shown in Table 7, current Plan outlay accounts for almost 15 percent, most of it in education, health, family planning and other social services. In the social services group, current Plan outlay exceeds Plan investment. It should be noted that the convention followed by the Planning Commission is to include current outlays for new Plan activities only during the life of the current Plan. Thereafter, they are absorbed into the normal expenditures of the government. This accounting fiction is not carried over to the Budget accounting of the Ministry of Finance, which has its own separation of outlays into a current budget and a development budget.

The breakdown of public sector Plan outlay by agent and by development head, also shown in Table 7, brings out clearly the allocation of development functions between the Center and the States. The States have the preponderant responsibility, in terms of Plan outlays, for agriculture and community development, irrigation, and electric power; the Center,

Table 7

Draft Fourth Plan public sector Plan outlay 1969/70 - 1973/74
(Rs. crores)

Development head	Combined public sector		Total Plan outlay by agent			
	Current Plan outlay	Plan investment outlay	Center responsibilities		Sub- Union territories	total States
			Centrally sponsored schemes	70		
Agriculture, community development	550	1,667	694	100	70	864
Irrigation	14	950	24	-	12	36
Mining, manufacturing ^{a/}	146	3,239	3,055	5	14	3,074
Power	-	2,085	252	14	74	340
Transport, communications	40	3,133	2,610	40	86	2,736
Housing, social services, other	1,396	1,178	572	568	142	1,282
Total	2,146	12,252	7,207	727	398	8,332
						6,066

a/ Including village and small industries.

Source: Draft Fourth Plan, pp. 43, 59-60, 62-64, 69-74.

for mining and manufacturing, and transport and communications. Public sector Plan outlay for education, health and the other social services is split equally between the States and the Center (including in the latter a heavy share of Centrally-sponsored schemes for which responsibility is eventually turned over to the States).

The Plan's objectives for agriculture are two-fold and partly contradictory: to maximize production (partly in order to eliminate foodgrain imports by the mid-year of the Plan period), and to spread the benefits to the small cultivators and to the farmers in dry areas. The production strategy as set down in the Plan (p.113) has several elements: continued expansion of irrigation facilities and reorientation of irrigation practices; expansion in the supply of fertilizers, plant protection materials, farm machinery, and credit; full exploitation of high yielding varieties of cereals (the 5 percent target growth rate for all of agriculture implies a growth rate of over 6 percent for foodgrains); intensive effort in selected areas to raise the yield levels of major commercial crops; and improvement in the agricultural marketing system in the interests of the producer and assurance of minimum prices for major agricultural commodities. The redistribution strategy consists of an attempt to reorient cooperative lending and credit policies in favor of the small farmers, and the intention of setting up a Small Farmers' Development Agency in 20 selected districts. For the time being, the only prescription for dry area farming is more research.

The Plan outlays of the public sector in agriculture proposed for carrying out these aims are shown in Table 8, by agent. The largest contributions of the Center are for agricultural production (including research), support to financial institutions, and the building up of buffer stocks. The States' Plan outlays will be concentrated on agricultural production, minor irrigation and soil conservation.

The Fourth Plan provisions for agriculture represent a pragmatic approach toward consolidating and extending the production potential of the green revolution, with some increased attention paid to inter-personal and inter-regional distribution of the gains. Economic policy is becoming more market-oriented, with its focus on the buffer stock. The priorities in both objectives and policies appear to be consistent with the key role of agriculture on the one hand and the limited overall resource position of the Plan on the other.

In industry and mining, the Plan states that the major portion of public sector outlay will go to complete projects already started and projects

Table 8

Draft Fourth Plan public sector Plan outlays in agriculture and allied fields
(Rs. crores, in current prices)

<u>Program</u>	<u>Center</u>	<u>Centrally sponsored schemes</u>	<u>Union territories</u>	<u>States</u>	<u>Total</u> ^{a/}
Agricultural production (including research)	135	22	22	331	510
Minor irrigation	8	-	6	462	476
Soil conservation	1	29	5	116	151
Area development	9	-	0	20	29
Animal husbandry	13	5	5	68	91
Dairying and milk supply	2	-	2	41	45
Fisheries	28	6	5	45	84
Forests	4	1	14	73	92
Warehousing, marketing and storage	57	-	0	8	65
Food processing and subsidiary foods	16	3	-	-	19
Central support to financial institutions	263	-	-	-	263
Buffer stocks	125	-	-	-	125
Cooperation	29	22	4	96	151
Community development and Panchayats	6	12	6	92	116
TOTAL	694	100	70	1,353	2,217

a/ Figures rounded to add to line totals. Columns will not add to totals because of rounding.

Source: Draft Fourth Plan, p. 138.

for which investment decisions have already been taken; new projects will be undertaken in "high priority fields" such as fertilizers and pesticides, petrochemicals, non-ferrous metals, and the mining of iron ore, pyrites, and rock-phosphate. Investment in the currently underutilized public sector engineering industries is limited to filling critical gaps. Projects which must be started for capacity needed during the life of the Fifth Plan have not yet been identified. A breakdown of Central Government Plan outlay into expenditure on continuing schemes and expenditure on new schemes by sub-sector of industry is shown in Table 9, which also shows sub-sectoral totals for the old Fourth Plan Draft Outline. Compared with the Draft Outline the allocations in the new Fourth Plan represent a sharp cut in public sector Plan outlay in metallurgy, in the engineering industries, and in the so-called intermediate goods industries (foundries, cement, paper, petrochemicals). Fertilizers, which are at the heart of the drive to increase agricultural output, show a sharp increase. The Plan document makes the point that 7 private sector nitrogenous fertilizer projects with a total capacity of 1.1 million metric tons have been approved, while feasibility studies have been completed for 4 public sector projects and studies are in progress on 4 more.

Some of the major projects which will absorb these expenditures are listed in Table 10. The Soviet-assisted Bokaro steel plant by itself accounts for Rs. 622 crores (\$829 million), or 21 percent of the total of Plan outlay in large-scale industry and mining. Expansion of the Rourkela, Bhilai, and Durgapur steel plants accounts for Rs. 53 crores (\$71 million). In fertilizers, the largest new public sector project is the proposed Trombay expansion, which accounts for Rs. 59 crores (\$79 million).

The Plan document makes some severely critical remarks about the past performance of the public sector industrial establishments: delays in completion schedules, large increases in investment cost over original estimates, output substantially below capacity, and reliance on budgetary support to cover cash losses instead of the earning of profits that would make a significant contribution to Plan resources. The recommendations of the Administrative Reforms Commission for improving the operation of the public sector industrial undertakings are cited. Implementation of the recommendations is, however, outside the Planning Commission's scope. The GOI is clearly aware of the problem; solving it is not an easy matter.

The reduced emphasis on public sector industry in the Plan reflects resource limitations (which led to some reduction in investment in long-

Table 9

Fourth Plan Central Government Plan outlay by
sub-sector of industry: Draft Outline and revised Draft
(showing continuing schemes and new schemes)
(Rs. crores)

<u>Sub-sector</u>	Fourth Plan Draft Outline (1966/67- 1970/71)	<u>Draft Fourth Plan(1969/70-1973/74)</u>		<u>Total</u>
		<u>Continuing schemes</u>	<u>New schemes</u>	
Metals industries	1,625	683	304	987
Machinery & engineering	337	100	53	153
Fertilizers & pesticides	268	217	266	483
Intermediates	290	59	126	185
Consumer goods	52	5	32	37
Other industrial schemes	63	23	14	37
Loans to institutional financing agencies	350	250	-	250
Minerals	836	571	146	717
Atomic energy	40	42	19	61
"Economies"	-60	-	-	-
Sub-total: Large scale industry and mining ^{a/}	3,801	1,951	959	2,910
Village and small industries	<u>370</u>			<u>145</u>
TOTAL	4,171			3,055

^{a/} Details are rounded to conform with line totals rather than with column totals.

Sources: Fourth Plan Draft Outline, pp. 242, 256-257, 283-293 (as summarized in Table 6 of AmEmbassy New Delhi, A-299, May 1, 1969).
Draft Fourth Plan, p. 252.

Table 10

Draft Fourth Plan Central Government Plan outlay by sub-sector of
industry and mining: major projects
(Rs. crores)

<u>Sub-sector and project</u>	<u>Rs. crores</u>
Metallurgy	<u>986.5</u>
Bokaro Steel Plant	622.0
Rourkela, Bhilai, Durgapur Steel Plants (expansion)	53.4
Durgapur Alloy and Stainless Steel Plant	2.1
Mysore Iron and Steel Co. (expansion)	5.0
New plate mill	75.0
Technical improvements, balancing equipment (all steel plants)	45.0
Preliminary work on new steel capacity	20.0
Nonferrous metals facilities	164.0
Engineering	<u>153.0</u>
Bharat Heavy Electricals Ltd.	31.5
Heavy Electricals Ltd.	11.0
Mining and Allied Machinery Corporation (Durgapur)	2.5
All other plants	108.0
Fertilizers and pesticides	<u>483.5</u>
Namrup Fertilizer Plant (including expansion)	26.5
Trombay Fertilizer Plant (expansion)	59.4
Durgapur Fertilizer Plant	22.3
Sindri Fertilizer Plant (modernization and expansion)	24.3
Fertilizer Corporation of India: new projects	262.0
Madras Fertilizer Plant	27.3
Cochin Fertilizer Plant	21.4
Other fertilizer plants	35.6
Hindustan Insecticides	4.7
Intermediates	<u>184.8</u>
Foundry Forge Plant (Ranchi)	26.2
Cement Corp. of India	20.0
Paper, pulp and newsprint schemes	50.0
Gujarat Aromatic and Petrochemicals Plant	16.3
Other plants and projects	72.3
Consumer goods	<u>36.9</u>
Other industrial schemes	<u>37.2</u>
Loans to institutional lending agencies	<u>250.0</u>

(continued on next page)

Table 10 (contd.)

Draft Fourth Plan Central Government Plan outlay by sub-sector of
industry and mining: major projects
(Rs. crores)

<u>Sub-sector and project</u>	<u>Rs. crores</u>
Minerals	<u>717.1</u>
Ferrous metals	92.8
Nonferrous metals and nonmetallic minerals	60.5
Geological Survey, Bureau of Mines and Aerial Surveys	35.0
Coal, coke, lignite	65.3
Oil exploration and exploitation	347.6
Oil refining	35.1
Oil distribution and marketing	30.8
Atomic energy	<u>60.9</u>
Total large scale industry and mining	<u><u>2,909.9</u></u>

Source: Draft Fourth Plan, pp. 253-260 (as summarized in Table 7 of
Amembassy New Delhi, A-299, May 1, 1969).

gestation plants) and the GOI's recognition of the mediocrity of past performance. It also reflects a more positive attitude on the part of the Planning Commission toward the private sector, a new attitude that is not fully shared by some political authorities who are determined to see that the public sector meets most of the "priority" industrial needs that require the establishment of large-scale industrial undertakings.

4. Financing of Plan Outlay

In a formal sense, the investment outlays of the Fourth Plan will be financed out of domestic savings plus the net foreign deficit, as shown in Table 2 above. Both investment and domestic saving are expected to rise at a much faster rate than the national product. The Planning Commission's target of a marginal rate of saving out of increments to the NDP at market prices of 21.9 percent with the NDP growing at 5.5 percent a year is a bit high, but in itself not unreasonable. Mobilizing these potential savings and directing them into the desired pattern of investment will, however, require overcoming a considerable number of political and institutional difficulties.

For the public sector, raising the current account budget surplus of government agencies and the operating surpluses of the public sector enterprises will require three major achievements: additional Center and State taxes of some Rs. 540 crores per year; a much better public enterprise earning record than hitherto; and great restraint in non-development expenditure. For the private sector, the main task will be the mobilization of rural savings.

The intended sources of financing of Plan outlay of the public sector are shown in Table 11. For the public sector as a whole (Center and States combined), domestic budgetary resources are to account for 36 percent of total resources, surpluses of the public sector enterprises for 13 percent, tapping of the savings of the private sector for 27 percent, uncovered deficits (borrowing from the Central Bank) of the Center for 6 percent, and the local currency counterpart of net foreign assistance of Rs. 2,514 (\$3.3 billion) for 18 percent. The most significant figure in the table is the Rs. 1,100 crores target for additional taxation by the States; getting the States to take steps to achieve the target will be a major political achievement. Transfers from the Center to the States are projected in the Draft Plan at Rs. 3,500 crores for the 5-year period, a figure that met with strenuous objections from the representatives of the States on the National Development Council. This last figure will presumably be raised in the final version of the Plan.

Table 11

Draft Fourth Plan: financing of public sector Plan outlay, 1969/70-1973/74
(Rs. crores and percent)

<u>Source of financing</u>	<u>Rs. crores</u>			<u>Percent</u>
	<u>Center</u>	<u>States</u>	<u>Total</u>	<u>Total</u>
1. Domestic budgetary resources	<u>455</u>	<u>4,709</u>	<u>5,164</u>	<u>35.9</u>
a. Balance from current revenues at current rates of taxation	2,355	100	2,455	17.1
b. Additional taxation	1,600	1,109	2,709	18.8
c. Assistance for State Plans	-3,500	3,500	-	-
2. Surplus of public sector enterprises	<u>1,308</u>	<u>587</u>	<u>1,895</u>	<u>13.1</u>
a. Contribution of Railways	265	-	265	1.8
b. Surplus of other public enterprises	910	955	1,465	10.2
c. Reserve Bank profit	133	32	165	1.1
3. Draft on savings of private sector	<u>3,205</u>	<u>770</u>	<u>3,975</u>	<u>27.6</u>
a. Loans from public (net)	750	416	1,166	8.2
b. Small savings	274	526	800	5.5
c. Annuity deposits, CDS, ^{a/} prize bonds, gold bonds	-104	-	- 104	-0.7
d. State provident funds	343	297	640	4.4
e. Miscellaneous capital receipts (net)	1,942	- 812	1,130	7.8
f. LIC ^{b/} loans to State housing schemes	-	96	96	0.7
g. LIC ^{b/} loans to State enterprises	-	116	116	0.8
h. Market borrowing by State enterprises	-	131	131	0.9
4. Deficit financing	<u>850</u>	<u>-</u>	<u>850</u>	<u>5.9</u>
5. External assistance	<u>2,514</u>	<u>-</u>	<u>2,514</u>	<u>17.5</u>
a. PL 480	380	-	380	2.6
b. Other (net of loan repayments)	2,134	-	2,134	14.8
TOTAL	<u><u>8,332</u></u>	<u><u>6,066</u></u>	<u><u>14,398</u></u>	<u><u>100.0</u></u>

^{a/} CDS = Compulsory Deposit Schemes.
^{b/} LIC = Life Insurance Corporation.

Source: Draft Fourth Plan, pp. 82, 83.

To some extent, the shrill dialogue between the Center and the States at the April 1969 session of the National Development Council was merely a noisy episode in a continuing bargaining process. In practice, the States have been exceeding their allocations and have been financing part of their development outlays by running overdrafts with the Center. The Plan document was a proclamation by the Government that the States would have to increase their own resources if they intended to increase development expenditures beyond the levels accepted by the Center. In practice, the States will continue to run deficits which will be met by running overdrafts with the Center. The Plan document attempted to lower the levels from which these overdrafts will start. The final version will inflate the level somewhat.

The resources proposed in the Plan document for raising Central Government tax revenues include increased commodity taxes, broadened coverage of income and wealth taxation, and taxation of capital gains and of increases in urban real estate values. In the 1969/70 budget, a forward step was taken to bring agricultural land within the scope of the wealth tax. For the Center's enterprises, an effort to raise to 15 percent the rate of return on capital of industrial and commercial undertakings other than public utilities is recommended. For State enterprises in electricity and irrigation, the Plan document suggests an increase in rates charged to users, hence a reduction in the subsidy element in the price of electricity and irrigation water. For the State governments, the key suggestion is that the States levy income taxes on agricultural income, a tax area forbidden to the Center and reserved to the States by the Constitution. A rather weak proposal for tapping private savings in the rural areas is for floating rural debentures to finance activities directly benefiting the rural population.

The Plan document's suggestions for the channeling of private saving to finance private investment are also rather weak, being limited to advice to the Life Insurance Corporation, the banks, the cooperatives and the land banks to "intensify their efforts" to mobilize rural savings. Actually, the GOI's pressure on the commercial banks to increase their lending to the rural sector in the context of "social control of banking" may turn out to be an effective device for institutionalizing rural savings. Hitherto, most of the commercial banks have stayed out of the rural areas, leaving the risky agricultural banking field to the coops and the land development banks. One effect of the opening of new branches of the commercial banks may be to attract new rural savings into the banking system.

5. Industrial Licensing Policy

The Plan document proposes the adoption of a set of somewhat more liberal policies toward industrial licensing than those of recent years. The Planning Commission's view is in part a reflection of the shift in emphasis away from public sector heavy industry, in its turn due partly to the mediocre performance of the public sector's industrial undertakings in recent years, partly to the emergence of a considerable degree of overcapacity in heavy industry, and partly to a contraction of the resources available for investment. It is, at the same time, a response to widespread complaints about "unnecessary" restrictions placed on private sector industrial activity. No decision will be made on adopting the new policies until a report is submitted by the Industrial Licensing Policy Inquiry Committee set up in July 1967 to look into the working of the industrial licensing system. The Plan document's suggestions are, therefore, at best a statement of intentions, not an official statement of policy.

The Plan statement distinguishes three categories of industries:

(a) All basic and strategic industries involving significant investments or foreign exchange requirements. These should be "carefully planned" and subject to industrial licensing. Once a license was granted, however, credit, foreign exchange, and scarce raw materials would be earmarked for them and made available on time, for units in both the public and the private sectors.

(b) Industries requiring only marginal amounts of foreign exchange for capital equipment (up to 10 percent of the total value of the capital equipment). These could be exempted from the requirement to obtain industrial licenses -- unless the maintenance import component were high.

(c) Industries requiring no foreign exchange for the import of capital equipment or raw materials. These should be exempted from industrial licensing requirements.

Even in this last case, however, the fundamental ambivalence of the attitude of Indian officials toward private business emerges and the Planning Commission adds the statement that safeguards may nevertheless be needed against congestion of industry in large metropolitan areas, undesirable competition for traditional and small-scale industries, and concentration of economic power. Like a number of other qualifications

to practical policy suggestions in the Plan, the last caveat may be just for the record.

The chances for the adoption of this somewhat liberalized industrial licensing policy line appear to be good. But the Plan document does not even mention the other all-pervading set of controls on economic activity, the import licensing system. The combination of protectionist sentiment within the private sector and foreign exchange shortages clearly offsets whatever domestic opposition to import controls there is.

6. General Observations and Conclusions

The general lines of development laid out by the Planning Commission for the Fourth Plan period are reasonable and reflect strategies and policies that, in general, we endorse. The Plan's central emphasis on agricultural development, its reduced emphasis on public sector as distinct from private sector investment in the aggregate, the restraint of its projected expenditure on electric power and transportation infrastructure given the overall shortage of investment resources, and its new recognition of the vital nature of family planning and nutrition, are all strongly held views of the Planning Commission, and represent a pragmatic policy package that we can (and should) support.

The Plan document does, however, show a basic ambivalence of attitudes which reflect a set of differences between what might be called the pragmatic approach and the political approach. The pragmatic approach is, in this context, concerned essentially with economic growth; the political approach is represented mostly by rhetoric without content grafted onto the more significant statements of policy in the Plan document, while fundamental issues such as rural unemployment are largely avoided. A typical example of the ambivalence of views is the attitude expressed in the Plan document toward the financing of corporate investment: "The corporate sector can meet its resource requirements only if it ensures larger retention of the profits for re-investment" -- not by increasing profits, but -- "through adequate restraint on dividend distribution." Although the structure of the whole Plan is ostensibly determined by a reduction in the importance of public sector investment, the authors are unwilling to face the fact that what motivates the private sector is profits, and that without the expectation of profits, "indicative" planning for the private sector is meaningless.

It is clear that import substitution continues to be a major preoccupation of the planners, both in agriculture, where self-sufficiency in

foodgrains by 1971/72 is a stated goal, and in industry. Although there is a new recognition of the importance of exports in laying out the lines of development, particularly in mining, the main thrust of the Plan's objectives for industry and mining in both the public and private sectors continues to be the substitution of domestic production for imports in meeting India's rising demand for industrial goods. For the public sector, the direction is set by the specific projects which are financed; for the private sector, by the combined effect of the industrial licensing system and import controls. The high cost of import substitution is not yet one of the major concerns of India's planners.

The major flaw in the Fourth Plan, as we see it, is the assumption that the economy can grow at a 5.5 percent rate with as low a level of imports as that projected by the Planning Commission. On the other hand, the Planning Commission would obviously be much relieved (and probably more sure of their internal projections) if enough foreign aid were made available to permit them to relax the constraint on imports.

The basic difficulty with the Plan goes beyond that, however. The size of the Fourth Plan is limited by India's resources; in a fundamental sense it is not geared to India's overwhelming need to create vastly greater employment opportunities and new sources of income for those at the bottom of the income scale, a combined problem that could be attacked by a massive increase in the investment outlays planned for rural and urban infrastructure. There may, of course, be more that India could do about it herself. But only a dramatic increase in the level of foreign aid would permit the GOI to risk the inflationary pressures that could result from trying to step up growth rates much beyond those targeted for the Fourth Plan period.

ANNEX E

DMS MODEL PROJECTIONS

The projections discussed in this Annex explore the implications of several different aid patterns for India's economic growth and development over the next decade. Unlike the similar projections employed in last year's Program Memorandum,^{1/} these projections are not intended to evaluate the impact of an additional \$100 millions (4% of India's projected 1969/70 imports) aid to India in a given year. Rather, the aid patterns considered here differ enough in magnitude over the period 1969/70 to 1978/79 to be identified with distinct U.S. attitudes toward the importance of India's economic development. In particular, the need for aid to achieve the goals of India's recently formulated Fourth Five Year Plan (1969/70 to 1973/74) is examined.

In the analysis of Part I of this Country Field Submission and in Annex A, the dual role of aid in providing foreign exchange (bridging the "trade gap") and in providing additional resources for investment (closing the "resources gap") is discussed. The economic model used for the projections reported in this Annex is a dynamic multi-sectoral (DMS) linear programming model of the Indian economy.^{2/} In the discussion of the results from this model, the question of the relative magnitudes of the trade and resources gaps will not arise since the construction of the model ensures that the two gaps are always identical for each year - as, in fact, they must be in the national income accounting relationships. The dual role of aid in the model appears in the sectoral choice of investment in import substitution activities based on comparative advantage and the availability of imports, and in the overall amount of investment which determines future income levels.

1/ FY 1970 Program Memorandum-India: Annex C, Development Planning, August 1968.

2/ This model was developed originally for the Mission by Professor Alan Manne of Stanford University (then Economic Advisor to the Mission) in collaboration with Professor Thomas Weisskopf (then of the Indian Statistical Institute). For details of the model and the assumptions underlying it, see FY 1970 Program Memorandum-India, Annex C, Development Planning, August 1968, and A. S. Manne and T. E. Weisskopf, "A Dynamic Multisectoral model for India, 1967-75," Memorandum No. 57 (revised), Research Center in Economic Growth, Stanford University, May 1968. Modifications to the DMS model made for the calculations reported here are summarized in Annex E-1. Professors Manne and Weisskopf should not be held responsible for faults in the calculations introduced by these modifications nor for the policy interpretations drawn here.

It must be emphasized that no such model can represent exactly the complexities of the Indian economy. A model which includes sectoral detail, as DMS does, would appear to be more realistic than a simple aggregative model. Also, modifications to the DMS model introduced for these calculations, including explicit consideration of unutilized capacities and adjustment of the fertilizer sector for different growth rates, should add realism to the model. (See Annex E-1 for details of these modifications.) But there is need to scrutinize the assumptions, data, and results of the model, and to temper conclusions drawn from the model with information from other sources. In particular, at low aid levels and low rates of growth it is likely that the model's coefficients (representing sectoral averages) understate the losses from autarkic import substitution and tightened administrative allocation of imports.

Aid Levels and India's Fourth Plan

The five net aid patterns for which projections are given here are all measured in terms of India's trade deficit for goods. These patterns were selected to produce a wide range of growth possibilities for India's net domestic product over the period 1969/70 to 1978/79 - rates of growth extending from less than 5% per year to more than 7%.^{1/} The calculations for all patterns begin from a preliminary estimate of India's aggregate economic performance and trade composition in 1969/70.^{2/} The time-phasing of aid in the various patterns varies from a sharp phase-out reaching a trade surplus (and net repayment) position in 1978/79, to a sharp step-up in aid to 1975/76 followed by a gradual phaseout of net aid thereafter.

The first aid pattern, identified by the letter "A", was intended explicitly to include foreign trade estimates consistent with the Planning Commission's recent Fourth Five Year Plan (Draft) balance of payments estimates. In the final revision of this DMS run, the Plan's implicit annual foreign trade figures were adjusted to take account of Mission forecasts for 1969/70 as well as adjustments made (a) in the 5-year total and in the annual pattern of the net invisibles balance projected by the Planning Commission, and (b) in the annual pattern of repayments to the IMF implicitly used by the Planning Commission. The annual balance of payments figures consistent with the Planning Commission's 5-year totals and the DMS run are shown in Table 1. Aid pattern "A" projects a rapid phase-down of aid through 1973/74 continuing to a trade surplus for goods of Rs. 100 crores (\$133 millions) in 1978/79.^{3/}

1/ Net domestic product is defined throughout this Annex in terms of market prices.

2/ See Part I, and Annexes A and C, of this Country Field Submission for revised estimates.

3/ See Fourth Five Year Plan, 1969/74 (Draft), pp. 39-40, Tables 5, 6.

Table 1

Fourth Plan (Draft) Annual Balance of Payments Projections Used for DMS Analysis
(\$ millions)

	Fourth Plan Period				5 year total 1969/70 =1973/74
	1970/71	1971/72	1972/73	1973/74	
1. Imports	-2,600	-2,527	-2,430	-2,564	-12,827
a. Foodgrains	(- 395)	(- 271)	(- -)	(- -)	(- 666)
b. Other	(-2,205)	(-2,256)	(-2,430)	(-2,564)	(-12,161)
2. Exports	1,900	2,047	2,187	2,400	11,067
3. Merchandise trade balance	-700	-480	-243	-164	-1,760
4. Net services	- 30	- 35	- 40	- 45	- 200
5. Net exports of goods & services	-730	-515	-283	-209	-1,960
6. IMF repayments	-169	- 70	- 50	- 44	- 373
7. Net aid requirement	899	585	333	253	2,332
8. Debt service	571	592	620	628	3,040
a. Principal	(370)	(381)	(407)	(412)	(1,983)
b. Interest	(201)	(211)	(213)	(216)	(1,057)
9. Gross aid requirement	1,470	1,177	953	881	5,373
a. PL 480	(307)	(200)	(-)	(-)	(507)
b. Other	(1,163)	(977)	(953)	(881)	(4,866)

Source: Derived from Fourth Five Year Plan (Draft), Planning Commission, March 1969, pp. 31, 39, 40, 91, 92.

The magnitude and time-phasing through 1978/79 of trade deficits for all five aid patterns, labeled "A" through "E", are given in Table 2 and are portrayed graphically in Figure 1. Note that numbers are given only at two-year intervals through 1975-76, with a three-year interval remaining to 1978/79. This is because the DMS model makes calculations explicitly only for these years. Values for intermediate years may be inferred, however, from the projections for neighboring years.

Aid pattern "C" was selected to provide sufficient assistance - as estimated by the DMS model - to achieve the Fourth and Fifth Plan targets for net domestic product set in the Fourth Plan (Draft).^{1/} Aid pattern "B" is intended to provide an intermediate pattern between "A" and "C", while aid patterns "D" and "E" are high growth track patterns intended to enable India to attain growth rates exceeding 6% per year.

As ground rules for the projections made in this section, the methodology has been to employ assumptions as close to those of the Fourth Plan (Draft) as possible. E.g., the Planning Commission's estimates of export growth (about 7% per year from 1969/70) and savings performance (32% per capita marginal savings rate from per capita NDP with a 1967/68 base, annual rate of population growth 2.5% 1967/68 to 1973/74 and 2.3% 1973/74 to 1978/79) are taken as assumptions.^{2/} The implications of varying these assumptions are examined in the next section. For two items - estimates of under-utilized capacity and current year estimates for 1969/70 - Mission estimates have been used since such estimates are not included in the Plan document.

Projected growth patterns in India's net domestic product corresponding to these various aid levels are given in Figure 2. (Detailed aggregative economic projections, together with import projections by sector, are given in the tables in Annex E-2). Aid pattern "A" fails to achieve even a 5% annual growth rate from 1969/70 and 1978/79. Aid pattern "C" slightly surpasses a 6% rate for this period, while a 7% rate is attained by pattern "D" and exceeded by pattern "E".

Growth rates for the different patterns are also tabulated in Table 3 - here measured, where appropriate, from a 1967/68 base instead of 1969/70 to facilitate comparison with the Fourth Plan (Draft). Aid level "C" just meets the Fourth Plan target of a 5.5% annual growth rate, and slightly exceeds the Fifth Plan target rate of 6.2%. In all cases there is an acceleration in the rate of growth from the Fourth to the Fifth Plan periods, with the stepup more pronounced in the higher aid cases.

^{1/} Ibid., p. 31, Table 1.

^{2/} Ibid., p. 31, Table 1, and p. 40, Table 6.

Table 2
 Merchandise Trade Deficits for Different Aid Patterns
 (\$ millions)

Aid pattern	1969/70	1971/72	1973/74	1975/76	1978/79
A	1/ 700	243 2/	173	64	-133
B	1/ 700	650 3/	700	500	300
C	1/ 700	900 3/	1,100	900	700
D	1/ 700	1,150 3/	1,500	1,900	1,500
E	1/ 700	1,150 3/	1,700	2,500	2,000

Notes: 1/ Food imports \$395 millions.

2/ Food imports eliminated.

3/ Food imports \$150 millions.

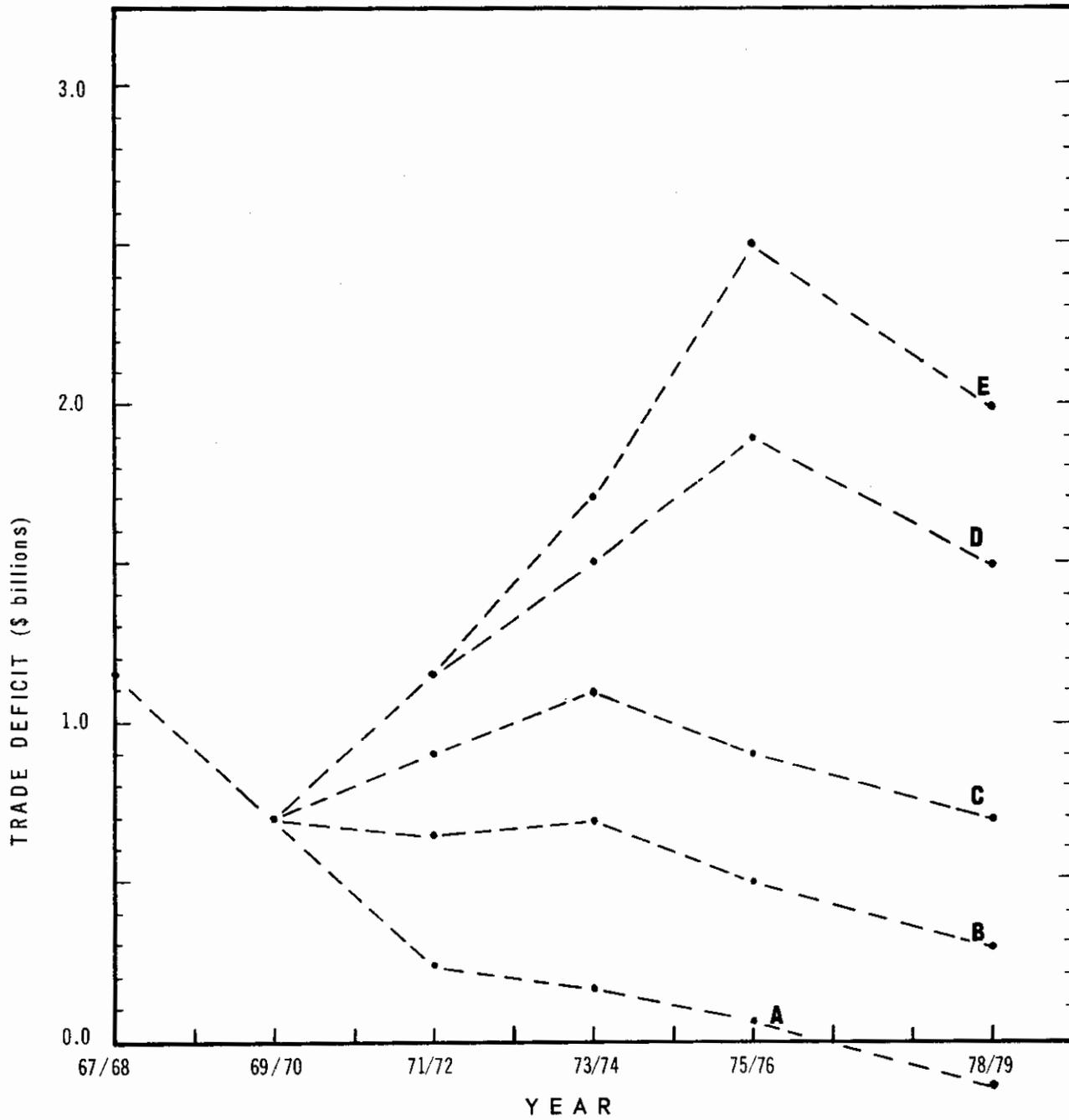


Figure 1. Trade Deficit Assumptions for Growth Rate Calculations

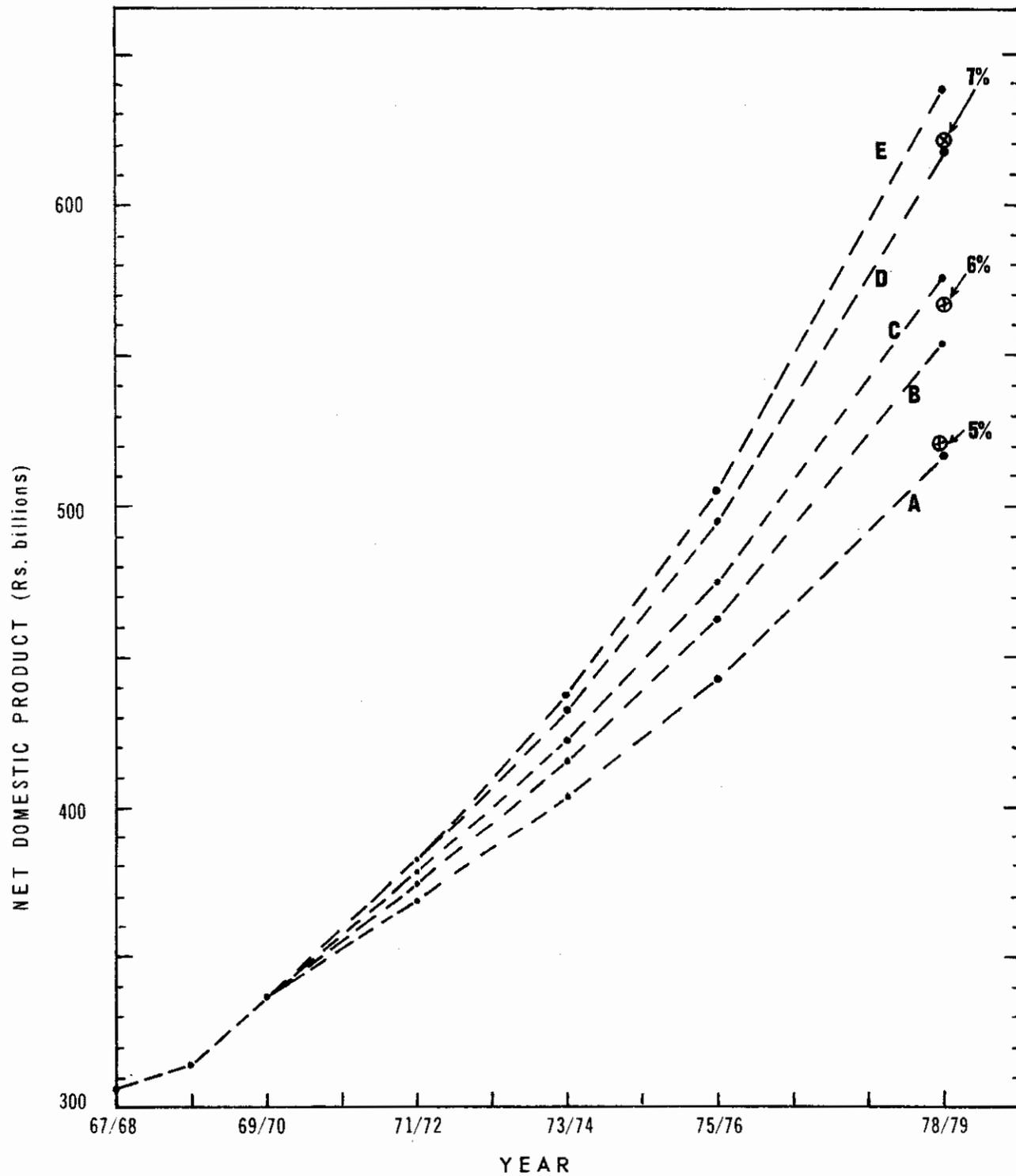


Figure 2. DMS Net Domestic Product Projections for Alternate Trade Deficit Levels

Table 3
 Average Annual Rates of Growth
 of Net National Product
 for Different Aid Levels, 1967/68 to 1978/79
 (percent)

<u>Aid Pattern</u>	First 6-year period: 1967/68 to <u>1973/74</u>	Second 5-year period: 1973/74 to <u>1978/79</u>	Entire 11-year period: 1967/68 to <u>1978/79</u>
A	4.7	5.0	4.8
B	5.2	5.9	5.5
C	5.5	6.4	5.9
D	5.9	7.4	6.6
E	6.1	7.9	6.9

Note that the relative difference between these growth rates would be magnified considerably if income growth were expressed in per capita terms. With population increasing by 2.5% per year, raising the aggregate growth rate from 4.8 to 6.9% per year almost doubles the rate of growth in per capita income.

These calculations raise a significant question concerning India's Fourth Plan: Why should there be such a large gap between the DMS model's estimates and the Planning Commission's estimates for aid requirements to meet the same targets - a gap of about \$800 millions per year in the mid and late 1970's? Although these calculations have adhered as closely as possible to the assumptions used by the Planning Commission, there is room for divergence in two areas: estimates of the availability of unutilized capacity, and 1969/70 base estimates. The estimates of unutilized capacity included for the calculations reported here are given in Annex E-1, and amount to the equivalent of some \$2.5 billions in additional investment. This unutilized capacity is most significant in the iron and steel, and machinery industries. At low aid levels, the DMS model calculations suggest that for some machinery sectors unutilized capacity might persist through the mid-1970's. The base year estimates for 1969/70 investment and savings appear to be slightly below what would be expected from an interpolation of the Plan projections between 1967/68 and 1973/74. Such a shortfall in the early years of a Plan affects progress toward targets much more than one in later years.

Implications of Alternative Assumptions

In the previous section, the projections for different aid levels were made under a set of assumptions corresponding as closely as possible to those employed by the Planning Commission in formulating India's Fourth Plan. Here the sensitivity of these projections to alternative assumptions for export and savings performance will be tested. It is not uncommon in India (or elsewhere) for planning targets to be missed and for expectations to be off the mark. By this exercise it is not meant to imply that the Planning Commission's assumptions are unrealistic. But events such as droughts and wars do tend to upset assumptions and one should be aware of the implications.

For exports, the alternative assumption employed is growth at a 5% per year rate from 1969/70 - contrasted with 7% assumed by the Planning Commission. While a 7% growth rate is possible if India's current export push is maintained, it is an ambitious target. In 1978/79 if we could look back and see only a 5% export growth rate attained from 1969/70, it would still be regarded as a solid accomplishment by India, especially in view of the low rate of export expansion in the last decade.

For savings, a per capita marginal savings rate of 30% from a base level determined by 1969/70 estimates is taken - in contrast

with the Planning Commission's assumption of 32% from a 1967/68 base. A per capita marginal savings rate close to 32% was actually achieved in the period 1960/61 to 1964/65, but statistically a rate of 30% or slightly lower would be more likely if the longer period 1960/61 through 1967/68^{1/} were considered. Also, Mission population projections, with annual growth rates of about 2.7% over the Fourth Plan and 2.6% over the Fifth Plan, are used in place of the Planning Commission's projections of 2.5% and 2.3%.

As shown in Table 4 for the single aid pattern "C", the change in the export assumption affects growth within the horizon of the model more than the change in the population/savings assumption. In fact, as a consequence of predetermined investment and savings levels for 1969/70 and time intervals of two years, the change of the population/savings assumption has no effect on meeting the Fourth Plan targets. (It would have a significant impact beyond the horizon of the model, however.) As the case with changes in the export and population/savings assumptions combined shows, one cannot afford to be complacent in these areas. The effect of the combined change is to reduce growth to approximately the level of that reached with the lower aid pattern "B" under the more optimistic assumptions. Growth rates in later years of the decade are actually lower than those for the lower aid pattern with more ambitious domestic performance. Of course, changing these assumptions with one of the lower aid patterns would lead to less rapid progress in those cases as well.

^{1/} See FY 1970 Program Memorandum - Annex E-2, August, 1968, for estimates of marginal savings rates.

Table 4

Average Annual Rates of Growth of
Net National Product with Aid Pattern "C",
Different Savings and Export Assumptions
(percent)

	First 6-year period:	Second 5-year period:	Entire 11-year period:
<u>Assumptions</u>	<u>1967/68 to 1973/74</u>	<u>1973/74 to 1978/79</u>	<u>1967/68 to 1978/79</u>
Fourth Plan	5.5	6.4	5.9
5% export growth	5.3	5.9	5.6
30% per capita marginal savings rate, USAID population projections	5.5	6.1	5.8
5% export growth <u>and</u> 30% per capita marginal savings rate, USAID population projections	5.3	5.6	5.5

ANNEX E-1

MODIFICATIONS TO THE DMS MODEL

This Annex summarizes the modifications made to the Manne-Weisskopf dynamic multisectoral (DMS) model of the Indian economy ^{1/} for the calculations reported in Annex E. Although the data base for the model (input-output coefficients, capital coefficients, base year data) is the same as for earlier versions, a number of revisions have been made to update the time reference of the model and to introduce structural modifications. These changes include:

- (1) Extension of the model's time horizon from 1975/76 to 1978/79.
- (2) Fitting the model's projections to estimates of aggregate economic performance and import composition for 1969/70.
- (3) Introduction of explicit capacity estimates as initial conditions for the model.
- (4) Integration of fertilizer import calculations into the model, and revision of the procedure for estimating miscellaneous imports.
- (5) Estimation of savings performance through a per capita savings function, coupled with maximization of terminal year net domestic product, in lieu of the original DMS approach of maximizing a gradually increasing consumption pattern.
- (6) Revision of the conditions determining the composition of terminal year investment to correspond to the savings function formulation.

Details of these modifications, keyed with references to the original DMS model formulation, are given below.

1. Time horizon. The original DMS model spanned the period 1967/68 through 1975/76, with 1967/68 taken as a datum and calculations made at two-year intervals, i.e. for 1969/70, 1971/72, 1973/74,

^{1/} Alan S. Manne and Thomas E. Weisskopf, "A Dynamic Multisectoral Model for India, 1967-75," Memorandum No. 57 (revised), Research Center in Economic Growth, Stanford University, May 1968. With minor changes, this model was used for the calculations in FY 1970 Program Memorandum-India, Annex C, Development Planning, August 1968.

and 1975/76. To span the period including India's Fifth Five Year Plan, an additional period of three years has been added to extend the time horizon through 1978/79. This extension required addition of sets of constraint groups A, B, D, E, F, and G for the new time period ($t=11$). These constraints are similar to those for earlier periods with the exception of the B group, in which investments for period 8 are weighted by $3/k_j$ rather than $2/k_j$ to take into account the different length of the terminal period.

The time subscripts for equation group C, the terminal year investment constraints, have been changed from year 8 to year 11. Equations F28 and F68 have been modified to:

$$(F28) \quad \Delta C_8 = 1/3 (C_{11}^* - C_8^*)$$

$$(F68) \quad \Delta V_8 = 1/3 (V_{11}^* - V_8^*)$$

2. 1969/70 estimates. To ensure that the model's projections would be consistent with likely actual economic performance by the Indian economy in 1969/70, estimates of aggregate economic magnitudes (net domestic product, consumption, savings, investment, trade deficit) and imports by sector were entered directly into the model. In the absence of adequate projections of sectoral detail, determination of sectoral investment and output levels for 1969/70 was left to the model.

Entering aggregate estimates for 1969/70 into the model required the following changes. Increments in net domestic product and net savings for 1969/70 were estimated to be Rs. 29.7 billions and Rs. 4.45 billions respectively measured from 1967/68 base levels. Activity N2 was deleted, and equation F92 was rewritten

$$(F92) \quad C_2^* + S_2^* = 29.7$$

Equation G22 was modified to

$$(G22) \quad S_2^* = 4.45$$

The allowance for inventory investment in equation F82 was changed from 10% to 9% of net fixed investment.

Import estimates for 1969/70 for sectors 2, 6, and 9-16 were entered by deleting the import activities Y_{j2} and adjusting the constant terms of the corresponding material balance equations A_{j2} to include the estimated import quantities. Rail transport requirements for imports of steel and petroleum products were entered in equation A172. Equations E142, E152, and E162 (lower limits on machinery imports) were deleted. Total imports were specified in the constant term of equation F102.

One anomaly arose in attempting to fit the model to 1969/70 projections. It was impossible initially to find a solution consistent with 1969/70 import projections for copper (sector 11) and lead/zinc (sector 12). In order to obtain a solution, it was necessary to provide inventories of \$15 millions each in copper and lead/zinc for drawdown in 1969/70. Before accepting this seeming inconsistency as prima-facie evidence of defective performance by the model, it should be recalled that in the earliest results from the DMS model (September 1967), the model's projections of nonferrous metals imports seemed significantly out-of-line on the low side compared with Mission import estimates for 1967/68. Since that time the model's projections have changed very little, while the Mission's estimates have been reduced to a level which now makes the model's requirements seem high.

3. Capacity estimates. Aside from an allowance for improved capacity utilization in the estimation of replacement investments, the DMS model was originally formulated under the assumption that capacity utilization would not change substantially from the conditions existing in 1967/68. Although definition and measurement of capacity utilization is a difficult and imprecise undertaking, it is now accepted that 1967/68 (and 1968/69) were years of recession in which capacity utilization was below normal and that recovery would bring fuller utilization of capacity. ^{1/} During these years, unutilized capacity was especially visible in the iron and steel, machinery, and chemical (including fertilizers) industries.

These observations led to the judgement that a necessarily crude adjustment for capacity utilization in the model would be better than none. The assumptions underlying the model now are that, except for the iron and steel, machinery, and fertilizers industries, capacity utilization will be approximately normal at the recovery levels of economic activity implied by the 1969/70 estimates. Estimates of base

^{1/} A recent survey of studies on capacity utilization in India is given in "Excess Capacity and Production Potential in Selected Industries in India", Reserve Bank of India Bulletin, April 1969, pp. 471-492.

year capacities for the iron and steel, machinery, and fertilizers sectors have been entered directly into the model. 1/ In addition, estimates were deduced from the model for the value (measured as a reduction in investment requirements) of the improvement in capacity utilization in other sectors required to attain the 1969/70 macroeconomic estimates.

Estimates of future capacity utilization in the fertilizer industry were included directly in the projections made outside the model for this industry. For iron and steel and machinery, estimates by Ridker and Marwah 2/ of potential production in 1969/70 as related to 1964/65 output were employed. Estimates of unutilized capacity in these sectors are given in Table 1. The value of this unutilized capacity in terms of reduced net investment requirements is Rs. 7,306 millions - almost one billion dollars.

Unutilized capacities for these sectors were entered into the DMS model by adjusting the constant terms of equations Bjt. It is evident that the structure of each sector (due to differences in product mix and capacity utilization within the sector) would make it unlikely that full capacity utilization could be attained without additional investment in the sector or without additional imports of products for which the sector is in short supply. E.g., in steel there may be unutilized capacity in structural's and merchant sections while large amounts of flat products are in short supply and imported. To allow approximately for such imperfect composition of sectoral unutilized capacity, it was assumed that half the unutilized capacity in iron and steel could be utilized by 1969/70, while full utilization of existing capacity could be attained in 1971/72. No such restrictions were placed on the machinery sectors since it was anticipated that the lower limits on machinery imports (constraint group E) would ensure reasonable progress toward fuller utilization of capacity in these sectors.

1/ Estimates for the chemical industries in general have not been included since this sector does not appear explicitly within the model.

2/ R.G. Ridker and I. Marwah, "Prospects for the Indian Economy, 1969/70 : Some Illustrative Estimates," USAID-New Delhi, January 1969.

Table 1

Estimates of Utilized Capacities in Selected Sectors

DMS sector no.	Sector	Actual output (Rs. millions)		Potential output % of 1/ 1964/65		Sectoral capital/output ratio	Utilized capacity (Rs. millions)	
		1964/65	1967/68	1964/65	1967/68		Output value	Investment value
8	Pig iron and ferro alloys	1,919	2,172	135	2,591	2.0345	419	852
9	Steel	2,778	4,130	135	5,100	2.2044	970	2,138
13	Fabricated metal products	5,029	6,789	135	6,789	1.3660	-	-
14	Nonelectrical machinery	3,708	5,173	200	7,416	1.1635	2,243	2,610
15	Electrical machinery	2,230	2,912	190	4,254	.7014	1,342	941
16	Transport equipment	2,539	2,292	135	3,428	.6734	1,136	765
								<u>7,306</u>

Note: 1/ Source: R. G. Bidker and I. Marwah, "Prospects for the Indian Economy, 1969/70: Some Illustrative Estimates," USAID-New Delhi, January 1969, Table III-1.

Even after providing the explicitly estimated unutilized sectoral capacities discussed above, a more general improvement in capacity utilization was required to meet the estimates for 1969/70 economic performance. The value of this improved capacity utilization in terms of investment saved was estimated implicitly by determining the minimum amount of investment required by the model in 1967/68 to meet the 1969/70 estimates, and comparing this amount with actual investment for 1967/68. As given in Table 3-A, Annex E-2, net fixed investment required by the model in 1967/68 was Rs. 34,352 millions compared with actual 1967/68 net fixed investment of Rs. 28,700 millions. The investment value of unutilized capacity, Rs. 5,652 millions, is an average over two years; thus the total investment value of improved capacity utilization is Rs. 11,304 millions (about \$1.5 billions). The total value of improved capacity utilization included in the model, both explicitly and implicitly, amounts to \$2.5 billions measured in terms of equivalent investment.

For subsequent calculations with the model, implicitly estimated improvement in capacity utilization was included by constraining 1967/68 investment in the endogenous sectors 1-17 (mining, manufacturing, power, and railway rolling stock) in equation F70 to the corresponding level of Rs. 11,427 millions:

$$\sum_{j=1}^{17} u_{jt} = 11.427$$

Although the same definition of F70 was used in the computations for the FY 1970 Program Memorandum (Annex C), the investment limit there was Rs. 8,000 millions.

4. Fertilizer and maintenance imports. In previous computations with the DMS model, estimates of the fertilizer sector (production, imports, and investment in manufacturing facilities) have been made outside the model. To provide more flexibility in matching agricultural growth rates to growth rates in consumption and national product generated within the model, calculations of fertilizer imports have been integrated into the model. In effect, it is now assumed that the expansion pattern of the fertilizer industry has been predetermined and

that differences between fertilizer production and requirements for different agricultural growth rates will be filled by imports. Fertilizer imports are calculated by making a single set of estimates for one assumed estimated growth pattern for net domestic product (and corresponding agricultural growth rates) and then making marginal adjustments to the import estimates corresponding to marginal changes in net domestic product and agricultural production.

From estimates of foodgrains requirements for growth rates of 5.0% and 6.5% in net domestic product,^{1/} it has been calculated that an additional Rs. one billion net domestic product in a given year would generate an additional demand for 110,000 metric tons of foodgrains. From estimates of agricultural production and input requirements,^{2/} it has been estimated that gross additional production of about 21.0 metric tons of foodgrains over the period 1973 to 1979 would require inputs including about 1.0 metric tons fertilizer nutrients. Note that this is not a fertilizer response ratio - it is a production response for a complete package of inputs for which the fertilizer portion is 1.0 tons. Assuming 12½% foodgrains losses, application of 75% of fertilizers to foodgrains, and an import cost of \$178.50 per ton of NPK nutrients in 4-2-1 ratio, the coefficient for adjusting fertilizer imports is \$1.474 millions fertilizer imports per additional Rs. one billion net domestic product.

The base level estimates for fertilizer imports for the period 1971/72 through 1978/79 have been taken from Planning Commission estimates.^{3/} The corresponding levels of net domestic product have been taken to be the targets set by the draft Fourth Plan.^{4/}

The estimation of maintenance imports, or imports not elsewhere classified, suffers from lack of any firm analytical or statistical base. As defined in DMS, this category includes such diverse items as chemicals, cashews, cotton, and jute. Maintenance imports accounted for about 25%

1/ D. Erlenkotter and H. Lubell, "Additional Foreign Aid for Socially Oriented Government Programs," USAID-New Delhi, April 1969, Table 7.

2/ "Supply Projections for Agricultural Commodities 1968/69 to 1983/84," USAID-New Delhi, January 1969, Table III.

3/ Fourth Five Year Plan, 1969-74 (Draft), p. 39, Table 5.

4/ Fourth Five Year Plan, 1969-74 (Draft), p. 31, Table 1.

of total imports in 1967/68. Based on observations of historical time series for these imports (see Table 2), one could not reject the hypothesis that maintenance imports tend toward a constant level subject to random fluctuations. Import substitution has almost exactly offset increases in demand for items in this category. However, it is not reasonable to assume that the level of maintenance imports could be held constant in the future regardless of the rate of growth. The estimation procedure adopted here is to fix maintenance imports for each year in a constant ratio to the level of NDP. 1/ The ratio selected here is determined by the Planning Commission's estimate of maintenance imports. 2/ (see Annex E-2, Table 2-A) and the indicated levels of net domestic product consistent with the Planning Commission's import estimates (see Annex E-2, Table 1-A). These estimates are roughly consistent with historical behavior : i.e., if historical rates of growth were maintained, imports in this category would remain at approximately a constant level.

Estimates of both categories of imports are generated within the DMS model by equation set F10t, which is now formulated:

$$\begin{aligned}
 (F10t) \quad \bar{E}_0 + E_t^* + Z_t &= \sum_{\substack{i=2,6, \\ 9-16}} y_{it} \\
 &+ \bar{M}_t^F + m^F (N_t^* - N_t^F) \\
 &+ m_t^M (N_0 + N_t^*)
 \end{aligned}$$

1/ This approach may be contrasted with that of the FY 1970 Program Memorandum, Annex C, in which it was assumed that imports in this category would grow at half the rate of NDP.

2/ Fourth Five Year Plan, 1969-74 (Draft), p. 39, Table 5.

Table 2

Imports Not Elsewhere Classified,
1960/61 to 1968/69

<u>Year</u>	<u>Imports n.e.c., \$ millions/year</u>
1960/61	732
1961/62	664
1962/63	654
1963/64	621
1964/65	636
1965/66	639
1966/67	630
1967/68	662
1968/69	686
Average, 9 years	658

Source: DP/E, 5/23/69

with new symbols introduced as follows:

M_t^F	base level of fertilizer imports for year t
m^F	change in fertilizer imports per unit change in NDP
N_t^F	level of NDP corresponding to base level of fertilizer imports for year t , measured from 1967/68 NDP base N_0
m_t^M	ratio of maintenance imports to NDP in year t .

5. Savings and objective formulation. As originally formulated, the objective of the DMS model was the maximization of a gradually increasing consumption pattern. Subject to an upper limit on the marginal savings rate, savings were determined as the difference between the investment level required to sustain consumption growth, and net foreign resources. In some cases, particularly where the level of net foreign resources changed rapidly over time, marginal savings rates between periods performed erratically.

To ensure that savings growth would adhere to a more "gradual" pattern, DMS has been reformulated to project savings in relation to income according to a prespecified savings function. With this modification the maximand is changed from consumption to terminal year net domestic product. The savings function chosen is one where the per capita marginal propensity to save from additions to per capita net domestic product is constant over time. This formulation seems to fit adequately savings performance in India during the 1960's. 1/

1/ See FY 1970 Program Memorandum - India, Annex C-2, August 1968, for statistical computations of savings functions.

Including the per capita savings function in the DMS model required the following changes: The savings constraints G2t were changed to the form:

$$(G2t) \quad S_t^* + \bar{S}_o = \alpha(N_t^* + \bar{N}_o) - a P_t$$

where additional symbols required are defined as follows:

α per capita marginal propensity to save

P_t population in year t

$$a = \frac{\alpha \bar{N}_o - \bar{S}_o}{P_o}$$

Also, constraints F1t, defining the gradualist consumption pattern, were deleted.

6. Terminal year investment conditions. DMS contains specific constraints to ensure that investment in the terminal year of the model is consistent with the requirements for further growth in the Indian economy. To prevent investment requirements determined by these constraints from conflicting with the investment level determined by the savings function, the terminal year investment formulation has been modified slightly. This modification consists of deleting constraint F211 (which ties the increment in consumption ΔC_{11} for the first post-terminal year period to the absolute level of consumption in the terminal year) and redefining constraint F611 in a manner similar to constraints F5t as: 1/

1/ The modification in constraint F611 was formulated after the computations for Annex E were completed, and was tried only in one unsuccessful computation which was terminated prematurely by the computer. While this omission does not affect the total level of investment in the terminal year, it does bias the content of this investment slightly toward consumption-oriented activities.

$$\begin{aligned}
 \text{(F611)} \quad \Delta v_{11} &= \sum_{j=1}^{17} v_j (u_{j11}/k_j) + c_v^2 \Delta C_{11} \\
 &+ e_v^2 \Delta E_{11} + d_v^2 \Delta v_{11} \\
 &+ (v_F / k_F) \bar{d}_{I11}^F
 \end{aligned}$$

where it is assumed (as in constraint set C) that

$$x_{j12} - x_{j11} = (u_{j11}/k_j)$$

This modification ensures that consumption increments could increase at the model's target growth rate g in years subsequent to the horizon beginning with the base level ΔC_{11} . ^{1/} (As in the original DMS formulation, however, eventual balancing of the trade deficit is not guaranteed by such a projection.)

^{1/} From the standpoint of demonstrating optimality over a longer horizon, it would be desirable to define the maximand as C_{11} instead of as terminal year NDP. This experiment was tried for one case and yielded results virtually identical to those obtained by maximizing terminal year NDP.

ANNEX E-2

DMS MODEL PROJECTIONS - SUMMARY TABLES

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Table 1-A

Annex E-2

Macroeconomic Balances : Aid Pattern "A"
 (1967/68 market prices) Fourth Plan Assumptions

unit	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
Rs. billions						
Net domestic product	306.7	336.4	368.8	403.6	442.8	514.3
Consumption	282.8	308.0	332.7	360.5	391.2	445.9
Domestic savings	23.9	28.4	36.1	43.1	51.6	68.4
Net investment	32.5	33.6	37.9	44.4	52.1	67.4
Trade deficit, total	8.6	5.2	1.8	1.3	.5	-1.0
% annual growth rates						
NDP	4.7	4.7	4.6	4.7	4.7	5.1
Consumption	4.4	3.9	4.1	4.2	4.2	4.5
Net investment	1.7	6.2	8.2	8.3	8.3	9.0
%						
Marginal propensity to save	15.2	23.8	20.1	21.7	23.5	23.5
Incremental output- capital ratio	45.7	48.2	45.9	44.1	45.7	45.7

Note: 1/ USAID preliminary estimates of 5/23/69

Macroeconomic Balances : Aid Pattern "B"
(1967/68 market prices) Fourth Plan Assumptions

unit	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
		1/				
Rs. billions						
Net domestic product	306.7	336.4	373.8	415.3	462.5	553.1
Consumption	282.8	308.0	336.1	368.5	404.6	472.3
Domestic savings	23.9	28.4	37.7	46.8	57.9	80.8
Net investment	32.5	33.6	42.6	52.0	61.6	83.0
Trade deficit, total	8.6	5.2	4.9	5.2	3.7	2.2
% annual growth rates						
NDP	4.7	5.4	5.4	5.4	5.5	6.2
Consumption	4.4	4.5	4.7	4.7	4.8	5.3
Net investment	1.7	12.6	10.5	8.9	8.9	10.5
%						
Marginal propensity to save	15.2	24.9	21.9	19.3	25.3	
Incremental output- capital ratio	45.7	55.7	48.7	50.4	49.0	

Note: 1/ USAID preliminary estimates of 5/23/69

Table 1-C

Annex E-2

Macroeconomic Balances : Aid Pattern "C"
(1967/68 market prices) Fourth Plan Assumptions

unit	1967/68	1969/70	^{1/}	1971/72	1973/74	1975/76	1978/79
Rs. billions							
Net domestic product	306.7	336.4		377.6	422.8	475.1	576.8
Consumption	282.8	308.0		338.7	373.6	413.2	488.4
Domestic savings	23.9	28.4		38.9	49.2	61.9	88.4
Net investment	32.5	33.6		45.7	57.4	68.7	93.6
Trade deficit, total	8.6	5.2		6.8	8.2	6.8	5.2
% annual growth rates							
NDP	4.7	5.9		5.8	6.0	6.7	6.7
Consumption	4.4	4.9		5.0	5.2	5.7	5.7
Net investment	1.7	16.6		12.1	9.4	10.9	10.9
%							
Marginal propensity to save	15.2	25.5		22.8	24.3	26.1	26.1
Incremental output- capital ratio	45.7	61.3		49.5	45.6	49.3	49.3

Note: 1/ USAID preliminary estimates of 5/23/69

Macroeconomic Balances : Aid Pattern "D"
(1967/68 market prices) Fourth Plan Assumptions

unit	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
Rs. billions						
Net domestic product	306.7	336.4	381.6	432.7	495.6	617.0
Consumption	282.8	308.0	341.4	380.3	427.1	515.8
Domestic savings	23.9	28.4	40.2	52.4	68.5	101.2
Net investment	32.5	33.6	48.8	63.6	82.7	112.4
Trade deficit, total	8.6	5.2	8.6	11.2	14.2	11.2
% annual growth rates						
NDP	4.7	6.5	6.5	7.0	7.0	7.6
Consumption	4.4	5.3	5.5	6.0	6.0	6.5
Net investment	1.7	20.5	14.2	14.0	14.0	10.8
%						
Marginal propensity to save	15.2	26.1	23.9	25.6	26.9	26.9
Incremental output- capital ratio	45.7	67.3	52.4	60.0	48.9	48.9

Note: 1/ USAID preliminary estimates of 5/23/69

Macroeconomic Balances : Aid Pattern "C"
 (1967/68 market prices) 5% export growth rate

unit	1967/68	1969/70	^{1/} 1971/72	1973/74	1975/76	1978/79
Rs. billions						
Net domestic product	306.7	336.4	374.6	417.0	464.9	556.4
Consumption	282.8	308.0	336.6	369.7	406.3	474.5
Domestic savings	23.9	28.4	38.0	47.4	58.6	81.9
Net investment	32.5	33.6	44.8	55.6	65.4	87.1
Trade deficit, total	8.6	5.2	6.8	8.2	6.8	5.2
% annual growth rates						
NDP	4.7	5.5	5.5	5.6	6.2	6.2
Consumption	4.4	4.5	4.8	4.8	5.3	5.3
Net investment	1.7	15.5	11.5	8.5	10.0	10.0
%						
Marginal propensity to save	15.2	25.1	21.9	23.6	25.4	25.4
Incremental output- capital ratio	45.7	56.8	47.3	43.1	46.6	46.6

Note: 1/ USAID preliminary estimates of 5/23/69

Table 1-C2

Annex E-2

Macroeconomic Balances : Aid Pattern "C"
 (1967/68 market prices) 30% per capita marginal savings rate
 USAID population projections

unit	1967/68	1969/70	1/1971/72	1973/74	1975/76	1978/79
Rs. billions						
Net domestic product	306.7	336.4	379.6	424.1	474.6	569.1
Consumption	282.8	308.0	342.2	377.5	417.3	490.0
Domestic savings	23.9	28.4	37.4	46.6	57.3	79.1
Net investment	32.5	33.6	44.2	54.8	64.1	84.3
Trade deficit, total	8.6	5.2	6.8	8.2	6.8	5.2
% annual growth rates						
NDP	4.7	6.2	5.7	5.8	6.3	6.3
Consumption	4.4	5.3	5.1	5.2	5.5	5.5
Net investment	1.7	14.6	11.5	8.1	9.6	9.6
%						
Marginal propensity to save	15.2	22.5	20.7	21.2	23.1	23.1
Incremental output- capital ratio	45.7	64.3	50.5	46.1	49.2	49.2

Note: 1/ USAID preliminary estimates of 5/23/69

Macroeconomic Balances : Aid Pattern "C"
 (1967/68 market prices) 5% export growth rate
 30% per capita marginal savings rate
 USAID population projections

unit	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
Rs. billions						
Net domestic product	306.7	336.4	377.3	418.5	464.7	550.3
Consumption	232.8	308.0	340.6	373.6	410.4	476.8
Domestic savings	23.9	28.4	36.7	44.9	54.3	73.5
Net investment	32.5	33.6	43.5	53.1	61.1	78.7
Trade deficit, total	8.6	5.2	6.8	8.2	6.8	5.2
% annual growth rates						
NDP	4.7	5.9	5.3	5.4	5.8	5.8
Consumption	4.4	5.2	4.7	4.8	5.1	5.1
Net investment	1.7	13.8	10.5	7.3	8.8	8.8
%						
Marginal propensity to save	15.2	20.3	19.9	20.3	22.4	22.4
Incremental output- capital ratio	45.7	60.9	47.3	43.5	46.7	46.7

Note: 1/ USAID preliminary estimates of 5/23/69

Table 2-A

Annex E-2

Merchandise Trade Projections : Aid Pattern "A"
 Fourth Plan Assumptions
 (\$ millions)

	1967/68	1969/70	^{1/} 1971/72	1973/74	1975/76	1978/79
Foodgrains (including cereal preparations)	691	395	-	-	-	-
Fertilizers and fertilizer raw materials	283	305	400	480	533	600
Imports not elsewhere classified	682	715	660	653	673	700
Crude oil	110	150	149	203	211	271
Petroleum products	58	40	-	-	-	-
Steel	142	125	219	84	178	-
Aluminum	24	8	-	-	-	-
Copper	47	52	98	102	116	143
Lead and zinc	27	40	65	77	89	117
Fabricated metal products	19	20	-	-	-	-
Non-electrical machinery	448	510	600	800	800	800
Electrical machinery	112	120	178	120	120	366
Transport equipment	102	120	81	187	244	403
Total imports	2,745	2,600	2,450	2,706	2,964	3,400
Exports	1,599	1,900	2,207	2,533	2,900	3,533
Trade deficit, total	1,146	700	243	173	64	-133

Note: 1/ USAID preliminary estimates of 5/23/69

Table 2-B

Annex E-2

Merchandise Trade Projections : Aid Pattern "B"
(\$ millions)
Fourth Plan Assumptions

	1967/68	1969/70	^{1/} 1971/72	1973/74	1975/76	1978/79
Foodgrains (including cereal preparations)	691	395	150	-	-	-
Fertilizers and fertilizer raw materials	283	305	397	469	513	571
Imports not elsewhere classified	682	715	669	672	703	752
Crude oil	110	150	181	241	303	321
Petroleum products	58	40	-	-	-	-
Steel	142	125	33	16	-	-
Aluminum	24	8	-	-	-	-
Copper	47	52	84	90	117	159
Lead and zinc	27	40	65	78	95	122
Fabricated metal products	19	20	-	-	-	-
Non-electrical machinery	448	510	707	800	970	1,346
Electrical machinery	112	120	324	543	407	120
Transport equipment	102	120	247	324	292	442
Total imports	2,745	2,600	2,857	3,233	3,400	3,833
Exports	1,599	1,900	2,207	2,533	2,900	3,533
Trade deficit, total	1,146	700	650	700	500	300

Note: ^{1/} USAID preliminary estimates of 5/23/69

Table 2-C

Annex E-2

Merchandise Trade Projections : Aid Pattern "C"
 (\$ millions) Fourth Plan Assumptions

	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
Foodgrains (including cereal preparations)	691	395	150	-	-	-
Fertilizers and fertilizer raw materials	283	305	402	480	531	606
Imports not elsewhere classified	682	715	676	684	722	786
Crude oil	110	150	190	246	306	385
Petroleum products	58	40	-	-	-	-
Steel	142	125	150	247	-	-
Aluminum	24	8	-	-	-	-
Copper	47	52	81	90	108	185
Lead and zinc	27	40	62	75	97	131
Fabricated metal products	19	20	-	-	-	-
Non-electrical machinery	448	510	741	842	1,086	1,501
Electrical machinery	112	120	390	620	621	137
Transport equipment	102	120	265	349	329	502
Total imports	2,745	2,600	3,107	3,633	3,800	4,233
Exports	1,599	1,900	2,207	2,533	2,900	3,533
Trade deficit, total	1,146	700	900	1,100	900	700

Note: 1/ USAID preliminary estimates of 5/23/69

Merchandise Trade Projections : Aid Pattern "D"
Fourth Plan Assumptions
(\$ millions)

	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
Foodgrains (including cereal preparations)	691	395	150	-	-	-
Fertilizers and fertilizer raw materials	283	305	409	495	561	665
Imports not elsewhere classified	682	715	683	700	753	840
Crude oil	110	150	190	249	316	409
Petroleum products	58	40	-	-	-	-
Steel	142	125	86	403	216	-
Aluminum	24	8	-	-	-	-
Copper	47	52	68	88	95	177
Lead and zinc	27	40	60	71	93	139
Fabricated metal products	19	20	141	-	-	-
Non-electrical machinery	448	510	761	994	1,294	1,761
Electrical machinery	112	120	527	650	973	443
Transport equipment	102	120	282	383	499	599
Total imports	2,745	2,600	3,357	4,033	4,800	5,033
Exports	1,599	1,900	2,207	2,533	2,900	3,533
Trade deficit, total	1,146	700	1,150	1,500	1,900	1,500

Note: 1/ USAID preliminary estimates of 5/23/69

Table 2-E

Annex E-2

Merchandise Trade Projections : Aid Pattern "E"
 (\$ millions)
 Fourth Plan Assumptions

	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
Foodgrains (including cereal preparations)	691	395	150	-	-	-
Fertilizers and fertilizer raw materials	283	305	410	501	576	696
Imports not elsewhere classified	682	715	684	707	768	869
Crude oil	110	150	189	250	320	421
Petroleum products	58	40	-	-	-	-
Steel	142	125	129	319	541	-
Aluminum	24	8	-	-	-	-
Copper	47	52	68	84	96	164
Lead and zinc	27	40	59	69	87	141
Fabricated metal products	19	20	127	139	-	-
Non-electrical machinery	448	510	743	1,099	1,414	1,884
Electrical machinery	112	120	520	659	1,063	692
Transport equipment	102	120	278	406	535	666
Total imports	2,745	2,600	3,357	4,233	5,400	5,533
Exports	1,599	1,900	2,207	2,533	2,900	3,533
Trade deficit, total	1,146	700	1,150	1,700	2,500	2,000

Note: 1/ USAID preliminary estimates of 5/23/69

Merchandise Trade Projections : Aid Pattern "C"
 (\$ millions) 5% export growth rate

	1967/68	1969/70 ^{1/}	1971/72	1973/74	1975/76	1978/79
Foodgrains (including cereal preparations)	691	395	150	-	-	-
Fertilizers and fertilizer raw materials	283	305	398	472	516	576
Imports not elsewhere classified	682	715	670	675	707	757
Crude oil	110	150	189	244	310	303
Petroleum products	58	40	-	-	-	-
Steel	142	125	78	42	-	-
Aluminum	24	8	-	-	-	-
Copper	47	52	84	91	135	169
Lead and zinc	27	40	65	80	100	132
Fabricated metal products	19	20	-	-	-	-
Non-electrical machinery	448	510	743	828	1,054	1,401
Electrical machinery	112	120	361	637	282	120
Transport equipment	102	120	257	341	343	190
Total imports	2,745	2,600	2,995	3,410	3,447	3,648
Exports	1,599	1,900	2,095	2,310	2,547	2,948
Trade deficit, total	1,146	700	900	1,100	900	700

Note: 1/ USAID preliminary estimates of 5/23/69

Table 2-02

Annex E-2

Merchandise Trade Projections : Aid Pattern "C"
 (\$ millions) 30% per capita marginal savings rate
 USAID population projections

	1967/68	1969/70	1971/72	1973/74	1975/76	1978/69
Foodgrains (including cereal preparations)	691	395	150	-	-	-
Fertilizers and fertilizer raw materials	283	305	405	482	530	594
Imports not elsewhere classified	682	715	680	686	721	774
Crude oil	110	150	189	243	301	375
Petroleum products	58	40	-	-	-	-
Steel	142	125	72	347	8	-
Aluminum	24	8	-	-	-	-
Copper	47	52	69	88	93	144
Lead and zinc	27	40	61	70	91	120
Fabricated metal products	19	20	59	-	-	-
Non-electrical machinery	448	510	690	843	980	1,341
Electrical machinery	112	120	475	546	674	439
Transport equipment	102	120	257	328	402	446
Total imports	2,745	2,600	3,107	3,633	3,800	4,233
Exports	1,599	1,900	2,207	2,533	2,900	3,533
Trade deficit, total	1,146	700	900	1,100	900	700

Note: 1/ USAID preliminary estimates of 5/23/69

Merchandise Trade Projections : Aid Pattern "C"
 (\$ millions)
 5% export growth rate
 30% per capita marginal savings rate
 USAID population projections

	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
Foodgrains (including cereal preparations)	691	395	150	-	-	-
Fertilizers and fertilizer raw materials	283	305	402	474	516	567
Imports not elsewhere classified	682	715	675	677	706	749
Crude oil	110	150	171	243	306	293
Petroleum products	58	40	-	-	-	-
Steel	142	125	138	156	-	-
Aluminum	24	8	-	-	-	-
Copper	47	52	82	88	112	156
Lead and zinc	27	40	62	75	95	121
Fabricated metal products	19	20	-	-	-	-
Non-electrical machinery	448	510	712	800	960	1,276
Electrical machinery	112	120	352	573	461	120
Transport equipment	102	120	251	324	291	366
Total imports	2,745	2,600	2,995	3,410	3,447	3,648
Exports	1,599	1,900	2,095	2,310	2,547	2,948
Trade deficit, total	1,146	700	900	1,100	900	700

Note: 1/ USAID preliminary estimates of 5/23/69

Net Investment - 37 Sectors : Aid Pattern "A"
(Rs. millions) Fourth Plan Assumptions

Sector number	Sector description	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
1-17	Mining, manufacturing, power and railway rolling stock	11,427	8,202	9,874	12,352	15,178	18,516
25	Fertilizer manufacturing	1,000	1,270	1,270	1,270	1,270	1,270
18-24 and 26-30	Other mining, manufacturing and transport sectors	6,042	5,890	6,244	7,378	8,329	11,063
31-32	Agriculture and irrigation	6,440	6,273	7,115	7,822	9,294	12,616
33	Rail construction, excluding rolling stock	825	800	784	1,012	1,081	1,413
34	Road construction	1,067	1,035	1,014	1,310	1,399	1,828
35	Other transport and communications	1,087	1,054	1,033	1,335	1,426	1,863
36	Housing	3,333	3,248	3,683	4,049	4,811	6,531
37	Social services	3,131	3,051	3,460	3,804	4,519	6,135
	Net fixed investment	^{1/} 34,352 (28,700)	30,823	34,477	40,332	47,307	61,235
	Net inventory investment	3,800	2,774	3,448	4,033	4,731	6,124
	Net investment, total	32,500	33,597	37,925	44,365	52,038	67,359

Note: 1/ Including allowance for investment value of unutilized capacity.

Net Investment - 37 Sectors : Aid Pattern "C"
(Rs. millions) Fourth Plan Assumptions

Sector number	Sector description	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
1-17	Mining, manufacturing, power and railway rolling stock	11,427	6,139	11,147	17,317	19,084	23,790
25	Fertilizer manufacturing	1,000	1,270	1,270	1,270	1,270	1,270
18-24 and 26-30	Other mining, manufacturing and transport sectors	6,332	5,764	7,736	9,062	11,187	14,991
31-32	Agriculture and irrigation	6,438	7,817	8,902	10,103	12,785	19,533
33	Rail construction, excluding rolling stock	911	550	983	1,201	1,454	1,632
34	Road construction	1,179	711	1,271	1,554	1,880	2,111
35	Other transport and communications	1,201	725	1,296	1,583	1,916	2,152
36	Housing	3,333	4,046	4,608	5,230	6,618	10,111
37	Social services	3,131	3,801	4,329	4,913	6,217	9,499
	Net fixed investment	34,952 (28,700)	30,823	41,542	52,233	62,411	85,089
	Net inventory investment	3,800	2,774	4,154	5,223	6,241	8,509
	Net investment, total	32,500	33,597	45,696	57,456	68,652	93,598

Note: 1/ Including allowance for investment value of unutilized capacity.

Table 4-A

Annex E-2

Net Investment - 17 Sectors : Aid Pattern "A"
(Rs. millions) Fourth Plan Assumptions

Sector	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
1. Minerals	369	191	321	320	366	468
2. Crude oil	-	488	-	488	-	224
3. Coal	379	274	309	372	445	530
4. Coke	232	131	176	192	279	294
5. Electricity	4,771	1,848	3,355	3,948	4,172	5,483
6. Petroleum products	63	265	189	199	151	237
7. Cement	126	189	107	403	408	415
8. Pig iron and ferro-alloys	524	117	567	502	898	847
9. Steel	1,329	-	1,784	998	2,605	2,213
10. Aluminum	249	292	179	140	118	288
11. Copper	78	-	-	-	-	13
12. Lead and zinc	5	-	-	-	-	13
13. Fabricated metal products	739	822	640	997	1,153	1,423
14. Non-electrical machinery	-	-	-	683	1,519	1,006
15. Electrical machinery	-	652	610	250	77	706
16. Transport equipment	-	-	-	-	-	328
17. Railway rolling stock	2,563	2,933	1,637	2,860	2,987	4,028
Totals, 17 production-oriented sectors	11,427 ^{1/}	8,202	9,874	12,352	15,178	18,516
Investment, sectors 1-17 as % of net investment, total	30.0	24.4	26.0	27.8	29.2	27.5

Note: 1/ Including investment allowance for unutilized capacity

Net Investment - 17 Sectors : Aid Pattern "C"
(Rs. millions)
Fourth Plan Assumptions

Sector	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
1. Minerals	411	149	309	441	468	579
2. Crude oil	-	-	-	-	-	204
3. Coal	416	236	379	515	551	683
4. Coke	246	110	210	313	295	379
5. Electricity	4,091	2,096	3,802	5,267	5,758	7,130
6. Petroleum products	64	268	216	235	199	301
7. Cement	251	298	235	570	656	560
8. Pig iron and ferro-alloys	570	30	558	1,081	852	1,042
9. Steel	1,409	-	1,195	3,514	2,234	2,763
10. Aluminum	252	89	114	254	558	427
11. Copper	100	-	-	-	-	46
12. Lead and zinc	16	-	-	-	-	44
13. Fabricated metal products	838	646	1,107	1,024	1,555	1,865
14. Non-electrical machinery	-	-	-	-	-	611
15. Electrical machinery	65	-	-	587	1,935	1,163
16. Transport equipment	-	-	-	-	-	441
17. Railway rolling stock	2,698	2,217	3,022	3,516	4,023	5,533
Totals, 17 production-oriented sectors	11,427 ^{1/}	6,139	11,147	17,317	19,084	23,790
Investment, sectors 1-17 as % of net investment, total	29.5	18.3	24.4	30.1	27.8	25.4

Note: 1/ Including investment allowance for unutilized capacity.

Table 5-A

Annex E-2

Gross Output by Sector : Aid Pattern "A"
(Rs. millions) Fourth Plan Assumptions

Sector	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
1. Minerals	1,230	1,522	1,673	1,925	2,180	2,614
2. Crude oil	540	540	833	833	1,125	1,125
3. Coal	2,091	2,355	2,545	2,761	3,020	3,484
4. Coke	991	1,213	1,338	1,506	1,689	2,088
5. Electricity	3,131	3,807	4,455	5,126	5,916	7,167
6. Petroleum products	1,805	1,989	2,761	3,313	3,895	4,555
7. Cement	1,070	1,174	1,330	1,419	1,751	2,255
8. Pig iron and ferro alloys	2,172	2,897	3,222	3,779	4,273	5,597
9. Steel	4,130	5,820	6,305	7,924	8,800	12,375
10. Aluminum	325	490	684	803	896	1,013
11. Copper	70	160	70	160	160	70
12. Lead and zinc	20	25	20	20	20	20
13. Fabricated metal products	6,789	7,870	9,074	10,011	11,471	14,004
14. Non-electrical machinery	5,173	5,501	6,313	5,701	8,591	12,508
15. Electrical machinery	2,913	4,255	6,115	7,853	8,566	8,897
16. Transport equipment	2,292	3,428	3,428	3,428	3,428	3,428
17. Rail transport	7,879	9,432	10,774	12,202	13,935	16,650
Total, 17 sectors	<u>42,621</u>	<u>52,478</u>	<u>60,940</u>	<u>68,764</u>	<u>79,716</u>	<u>97,850</u>

Gross Output by Sector : Aid Pattern "C"
(Rs. millions) Fourth Plan Assumptions

Sector	1967/68	1969/70	1971/72	1973/74	1975/76	1978/79
1. Minerals	1,230	1,555	1,674	1,918	2,267	2,823
2. Crude oil	540	540	540	540	540	540
3. Coal	2,091	2,381	2,545	2,809	3,167	3,743
4. Coke	991	1,226	1,330	1,531	1,830	2,252
5. Electricity	3,131	3,949	4,368	5,129	6,182	7,910
6. Petroleum products	1,805	1,993	2,778	3,409	4,096	4,967
7. Cement	1,070	1,277	1,523	1,717	2,188	3,000
8. Pig iron and ferro alloys	2,172	2,942	3,181	3,730	4,792	6,048
9. Steel	4,130	5,893	6,378	7,462	10,650	13,691
10. Aluminum	325	492	552	627	796	1,351
11. Copper	70	185	70	70	70	70
12. Lead and zinc	20	35	20	20	20	20
13. Fabricated metal products	6,789	8,016	8,961	10,582	12,080	15,496
14. Non-electrical machinery	5,173	6,806	5,173	7,416	7,416	7,416
15. Electrical machinery	2,913	4,440	4,235	4,440	6,114	14,390
16. Transport equipment	2,292	2,935	2,292	2,292	3,428	3,428
17. Rail transport	7,879	9,514	10,858	12,689	14,820	18,478
Total, 17 sectors	<u>42,621</u>	<u>54,179</u>	<u>56,478</u>	<u>66,381</u>	<u>80,456</u>	<u>105,623</u>

ANNEX - G

EXPORT

INTRODUCTION :

During the year April 1968 to March 1969, Indian export earnings reached a peak figure of \$1,813.4 million, besting the previous record of \$1,715 million reached in 1964-65 and recording a very sizeable improvement over the poor performance of the previous two years. There have been notable changes in both the direction and nature of the past year's trade, namely increased sales to hard currency markets of non-traditional export items (notably engineering goods and iron and steel). In all, earnings from non-traditional exports were more than enough to counter losses in earnings of some traditional goods, such as jute, tea, raw cotton and mica.

Assuming favorable weather conditions, stable world prices for traditional exports and continued sales of non-traditional products at their current levels, an upward trend of 6 to 7 percent can be anticipated in exports for the next few years. This growth rate is projected in spite of the assumption that economic recovery in the domestic market will to an increasing degree put pressure on the supply of goods, especially non-traditional items, available for export.

I. EXPORT PERFORMANCE DURING FY 68-69:

Of the total of \$1,813.4 million earned by Indian exports in the fiscal year April 1968 to March 1969, about \$350 million represents exports under rupee payment arrangements (where major increases have been noted for cashews, iron and steel, leather and castor oil). The Soviet Union absorbed 50 percent of the total.

Exports paid for in hard currency were about \$1,455 million, representing an increase of about 11 percent over the previous year's total. Eleven commodities accounted for almost the entire net increase.

These were: engineering goods, iron and steel, cashews, handicrafts, leather, precious stones, castor oil, cotton piecegoods, oilcakes and cotton yarn. Two items--engineering goods and iron and steel--accounted for almost 40 percent of the increase.

Export earnings from jute and tea declined compared with the same period a year earlier. In the case of tea, lower earnings were accompanied by larger shipments and reflected reduced unit prices. Export earnings also declined for sugar, iron and steel scrap, raw hides and skins, unmanufactured tobacco, raw cotton and mica.

II. DIRECTION OF TRADE:

More than 60 percent of the total net increase in exports of the year 1968/69 over the previous year was recorded in sales to countries in the Indian ocean basin and nearby regions. The biggest buyers were Japan, Iraq, Burma, Kuwait, Iran, Saudi Arabia, Ceylon and Nepal.

Exports to EFTA countries, particularly the U.K., declined by over 10 percent mainly due to lower export earnings from tea, cotton textiles, oilcakes and leather.

Exports to the Soviet Bloc increased by about \$45 million, or 16 percent. Leading commodities in this trade were cashews, castor oil, iron and steel and leather products.

III. GOVERNMENT OF INDIA'S VIEWS OF EXPORT ACTIVITIES:

The sharp recovery in export performance this year has given a greater sense of confidence to the administrators of India's export promotion program. Criticism of continuing inadequacies and mal-performance in certain areas are more readily accepted and the Government of India's sensitivity on this subject is far less pronounced than was the case a year ago. Most rewarding to the nation's ego is the substantial increase in the export of engineering products. The production and export of this category of goods symbolizes to many Indians an emergence from the colonial period when the country was able to export mainly primary commodities.

It should be noted, nevertheless, that this year's performance is only 5 percent better than predevaluation export earnings during FY 1964-1965 (which reached \$1,715 million). It is also noteworthy that some major items included in this year's total exports have a small domestic value added (e.g. cut diamonds, copper cables). Importantly, however, there is an optimism that continued improvement in export performance is possible and both industry and government are anxious to sustain the existing momentum.

While one may continue to criticize the sluggishness of the Government of India in taking action to remedy some of the more basic problems confronting exporters, the complaints of various groups are being considered and, at times, resolved. For example, greater attention is being given by Government of India officials to the views of the Export Promotion Councils, which until a year ago were largely ornamental institutions.

The Planning Commission, has prepared an elaborate study dealing with alternative policies to promote exports. This study has been selectively circulated within Government circles.

Along with the uncertainty regarding foreign aid levels, there is a growing political sentiment which advocates rapid economic self-reliance and the Government is obliged to give more attention to the opportunities of generating greater foreign exchange earnings from its own efforts. It can then be anticipated, for example, that the Government of India will take further actions to adjust incentives and establish export regulations for commodities which it believes enjoy a comparative advantage. Progress can be expected in other fields. For example, regulations governing export credit and the allocation of foreign exchange for marketing and promotion purposes are likely to be liberalized; modest efforts are being made to reduce procedural details for exporters, both with respect to shipment and collection of cash incentives and import entitlements; consideration is now being given to the improvement of transport facilities; and new, semi-independent entities are being created in the Ministry of Foreign Trade and Supply and the Reserve Bank of India which are designed to give special attention to export promotion activities which are not effectively handled by existing governmental channels.

IV. QUESTIONS REGARDING THE GOVERNMENT OF INDIA'S APPROACH:

The Mission's views on the overall strategy for exports, imports and industrial growth are set forth in Annex C. Basically, the Mission questions how far rational export growth and industrial growth can progress as long as the current heavy emphasis on import substitution is maintained.

Specific aspects of the current export incentive system seem likely to cause difficulties in the future. First of all, the maze of Government of India's regulations and incentives is so complicated as to make it difficult for exporters to understand and difficult for administrators to carry out. The intent is to provide just enough incentives to encourage exports. Aside from the burden on bureaucratic judgment this imposes, it also makes comparative advantage a question of administration rather than market forces.

Another aspect of the current export promotion effort is the general government pressures to have industries earn their own foreign exchange requirements. This policy has two aspects:

- 1) Some industries are given export targets which they are supposed to meet under threat (not yet carried out) of cut backs in their import allocations;
- 2) Many requests for imports of capital goods for expansion are approved only if the firm agrees to pay for these imports through future exports.

Thus far the government has shown considerable flexibility in carrying out these general policies. Nevertheless, these programs can pose a serious danger to rational allocation of resources. Taken to logical extremes, these policies call for each firm running a balance in its own merchandise trade. The objections to this are :

- 1) The economic justification for exports is not necessarily related to the amount a firm imports.
- 2) Nine firms making the same product (e.g. machine tools) and each attempting to export 10 percent of its output are likely to be less effective than three firms exporting 30 percent. With nine firms exporting, India may need three times as many salesmen abroad, three times as many firms meeting world quality standards, three times as many export subsidy judgments, etc. To date, Indian industry has been geared to the domestic market with (recently) a small margin for export.

It is now advisable for India to begin encouraging the development of selected industrial enterprises for world markets. Preferably, such firms should be large, efficient, export-oriented units which can economically raise the foreign exchange for India as a whole.

V. EXPORT PROJECTIONS FOR FY 1969-FY1970 AND BEYOND:

The Mission believes that India can achieve a six to seven percent growth rate during the next year and probably sustain this rate through the Fourth Plan period if the present emphasis on export performance continues.

Detailed estimates for major export commodities in 1969/1970 and beyond are listed in Appendix 1.

The estimated rate of growth assumes stability in the world price of tea and some further marginal reduction in the world price of jute. Even so, increased export earnings from engineering goods, iron ore, leather and other products should sufficiently offset the downward price trend of some traditional exports to provide an aggregate 6 to 7 percent increase in export earnings. Thus, India's total foreign exchange earnings for the coming year should reach approximately \$1,920 million and should increase proportionately in the following years.

Even if domestic prices begin to move upward, it is doubtful that major exporting firms will allow the substantial investment they have made to penetrate international markets to be frittered away by realigning their production exclusively to the local market. In any case, the Government of India would be predictably "dismayed" if exports of non-traditional goods slackened for any reason. Businessmen fully realize that such dismay could easily lead to a new line of governmental controls and this is far more to be feared than, for example, foregoing greater profits from domestic sales to maintain the existing level of exports.

A detailed narrative of export forecasts by commodity for the year 1969-1970 and beyond are in Appendix 2.

VI. EXPORT GROWTH BEYOND 1969-1970:

If a six to seven percent or better growth rate in exports is to be continued through 1973-1974, it will soon be necessary to make important investment decisions. The USAID-financed commodity surveys and other studies are designed to explore some of these requirements and provide information which, hopefully, will stimulate decisions in this regard. In this connection, two questions come to mind: what actions need to be taken by the Government of India to assure the continuation of a reasonable rate of export growth, and what should be the role of USAID to assist such actions. Comments on these points follow:

1) Establishment of a "Planning Cell": If Indian exporters are to compete effectively in the world markets while operating under the handicap of the myriad regulatory and allocation policies of the Government of India, it is important for the Government of India to reduce the reaction time of its administrative system. But changing entrenched habits of any bureaucracy is extremely difficult. The flow of information and advice from existing trade organizations (such as the twenty Export Promotion Councils, the Federation of Indian Export Organizations, the Indian Institute of Foreign Trade, the Board of Trade, the Export Advisory Council, the Director General of Commercial Intelligence and Statistics) is simply not timely or adequate for the task at hand.

Several observers have, in the course of the past year, recommended that a semi-independent planning or program entity be created by the Government of India which can monitor more effectively current market information and convey timely policy recommendations to appropriate officials. In the "Redbook" statement of trade policies issued on April 1, 1969, the Ministry of Foreign Trade and Supply has proposed that an "operational center" be created within its jurisdiction to assist in the study of special export problems. This new unit, which is to be assisted by the Administrative Staff College in Hyderabad, should be fully supported by AID in its formative stage.

In a separate effort to improve the decision making capabilities of officials concerned with export activities, USAID has offered to finance a contract with a private consulting group to computerize Indian trade and payments data as well as commodity and production data. Effective implementation of this program is likely to take at least two years, but the plan should be fully supported by AID.

2) Investment in Ports and Transport Facilities : Other deterrents to Indian exports are caused by high internal and international freight costs, uncertain shipping facilities and poor handling facilities. A recent study financed by AID on transport and freight rates highlighted a number of needed actions (some of them requiring substantial capital investment, others requiring improved administration practices), which could be made in India's ports, shipping and air cargo activities. Further assistance by AID may take the form of project loans for this sector.

3) Export Credit: The provision of attractive credit terms is an indispensable competitive tool for certain export products, notably engineering goods, and is a part of the package that must be offered if India is to penetrate markets in competition with more industrialized nations. Comments citing the possibilities of expanding the level of overseas business for Indian firms are now commonplace. Generally, however, existing promotional procedures and incentives--and particularly credit facilities--are either not well known or not well suited to the needs of Indian firms who are exporting both commodities and services. The problem is receiving some attention and recently the Finance Minister asked the Asian Development Bank to grant assistance

to India for "export credit" facilities. But more action is needed to ease the problem and USAID involvement either in the formal technical assistance or capital assistance, may be required.

4) Role of Private vs State Trading: During the past year the Government has stressed the need to improve the operations of the Government of India's State Trading Corporation. At the same time, the effectiveness of India's existing private export houses is being questioned. Unless the capability of private traders to offer effective service can be improved, it is inevitable that the Government of India will simply thrust most of its export problems upon the state trading companies and hope for magical solutions. This trend should be carefully monitored and where feasible, assistance should be given to private export houses to encourage their expansion.

5) Other Possible Actions by USAID: The reaction to USAID's recent trade promotion activities has been encouraging. But, the theory that Indian policy makers will make more sensible policy decisions if they have more reliable data (that is, data which has been subjected to careful independent analysis) is yet to be proved correct. It was originally contemplated that USAID assistance would terminate in 1971 after the program had demonstrated the usefulness of having timely trade information and had encouraged the Government of India to adopt procedures and policies that would improve their export efforts. It is believed that this position is essentially sound and that the influence on Government of India activities will be commensurate with the cost and effort of the present program. In addition, however, if it is agreed that institutions must be reorganized or created to advise better the Government of India on basic export matters, a longer-run approach will be needed. Institution-building takes a long time to achieve even minimal standards of performance. Efforts to encourage such institution-building could center about:

(a) Improvement of the Indian Institute of Foreign Trade (IIFT) : This semi-governmental organization conducts routine studies of trade activities, publishes several trade journals, and conducts seminars and diploma courses in foreign trade subjects. It regularly instructs Indian foreign service

officers who are about to be given commercial assignments in Indian Embassies. During the past year it has also performed a number of market research surveys. The organization, although presently limited in capabilities, has the advantage of having both a public and private character and should be induced by AID to strengthen its activities to serve better the needs of both the Government of India and private export efforts.

(b) Support for Proposed "Planning Cell": As mentioned above, the Government of India has now agreed to set up an "operational center" within the Ministry of Foreign Trade to serve the needs of top government officials concerned with trade policies. Since the Government has now taken the decision to establish a unit comparable to the one AID has envisaged, it would seem appropriate to provide guidance and assistance to the new group.

(c) Support for an Institute of Advanced Studies in International Trade: At present there is no educational institution in India offering modern, graduate level training in international trade, finance, commercial policy and related subjects needed by graduate students who expect to enter the field of international trade. Some suitable educational institute--perhaps the University of Bombay--should be induced to perform this important function.

(d) Tourism: Foreign exchange earnings from tourism can be significantly increased in the next five year period. The Government of India has recently initiated a number of estimates in this area. It may well be that U.S. assistance will be requested.

APPENDIX 1.Comments on Export Outlook by
Commodity for Period 1969/1970 to 1973/1974

1. JUTE: The outlook for jute is fair at best. Lower export duties and some financial assistance for plant modernization may slightly improve the competitive position of Indian jute products in world markets. Sales of carpet backing are expected to rise steadily, but jute hessian and sacking face severe competition and slack demand. Overall, jute export earnings should grow at a rate of only 2 to 3 percent for the next few years.

 2. TEA: Bumper production in India and abroad coupled with stagnant demand have led to a softening of export prices for Indian tea. Local consumption is rising steadily. The threat of nationalization of foreign owned tea plantations, which supply most of the tea for export, is disturbing the local industry. India is now anxious to have consumer countries (principally the United Kingdom and United States) accept an international price and production stabilization agreement. Generally, prospects for Indian tea are only fair, but export earnings should reach a 4 percent growth per annum. (An Indo-Ceylon price agreement could improve the outlook.)

 3. COTTON TEXTILES: Improved demand, coupled with Government of India incentives, have led to a spurt in export earnings for cotton textiles in 1968-1969. The long term outlook is, however, only fair as low productivity and high production costs impede progress. Growth is not likely to exceed 3 percent annually.

 4. IRON ORE: Foreign demand for Indian iron ore is excellent. Sales will be limited by antiquated production techniques and transportation bottlenecks. Exports should, nevertheless, increase by 8 to 10 percent per annum.
- MANGANESE ORE: Demand for manganese ore has slackened and the Government of India's decision to channel exports through the Minerals & Metals Trading Corporation has not yet improved the situation. Export earnings can be expected to grow by about 4 percent a year.

5. LEATHER: Presuming additional efforts are made to process hides and skins into leather products as planned, export earnings should increase at a rate of about 5 percent annually.

6. ENGINEERING GOODS: The Indian recession of the years 1967 and 1968 lead to a spurt of export sales of engineering goods. Even as the local demand for such products increases, most firms continue to have sufficient capacity to produce a modest quantity for the export market. Government regulations also induce firms to export a portion of their total production. Prospects are good and a growth rate of about 12 percent appears attainable.

7. IRON AND STEEL: The local recession during 1967 and 1968 contributed to increased exports of iron and steel products during the past year. Currently, however, there is a local shortage of pig iron, skelp and billets. The Government of India is likely to encourage firms to export iron and steel products, but rising internal demand and high costs of production will slow sales until further capacity is available about 1971. Export earnings are likely to remain stagnant.

8. CASHEWS: The supply of raw nuts for export (seventy percent is imported from East Africa), is the chief constraint as demand for cashew nuts is strong. Some attention is being given to increase the cultivation of nuts locally as it is anticipated that eventually East African growers will develop suitable methods of shelling raw nuts themselves and sell direct to the consumers. Thus the long-run prospect for export sales from India is limited and earnings may increase by only 3 percent per year.

9. OILCAKES: Demand for oilseeds is good and if local production increases as anticipated (presuming favorable weather conditions), export earnings should grow at about 7 percent for the next few years.

10. GEMS AND JEWELRY: Precious gems are imported into India and processed for export. Some semi-precious stones are also mined locally. Given the availability of cheap Indian hand labor, a growth in export sales of gems of about 5 percent a year is reasonable.

11. TOBACCO: Stocks of tobacco are still left from the 1968-1969 season and domestic prices have softened. Although recent floods in South India have damaged the current season's crop, the prospects for tobacco sales from India are satisfactory and earnings should increase by about 5 percent a year.

12. SPICES: The Government of India is paying more attention to the spice trade since Indonesia has taken the play from India. For example, an agreement on pepper is being discussed between India and Indonesia. New areas are being developed for cardamoms with financial assistance. Pest control is being tackled. Overall, a growth rate of about 10 percent for all Indian spices seems reasonable.

13. HANDICRAFTS: Demand for handicraft products is limited, but the increase in tourist traffic may lead to a growth of 5 percent over the plan period.

14. SEAFOOD: Exports of marine products, principally prawns, have registered an increase of 100 percent in the past five years. Increasing attention is being given to alleviating problems relating to mechanized craft, suitable harbors and on-shore processing facilities. A continuing annual growth of about 15 percent a year is considered feasible.

15. COFFEE: A limitation on export sales of Indian coffee is imposed under the International Coffee Agreement, but India is able to sell a significant portion of its crop to Bloc and other "non-quota countries." Local production is increasing while local demand is being restrained by the Government. A growth of export sales at about 7 percent a year is envisaged.

16. MICA: Prospects for increasing the export earnings from mica are uncertain, but the Mica Export Promotion Council is undertaking a program of research on new methods of laminating mica for diverse purposes. A growth rate of about 10 percent is envisaged.
17. COIR PRODUCTS: Though sales of coir products (made from coconut husks) fared well in 1968-1969, the prospects for growth are uncertain. If some mechanized factories are established, earnings can grow at around 6 percent for several years. India does not have any important competitor in coir, but the use of substitute products limits growth in the long run.
18. CASTER OIL: Exports of castor oil are expected to increase by about 12 percent (subject to weather conditions.)
19. CEMENT: With prodding by the Government of India, an export growth of about 25 percent a year for cement can be anticipated. There is a surplus capacity in some units in South India and new production units are planned. The State Trading Corporation has taken over the export of this commodity and is reported to have done well in Gulf markets.
20. OTHERS: This important catch-all category includes rice, chemicals, drugs, pharmaceuticals, dyeing and tanning substances, paints, wood products, varnishes, glass, glassware, ceramics, refractories, and asbestos products. The export potential for selected plastics, linoleum, drugs and pharmaceutical products is good and sales are expected to rise at about 10 percent annually. The outlook for processed foods is also promising. A 15 percent growth in this miscellaneous group is predicted. Several other products including selected paper products and plywood plus specialized types of rubber tires have good export potential. An overall increase in earnings of 15 percent a year is predicted for this category.

APPENDIX 2.
EXPORT PROJECTIONS FOR FOURTH PLAN PERIOD - 1969-1970 to 1973-1974
(\$ Million)

Principal Commodities	Actual Earnings					Earnings as percent				Average Annual Compound Rate of Change	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
	1969	1968-69	1968-69 of total	1970	1970-1971	1971-1972	1972-1973	1973-1974	1973-1974	Change	
1. Jute	294	16.2	300	310	315	320	330	330	2.3	1,575	
2. Tea and Mate	208	11.5	215	224	233	244	254	254	4.1	1,170	
3. Cotton Textiles	157	8.7	161	165	170	175	180	180	2.8	851	
4. Iron & Manganese (ore)	136	7.5	145	154	175	177	190	190	6.9	831	
5. Leather and Allied Products	116	6.4	122	128	135	142	150	150	5.3	677	
6. Engineering Goods	112	6.2	140	155	170	195	213	213	13.8	873	
7. Iron and Steel	92	5.1	105	105	105	105	105	105	2.7	525	
8. Cashews	83	4.6	85	87	90	95	100	100	3.8	457	
9. Oilcakes	69	3.8	80	85	90	95	100	100	7.7	450	
10. Gems & Jewelry	63	3.5	70	75	75	80	80	80	4.9	380	
11. Tobacco	45	2.5	50	53	56	60	60	60	5.9	279	
12. Spices	34	1.8	37	40	44	50	55	55	10.1	226	
13. Handicrafts	32	1.8	34	36	38	40	42	42	5.7	190	
14. Seafood	30	1.6	35	40	45	50	60	60	14.9	230	
15. Coffee	24	1.3	25	27	30	32	35	35	7.8	149	
16. Mica	18	1.0	20	22	25	27	30	30	10.8	124	
17. Coir Products	17	0.9	18	20	21	22	23	23	6.2	104	
18. Castor Oil	14	0.7	16	18	20	22	25	25	12.3	101	
19. Cement	3	0.2	5	5	6	8	10	10	27.3	34	
20. Others	266	14.7	277	326	387	436	500	500	13.4	1,926	
Sub-Total	1,813	100.0	1,940	2,075	2,220	2,375	2,542	2,542	7%	11,152	
Less :											
Contingency for short-fall			18	38	61	86	116	116	(-1%)	319	
TOTAL	1,813	100.0	1,922	2,037	2,159	2,289	2,426	2,426	6%	10,833	

EVALUATION PLAN - 1969/70

PART I - Intensive Evaluations: 1969/70

The Mission plans intensive evaluations of nine projects or programs in FY 1969/70. These nine divide into three groups as follows:

Group A: Review of six ongoing technical assistance projects. Three of these are continuations of efforts begun in 1968/69. Three are new. The projects are:

- (1) Soil and Water Management - 386-11-120-368. The project aims to assist the GOI and the states develop integrated soil and water management programs by providing selective technical assistance to overcome constraints in the development and productive use of India's soil and water resources. Emphasis is given to building patterns of cooperation and coordination among the several agencies charged with various aspects of research, development and operations programs and in developing competent technical organizations to carry out Center and State programs. The project, which began in FY 1967, is approaching its mid-way point. The Mission plans an intensive review by one or two outside consultants to assess progress to date and consider possible modifications for future. The evaluation will begin in March 1970 and take about 45 days.
- (2) Export Promotion - 386-15-260-384. FY 1970 marks the third year of this four year experimental program. The Mission will review accomplishments to date as basis for planning the future of the project. One consultant will be recruited in December or January FY 1970 to work with the Mission on the evaluation.
- (3) Fertilizer Association of India. This evaluation will review the growth of, and U.S. assistance to, the FAI focusing on its contribution to increased use of fertilizer in India and the relevance of similar institutions to other countries. The evaluation was suggested by AID/W in STATE 024544. One consultant in March 1970.

- (4) Title II - Child Feeding (Continuing). This is a major sample survey to measure what effect, if any, the \$86 million school lunch program may have on its (18,000,000) recipients. A pilot survey of about 2,000 children in the State of Andhra Pradesh was completed in May 1969. The full survey of up to 15,000 recipients in three states will begin in the Fall, 1969.
- (5) Malaria Eradication (Continuing). Evaluation of GOI National Malaria Eradication Program. The scope of work for this evaluation has been under discussion with the GOI and NCDC/Atlanta throughout the past year. The Mission still expects to recruit a consultant team for this evaluation although the timing and precise scope are not yet settled.
- (6) Summer Science Institutes (Continuing). The Mission has granted Rs. 100,000 to the NCSE to conduct a survey of participants and organizers of Summer Science Institutes in order to analyze their impact and strengths and weaknesses. The survey is expected to be completed by December 1969.

Group B: Review of two terminating (or terminated) projects to analyze reasons for effectiveness or ineffectiveness and seek to draw lessons, if any, for the future. These projects are:

- (1) Coromandel Fertilizers. One consultant is due to arrive in August 1969 to review this capital project (see TOAID A-78 for details).
- (2) IIT/Kanpur. Kanpur has been one of the most successful projects in Mission and perhaps AID history. Assistance is beginning to phase down. The Mission plans an intensive review by a two-three man team in 1970 to pinpoint the present strengths and weaknesses of the institute and analyze reasons for its success.

Group C: Development of a standard evaluation procedure for measuring the maturity of the eight USAID assisted agricultural universities. The procedure is to be developed and tested by conducting an evaluation of the Punjab Agricultural University (see TOAID A-138 for details).

PART II - PARs

The submission schedule for PARs follows below. The Mission does not plan to fill out full PARs on all projects. For projects scheduled for intensive evaluation, those recently evaluated, or those too new to benefit from an evaluation appraisal, only the PAR face-sheet will be submitted with an explanatory note why the full PAR is not being submitted. All PARs will cover activity through December 31, 1969.

<u>Projects</u>	<u>Approximate PAR Completion Date</u>
I. <u>Agriculture</u>	
(a) Rice Research Improvement	January 31, 1970
(b) Agriculture Production Incentives	January 31, 1970
(c) Rural Electric Cooperatives	January 31, 1970
(d) Agricultural Inputs Development	February 28, 1970
(e) Agricultural Production Project	March 31, 1970
(f) Agricultural University Development	March 31, 1970

Only face-sheets of PARs will be submitted for the Soil and Water Management projects and Punjab Agricultural University upon completion of studies as both are scheduled for intensive evaluation.

II. Export Promotion

Only the PAR face-sheet to be submitted as an intensive evaluation is scheduled.

III. Food & Nutrition

(1) Nutritional Foods Development	February 28, 1970
(2) Title II (Food for Development)	July 31, 1970

Only the PAR face-sheet on the Child Feeding Program will be submitted as an intensive evaluation is scheduled.

IV. Education

Only PAR face-sheets to be submitted; IIT/Kanpur is scheduled for an intensive evaluation; the Science Education Improvement project has just been recast and an appraisal of progress as of December 31, 1969 will be premature. In addition, the Summer Science Institutes will be the subject of an intensive evaluation.

- | | |
|---|------------------|
| V. <u>Family Welfare Planning Project</u> | March 31, 1970 |
| VI. <u>Labor</u> | January 31, 1969 |
| VII. <u>Malaria Eradication</u> | January 31, 1969 |

PART III - FY 1969 - Resume of FY 1969 Activity

As with other Missions, USAID/India began its formal program of evaluations in FY 1969. Besides the five intensive evaluations begun in FY 1969 and continuing into FY 1970 (Part I above) the Mission started and completed five additional intensive evaluations during FY 1969. These are: Agricultural Production project, Regional Colleges of Education, Bombay Central Training Institute (Phase I), Government Operations (Tax Assistance) (Phase I), and Phase I of the Railway Management sub-project. We also conducted a review of the Food and Nutrition Program which shared elements of an evaluation and a program planning exercise. In addition, the Mission completed PARs on 49 projects or sub-projects.

The key question is whether this burst of new evaluative activity has proved (or promises to prove) of operational significance to the Mission. That is, has it contributed to improved management of projects? As might be expected with a new program, early returns are mixed. The investment of time and money in intensive evaluations seems to be yielding appropriate dividends. This is especially true of evaluations of on-going projects. Evaluations of terminating projects appear less useful although their relevance may begin to emerge as several are completed and patterns of successful or unsuccessful projects emerge.

The Mission did not find the PAR of significant value. We do not feel it yielded benefits commensurate with the time and manpower devoted to it. It did not yield many new insights into projects nor did it by and large serve as a vehicle for decision making. The Mission has detailed its reservations about the PAR in a recent airgram (TOAID A-565). We believe research is needed to develop an annual appraisal form which is simpler and less time consuming to complete and provides better insights into the health of projects. The Mission has previously suggested using the A. L. D. /India program as a laboratory for developing a better evaluative instrument and is willing to participate in and assist AID/W with any such research should AID/W decide on this course.

PART IV - Evaluations Planned Between July 1, 1970 and December 31, 1970

The Mission plans three evaluations in the last half of 1970. These are:

- (1) Phase II of the terminated Government Operations (Tax Assistance) project. Phase I of the evaluation - a report by Mr. Sol Luis Descartes - was completed in December 1968. Mr. Descartes is expected to do the second phase of the evaluation in June-July 1970.
- (2) Phase II of the terminated Bombay Central Training Institute project. Phase I of the project - a report by Mr. Clarence L. Eldridge of the Department of Labor - was completed in March 1969. Mr. Eldridge is expected to return in the Fall 1970 to conduct the final phase.
- (3) Evaluation of Rural Electrification project.

ANNEX K

Alternate Forms of Aid
and Related Issues

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Private Enterprise and Private Foreign Investment

The officially sought division of labor between the public and private sectors, from the 1948 Industrial Policy Resolution onwards, has fluctuated, but the scope for the private sector has been increasing during most of the 60s, as just further indicated by the increased share of the private sector in the total investment projected by the new Fourth Five Year Plan, compared with the Third Plan and the draft Fourth Five Year Plan of 1966. There has been considerable disillusionment with the performance of large public sector manufacturing enterprises, a predominant growth of "pragmatism", despite the enervating politico-ideological prejudices of some members of the Cabinet during the past two years; and during the past five years a considerable net increase in the Government's appreciation of and tendency to rely upon the market as an organizing mechanism.

Private industry in India has had a mixed background. Traditionally "business" has had an unsavory reputation because of its "fast buck" psychology and its tendency toward nepotism, but progressive elements are now coming to the fore and there is a new generation of solid, substantial and forward-looking entrepreneurs. The concern over concentration of private economic power in a few hands is not just rhetoric; it is a real problem, but the antimonopoly policies of the Government are still mostly at the talking stage and responsible foreign investors need not run scared. One means of improving competitive discipline which AID supports would be to substitute reasonable tariff protection for absolute import bans. This would tend to reduce the benefits of the protectionism which Indian firms enjoy and actively lobby for. The constraint in pursuing such a policy, of course, is the limited availability of foreign exchange.

The net flow of foreign private investment in India fluctuates from year to year at a relatively low level. Since 1962, U.S. companies have provided more than half of the total net private foreign equity capital for India. Negotiations in process indicate the possibility of a moderate increase in U.S. private investment during 1969 and 1970 over that prevailing in the immediate past. Investments in the fertilizer industry are likely to predominate, but growth is also expected in U.S. private investment in farm machinery, chemicals, pharmaceuticals, electronic equipment and other products of advanced technology.

American firms see in India primarily a very large potential market but also some political and bureaucratic stability and predictability. Once they or their Indian affiliates are established in India, they can

expect to earn a substantial return on their investment which they can either reinvest or repatriate at their option. The Government of India prides itself on its excellent record on permitting repatriation of profits and capital.

Government attitudes are slowly changing but we must expect officials to remain selective in their approach to projects involving private foreign investment. They will continue to have reservations about a wide-open door policy. One understandable constraint is their concern about the cost to India of high interest rates on foreign exchange loans from private sources and the longer-range cost of repatriation of capital and profits.^{1/} Nationalism and the drive toward self-reliance are also factors as are the mixed attitudes of the Indian private sector toward private foreign investment. One promising area for investment is in industries producing primarily for export. There is an increasing focus in the Government on exports as a priority sector. Predictably, however, U.S. and other foreign firms are sometimes reluctant to set up new plants in India (or anywhere else) if they are expected to compete with other plants of the same firms in foreign markets.

AID's primary emphasis should be to promote private enterprise and private foreign investment on a selective basis. We should continue our efforts to persuade the Government to approve Indo-American collaborations and to license private sector projects in areas where the Indians have themselves sponsored these ventures and to point out, as a practical matter, important opportunities (e. g. protein food processing) which they are missing.

The Mission's present support for private enterprise is multifaceted (direct dollar loans, Cooley loans, pre-investment surveys, and Specific and Extended Risk Guarantees). It is focussed primarily in the Office of Capital Development and the Development Loan Division, but the interest is Mission-wide, including the Office of Agricultural Development (AG) and Food and Nutrition Division (FAN).

The Mission is beginning a detailed study on private foreign investment in India, which is expected to be completed and forwarded to AID/Washington later this year.

^{1/} Paradoxically, reinvestment of earnings by foreign private investors does not lower the foreign exchange cost of the investment. Reinvested earnings earn increased profits, which will then be repatriated (usually when the firm does not require further equity funds for growth or when the funds are more urgently required by the firm in another country). Thus, reinvestment of earnings only extends the time period during which the investment is to be paid back, but does not change the cost of the investment; it is like the difference between a short-term loan and a long-term loan, both at 12-15% interest.

ADDITIONALITY

The Mission strongly supports positive steps aimed at increasing U.S. "commercial" exports to India. We are concerned, however, that the AID non-project eligibility list not be used merely to show that some action has been taken. Updating of the additionality analysis included in the 1969/70 Program Memorandum shows that U. S. assistance to India in 1967/68 and 1968/69 was more than 100% additional and reconfirms that the long-run additionality factor for U.S. assistance to India is also over 100%. (See Attachments 1 and 2). In effect, the large scale U.S. assistance program in India has created more new free exchange imports from the U.S., resulting from supplier relationships built up under AID financing and from other reasons, than it has lost through substitution on individual items. The problems caused by the additionality restrictions placed on the India program are summarized below:

- a) Additionality restrictions reduce the fungibility of our assistance and invite further GOI controls on licensing. As the IBRD Consortium paper states, it is not possible to substitute completely tariffs for direct controls on licensing so long as assistance from various aid donors is not fungible. Our present item by item additionality restrictions have already created confusion and delay in GOI processing of AID-financed import licenses, as will be subsequently discussed.
- b) Additionality restrictions reduce our influence and leverage with the GOI on economic policy questions. As seen by the GOI it appears that AID desires to restrict its eligibility list so as to finance only those items where the U.S. is non-competitive. There is also a credibility problem because, as discussed above, we are imposing controls which complicate the GOI's problem of administering a liberalized import system, while at the same time telling the GOI to reduce its own controls on the licensing system. As the staff of the Senate Committee on Foreign Relations put the leverage problem:

"To the degree that the United States insists upon additionality, it reduces the flexibility of program loans both with respect to promoting economic growth abroad and with respect to influencing the borrowing country's economic policies . . . Finally, additionality puts another burden on the leverage which is supposed

to be exerted by a program loan, and it injects another irritant into AID relationships with the borrowing country.^{1/}

This report was arguing that the costs to AID of achieving additionality are greater than the benefits. In India we have already achieved additionality; yet we still have imposed additionality restrictions that have, in fact, put a substantial burden on our leverage, particularly with regard to our policy goal of encouraging further liberalization of GOI import licensing policies. When we urge the GOI to reduce licensing controls, we are forced to say, in effect, "Do as we say, not as we do." GOI finance and licensing officials are particularly sensitive about the additionality restrictions, and call them to the attention of Mission officials frequently; they are particularly concerned about the way additionality restrictions confuse and delay the processing of import licenses, particularly since it is so difficult to determine now whether particular spare parts are eligible or not. The reactions of these GOI officials are significant because they are the same officials that the Mission talks to about removal of delays in the import licensing process and about major licensing reforms; since our additionality restrictions are contributing directly to the need for delays and case by case administrative review, our arguments are weakened.

- c) Additionality restrictions have a negative impact on private sector industry in India. Private sector firms pay the price, in lost production, for the delays introduced into the GOI import licensing system, by additionality restrictions. The businessman who gets an AID-financed import license finds that it is a second class license; more items are ineligible for procurement, for additionality, and other reasons, than under other licenses. If vital components and spares turn out to have been ruled ineligible on grounds of additionality, he must go through the delay, and perhaps lost production, of applying for another import license. His problem is compounded by the fact that AID eligibility rulings are so complex that often neither the supplier nor the importer knows that commodities are ineligible until AID's Form 11 review; by that time the supplier may have produced the commodities in question, or it may be too late for the importer to obtain them from another source without some loss of production.

^{1/} "Survey of the Alliance for Progress, Colombia - A Case History of US AID," a study prepared at the request of the Sub-committee on American Republic Affairs by the staff of the Committee on Foreign Relations, U.S. Senate, February 1, 1969.

- d) Additionality restrictions also hurt our case when we urge other donors to liberalize restrictions on their assistance. If we have additionality restrictions, particularly when we do not have an additionality problem in India, then other donors may follow suit, thus reducing the value of their assistance.
- e) There is the obvious factor that eliminating the most competitive items from our non-project eligibility list reduces the value of our assistance. U.S. goods are often high-priced in comparison with goods from Japan and Europe, particularly where the 50/50 shipping requirement increases freight costs. Removing competitive items from the eligibility list forces the GOI to buy relatively higher priced items, so that our aid becomes worth less.

Last year the Mission argued that if some commodities had to be cut on grounds of additionality, they should not be spare parts, as the development costs of interfering with the supply of spares was disproportionate to the value of the spares. Unfortunately, a highly complex set of restrictions on spares was imposed; for example, spares for diesel engines for crawler tractors are eligible, but spares for the same engine if installed in an excavator are ineligible. These restrictions are so complex that they are almost impossible to implement without adding distortions and delays to the GOI's licensing process. They are adding one more review--one more control--to the GOI's import licensing process. As previously reported, the spare restrictions have already killed the "Special General License", which was the front-runner of the GOI import liberalization program. The Special General License had eliminated licensing entirely for spare parts for American industrial and earth-moving equipment. In some cases importers are getting free exchange or IDA licenses which can be used for spares, but the process for getting free exchange licenses is extremely slow and difficult, and the lack of availability of spares is already beginning to result in increased down time for U.S. equipment; the cost to the firm and to the economy of down time is almost always far greater than the cost of spares.

An example of the problems caused by the additionality restrictions on spares and components follows: Kirloskar Cummins, a joint venture for the manufacture of diesel engines, between the Kirloskar group of industries and Cummins Engine Co. of Indiana, imports crankshafts and other components from Cummins. Recently, they discovered from disapproved Form 11's that many of these components fell under codes that had been ruled ineligible on grounds of additionality. Kirloskar-Cummins has applied for another import

license, but the delays involved threaten to disrupt its production schedule, at a cost in lost production far greater than the cost of the relatively few imported components required. Even if only part of an order is disapproved, it can hold up total production of the product in which it is used. If production is lost by Kirloskar-Cummins there may be secondary production losses among those using its products and among its suppliers.

Since U. S. assistance to India is already more than 100% additional and since the present additionality restrictions have a high cost to AID objectives in India, the Mission recommends that AID/W invoke the Policy Determination on Additionality to eliminate the additionality restrictions from Loan 386-H-184 and to avoid their imposition in future loans. Once additionality restrictions have been eliminated, there would appear to be no necessity to continue use of a "positive" list of eligible commodities; return to use of a "negative" list would be more consistent with our policy of urging the GOI to continue, and expand, import liberalization. These recommendations have already been cabled to AID/W.

The above discussion has presented the case against additionality restrictions on non-project loans to India. Yet there are a number of positive steps which could be taken to increase U. S. commercial exports to India. The reasons why U. S. commercial exports to India are not higher than their present market share (which is not too bad) are ably spelled out by the Embassy Commercial Counselor in New Delhi A-72, January 30, 1969. The crux of the problem is that the Japanese and Germans are offering products well suited to the Indian market at favorable prices, and that U. S. sales efforts in India are disappointing in comparison either to what the Japanese and Germans are doing or to what U. S. firms are doing in other areas, such as Latin America. There are a number of steps that can be taken to meet this problem. The Commercial Counselor has made some useful suggestions in messages available in AID/W. His proposals include setting up a trade center, having market surveys prepared, and attempting to educate American businessmen about potential markets in India. Fortunately almost all of the costs of implementing these proposals can be met from excess U. S. uses rupees. The Mission was pleased to note AID's interest, shown in State 076523, in using excess rupees to support U. S. export promotion. If the Embassy can obtain the necessary GOI clearances, we strongly support implementation of these proposals, as we have indicated in New Delhi 7597, and are ready to assist the Embassy Commercial Counselor in identifying potential export markets for U. S. products and in planning U. S. export promotion activities. We recommend that AID/W take the initiative in supporting these measures.

Attachment 1

SUMMARY OF INDIA'S IMPORT PATTERNS
(\$ U.S. Millions)

	Plan I ^{a/}	Plan II	Plan III	1961/62	1962/63	1963/64	1964/65	1965/66	1966/67	1967/68	1968/69 (Est.)
1. Total Imports	7,595.3	10,252.6	13,024.1	2,289.0	2,376.2	2,568.1	2,832.9	2,957.9	2,895.8	2,745.0	2,485.0
2. Less Imports from Bloc	44.1	375.1	1,318.7	184.0	231.2	271.4	304.5	327.6	306.9	270.7	321.0
3. Free World Imports	7,551.2	9,877.5	11,705.4	2,105.0	2,145.0	2,296.7	2,528.4	2,630.3	2,588.9	2,474.3	2,164.0
4. Less Free World Aid ^{b/}	352.6	2,375.1	4,729.4	556.0	755.0	998.7	1,175.4	1,244.3	1,215.3	1,222.2	732.0
5. Commercial Imports from Free World	7,198.6	7,502.4	6,976.0	1,549.0	1,390.0	1,298.0	1,353.0	1,386.0	1,373.6	1,252.1	1,432.0
6. Total Imports from USA	1,529.6	2,050.0	4,405.1	536.6	728.3	945.0	1,072.1	1,123.1	1,043.9	1,028.7	835.0
7. Less U.S. Aid - Total ^{b/}	205.2	1,466.6	3,455.7	332.8	607.0	798.7	832.9	884.3	793.7	815.2	575.0
8. Offshore Procurement of U.S. Aid	N.A.	193.5	54.1	16.7	13.6	12.8	7.6	3.4	Neg.	Neg.	Neg.
9. Aid Procured in U.S.	205.2	1,273.1	3,401.6	316.1	593.4	785.9	825.3	880.9	793.7	815.2	575.0
10. Line 9 Plus 4% Extra Freight to bring to CIF	213.4	1,324.0	3,537.7	328.7	617.1	817.3	858.3	916.1	825.4	847.8	598.0
11. Commercial Imports from U.S. - Adjusted per Line 10	1,316.2	726.0	867.4	207.9	111.2	127.7	213.8	207.0	218.5	180.9	237.0
12. Line 11 as a % of Line 5	18.3	9.7	12.4	13.4	8.0	9.8	15.8	14.9	15.9	14.4	16.55

^{a/} Excludes aid from IBRD and IDA

^{b/} Third Plan excludes U.S. grants which were mostly technical assistance.

^{c/} First Plan data not relevant for this analysis, as Germany, Japan etc. were not yet providing such severe competition for export markets.

Sources:

1. All import data are from DGCIS

2. Aid figures were taken from MOF Economic Survey.

6/25/69.

Attachment 2

Measurement of Additionality

See Annex L of the 1969/70 Program Memorandum for a detailed description of the methodology used to estimate the "additionality" factor. The analysis described in that Annex was repeated, adding data for 1967/68 and 1968/69. Least-squares regression analysis of data from 1960/61 to 1968/69 gives the following estimating equation:

$$\frac{\text{Imports from US}}{\text{Total imports}^*} = .123 \left(\frac{1 - \frac{\text{Other donor aid}}{\text{Total imports}^*}}{\text{Total imports}^*} \right) + .903 \frac{\text{US aid}}{\text{Total imports}^*}$$

This equation shows that the "normal" U.S. share of India's commercial imports (in the absence of any U.S. aid) would be 12% (of total imports minus all other donor tied aid) and that the additionality factor is $\frac{.903}{1 - .173}$, or 103%. The Additionality benefit for 1968/69 (total

imports from the U.S. minus what imports would have been at 100% additionality) was about \$51 million.

However, as discussed in last year's Annex, the additionality factor derived from this regression understates the actual additionality factor. We know that the average U.S. commercial market share for the Second Plan period was only 9.7% (at a time when U.S. assistance was financing 14% of total Indian imports). The regression analysis, which estimated the extent to which the U.S. commercial market share exceeded 12%, therefore, understates the relationship between increases in U.S. assistance (as a percentage of total imports) and increases in the U.S. commercial market share.

To get a rough idea of what the actual additionality factor would be, we estimated an additionality factor from the following three periods (taking the yearly average in each case): the Second Plan, the Third Plan, and 1966/67 to 1968/69. This analysis (which, it should be emphasized, suffers from being based on only three observations), yields a normal commercial market share (in the absence of U.S. assistance) of 7% and an additionality factor of 114%.

* Excluding imports from Bloc countries.

PROJECT LOANS

During the U.S. fiscal years 1960-68, AID authorized 68 ^{1/} dollar loans totalling \$2,506 million ^{2/} for economic development in India. Of these loans, 52, totalling \$785 million, were for projects and 16, totalling \$1,721 million, were for non-project assistance. The pattern of lending during the last six years has been as follows:

Development Loans Authorized for:

	<u>Project Assistance 2/</u>		<u>Non-Project Assistance 2/</u>	
	<u>Number</u>	<u>Amount</u> (\$000)	<u>Number</u>	<u>Amount</u> (\$000)
FY 1963	6	137,103	1	238,540
FY 1964	8	58,867	2	274,365
FY 1965	3	32,050	1	189,426
FY 1966	-	--	3	299,863
FY 1967	1	12,000	2	182,000
FY 1968	2	39,700	2	248,000

In FY 1969, one non-project loan was authorized for \$194 million. Two project loans were authorized at the beginning of FY 1970, one for \$20 million for private sector capital equipment and one for \$15 million for the Cooperative Fertilizer project.

The sectoral composition of the 52 project loans authorized through FY 1969 is shown in Table 1.

Of the 52 project loans, 39, totalling \$667 million, were to the Government of India for public sector projects and 13, totalling \$118 million, were to Indian companies for privately owned projects.

AID's project loans have helped to build up essential infrastructure and industrial capacity throughout the country and the non-project loans have financed imports of fertilizer, pesticides, and equipment for agriculture and maintenance imports - machinery, equipment, components, spare parts and some raw materials - for industry. These loans have made a significant contribution to India's economic development, especially to the "green revolution" which is rapidly transforming Indian agriculture and leading toward self-sufficiency in foodgrains in the 70's.

1/ Omits 5 loans authorized and later cancelled.

2/ Reflects deobligations since original authorization.

Table 1

Sectoral Composition of Project Loans Through FY 1968

<u>Sector</u>	<u>Number of Loans</u>	<u>Amount (\$000)</u>	<u>Percent of Total Amount</u>
Power	21	384,610	49.0
Water (Irrigation)	1	24,000	3.1
Transportation	6	132,670	16.9
Railway	(5)	(119,625)	
Road	(1)	(13,045)	
Industry	13	165,162	21.0
Automotive and related industries	(9)	(87,322)	
Fertilizer	(3)	(73,540)	
Ball Bearings	(1)	(4,300)	
Mining	4	20,246	2.6
Intermediate Credit Institutions	4	42,828	5.5
Education	1	12,000	1.5
Family Planning	1	2,700	0.3
Consulting Services	1	900	0.1
	<hr/>	<hr/>	<hr/>
	52	785,116	100.0

India has invested a substantial amount of its own resources and of capital assistance received for donors other than the U. S. - principally Germany, Great Britain, and the Soviet Union - in the development of heavy industry, much of which is government-owned. Although these public sector enterprises are criticized from time to time for the slow delivery, high price and poor quality of their products and for under-utilization of capacity and frequent operating losses, they can and do supply a steadily increasing proportion of the total amount of machinery and equipment needed for installation in new plants or in the expansion of existing plants. The result is to reduce the need for imports of major units and, therefore, the need for foreign exchange to assist in financing new projects.

In the case of public sector projects there has been dissatisfaction on the part of the Center and State government officials with the performance of some American engineering firms, equipment manufacturers and a few construction firms. There are frequent disputes, claims and counter-claims between Indian project authorities and American contractors. This dissatisfaction, combined with growing confidence and pride in the competence of Indian engineers, manufacturers, and construction contractors, has diminished the government's interest in AID loans for public sector projects. An exception applies in the case of very large projects requiring units of machinery and equipment clearly beyond the capacity of Indian manufacturers. Such projects will require some foreign exchange financing but will at the same time utilize increasing amounts of indigenous machinery and equipment.

In the case of private sector loan applications, the Mission, acting on instructions from AID/W, has informed the applicants that they should seek dollar financing from private lending institutions in the U. S. and that AID would assist them by considering requests by the lenders for Extended and Specific Risk Guarantees. This advice has apparently discouraged private applicants who were seeking direct loans from AID. Several of them have faded away and are no longer responsive when asked about their plans for financing and the current status of their projects. Part of their problem has been to persuade the Government of India to agree to arrangements for dollar financing on the increasingly harder terms demanded by private lending institutions in the U. S. Indian Government officials are understandably concerned about India's mounting debt service burden and reluctant to add to it by approving dollar loans on other than concessional

terms. Private sector applicants are caught between U. S. Government policy favoring private foreign investment in developing countries and Indian Government policy against any unnecessary increase in the debt service burden. We are also in an increasingly awkward position as Indian officials are quick to point out the disparity between our views on the terms of aid of other donors and our policy, nevertheless, of pressing for the use of the Extended Risk Guarantee device during a period of sharply rising interest rates on loans by private lending institutions in the U. S.

As stated in Part II of this CFS, the predominant requirement now is non-project, rather than project, assistance. However, we are still looking for good loans.

The long-term outlook for dollar project lending in India is for further investment in large plants for the manufacture of fertilizer to help maintain and perhaps increase the present rate of growth in agricultural production and reduce India's dependence on food and fertilizer imports. The most promising area for further dollar investment in infrastructure is the expansion and mechanization of India's major ports, which would reduce the very high cost of handling imports and exports and increase India's foreign exchange earnings. For both large fertilizer plants and major port improvement, dollar loans will be needed for financing the costs of U. S. engineering and construction services and imports of machinery and equipment from the U. S. to supplement the equipment and services available from Indian sources.

Other possibilities include dollar financing of facilities for (1) the mining, concentration and smelting of non-ferrous metal ores, (2) manufacture of elemental phosphorous from newly discovered Indian phosphate rock for use in the chemical industry, (3) conversion of low-grade coal to crude oil, coal tar and sulfuric acid, and (4) a domestic telecommunications network concentrating on the use of television to broadcast educational programs in agriculture, family planning, nutrition and other high priority areas which require understanding and voluntary participation by large groups of people. There may also be a future need for very large thermal or nuclear power plants requiring units of machinery and equipment which will have to be imported. It cannot be overemphasized, however, that we see literally no possibility of AID loans for traditional projects of the type financed by AID in the past but rather GOI requests for financing of specific components within a project or a sector.