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9. ABSTRACT

In the relationship between agriculture and trade in economic development, agriculture usually is seen as providing exports to earn the foreign exchange requisite to industrial growth. But in contrast to this passive role for agriculture, this study depicts a relationship among agriculture, trade, and growth in which development of the agricultural sector plays a basic role as a determinant of the strategy of growth, with profound implications for over-all growth rates and the pace and pattern of industrial growth, and thereby becomes a major determinant of the volume and composition of foreign trade. This report briefly contrasts strategies of growth with divergent roles for agriculture and trade, and then within that context analyzes the pattern of imports and exports for India. It is argued that the capital-intensive industrial strategy, so much in the ascendancy in the recent past in India specifically and in the literature of economic development generally, inevitably was associated with slow growth in agriculture, in employment, and in trade. And conversely, an increased rate of employment growth, now of so much policy concern, requires complementary change in agricultural and trade policies and in planning procedures.

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**THE INTERACTION OF CROWTH STRATEGY, AGRICULTURE AND FOREIGN TRADE:**

**THE CASE OF INDIA**

By

John W. Mellor & Uma Lele, *U. J.*

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## TABLE OF CONTENTS

	Page
The Strategy of Growth . . . . .	2
The Changing Growth and Structure of India's Imports . . . . .	6
India's Export Performance and Its Determinants . . . . .	12
India's Policy Constraints on Export Performance . . . . .	16
Lessons from the Textile Case. . . . .	20
Conclusions . . . . .	23

## LIST OF TABLES

1. Import Performance of Selected Countries by Commodity Groups, 1950-60 . . . . .	7
2. Import Performance of Selected Countries by Commodity Groups, 1960-69 . . . . .	8
3. Growth Rates of World Exports by Regions and Commodity Groups, 1960-69 . . . . .	.13
4. Export Performance of Selected Countries by Commodity Groups, 1960-69 . . . . .	.15
5. Exports of Textiles and Clothing (Excluding Jute Textiles) from Selected Countries, 1953-64 . . . . .	.21

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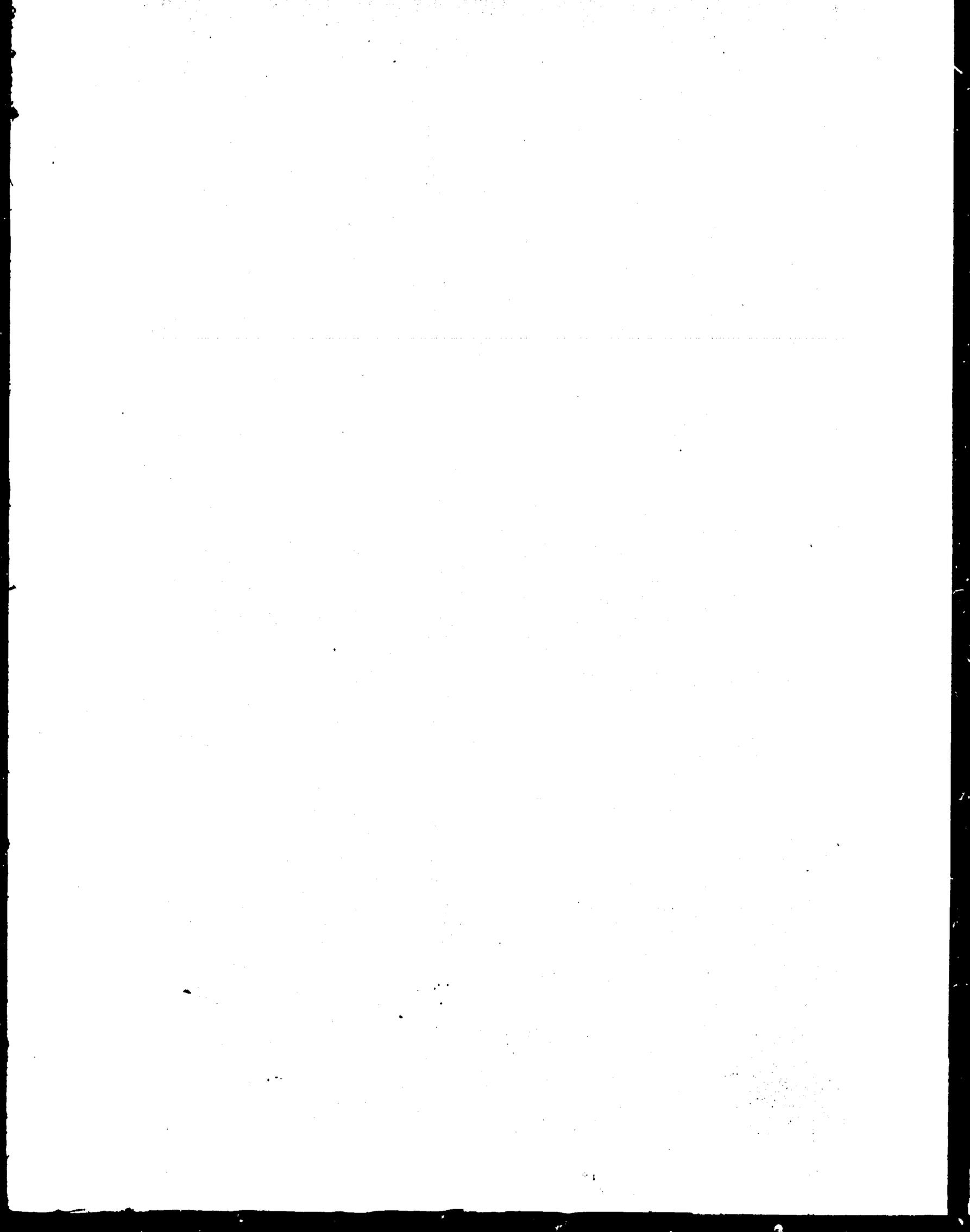
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### SUMMARY STATEMENT

Exposition of a relationship among agriculture, trade, and growth in which development of the agricultural sector plays a basic role as determinant of the strategy of growth, with profound implications to overall growth rates and the pace and pattern of industrial growth, and thereby becomes a major determinant of the volume and composition of foreign trade. Strategies of growth are briefly contrasted with divergent roles for agriculture and trade, and then within that context the pattern of imports and exports for India are analyzed.

This paper is part of a larger series which includes papers from previous AID research contracts concerned with the role and function of agricultural prices in economic development, and growing from that, concern for the impact of new technology on rural employment and income distribution. A list of these publications may be obtained by writing to Cornell University-USAID Technological Change in Agriculture Project, Department of Agricultural Economics, Cornell University, Ithaca, New York 14853. Copies of the report summarized above may be obtained from the same source.



# THE INTERACTION OF GROWTH STRATEGY, AGRICULTURE AND FOREIGN TRADE:

## THE CASE OF INDIA

John W. Mellor & Uma Lele

In the relationship between agriculture and trade in economic development, agriculture is usually depicted as providing exports to earn the foreign exchange requisite to industrial growth. <sup>1/</sup> That agricultural exports of low income countries have comprised a major proportion of their total exports and were expected to have poor prospects for growth only reinforced the argument for a pattern of industrial development designed for increasing self-sufficiency. Such a pattern then tends to lead to an increasingly capital intensive industrial structure. In this context, agriculture may have a further related role of displacing agricultural imports to further release the foreign exchange constraint on industrial growth.

In contrast to this passive role for agriculture, we depict a relationship among agriculture, trade, and growth in which development of the agricultural sector plays a basic role as determinant of the strategy of growth, with profound implications to overall growth rates and the pace and pattern of industrial growth, and thereby becomes a major determinant of the volume and composition of foreign trade. In this chapter we briefly contrast strategies of growth with divergent roles for agriculture and trade, and then within that context analyze the pattern of imports and exports for India. The Indian case is particularly relevant to our purpose because of the early emphasis on a capital intensive growth strategy with related slow growth of agriculture and of foreign trade and the current opportunities for a change in that strategy based on the nascent potentials in new agricultural production technologies.

This chapter gives particular emphasis to the close interrelation among policies for agriculture, increased employment growth, the structure of industrial growth, trade, and even the nature of planning. We will of course dwell on the trade aspect, but always within the broader context of which trade strategy is a component. We argue that the capital intensive industrial strategy, so much in the ascendancy in the recent past in India specifically and in the literature of economic development generally, inevitably was

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Note: This paper is based substantially on a background paper prepared by Uma Lele for the Twentieth Century Fund Study, directed by John W. Mellor, The New Economics of Growth - A Strategy for India and the Development World, Cornell University Press, 1976.

<sup>1/</sup> For a review of this position, see John W. Mellor, The Economics of Agricultural Development, Ithaca: Cornell University Press, 1966, Chapter 6; and George S. Tolley and George D. Gwyer, "International Trade in Agricultural Products in Relation to Economic Development," in Herman M. Southworth and Bruce F. Johnston (Eds.) Agricultural Development and Economic Growth, Ithaca: Cornell University Press, 1967.

Associated with slow growth in agriculture, in employment, and in trade. <sup>2/</sup> And conversely, an increased rate of employment growth, now of so much policy concern, requires complementary change in agricultural and trade policies and of planning procedures.

### The Strategy of Growth

We simplify the presentation by dichotomizing between what we will term a high employment strategy of growth and a capital intensive strategy of growth. Japan, Taiwan, South Korea, Hong Kong and Singapore represent variants of the high employment strategy. India, particularly by the record of the Second Five Year Plan, epitomizes the capital intensive strategy. In making this simplified classification it should be clear that the objectives of economic development are complex and an employment orientation has often not been in the past (nor for many countries is it now) an overriding objective of growth. <sup>3/</sup>

A high employment strategy for economic growth has four major components that differentiate it from the capital intensive strategy. <sup>4/</sup>

First. It includes provision for an elastic supply of basic wages goods. Low income laborers spend as much as 60 percent of increments to their income on food grains and 80 percent on all agricultural commodities. <sup>5/</sup> Thus as rapid mobilization of labor into more productive employment raises incomes

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<sup>2/</sup> This view is presented in a general policy context in Uma J. Lele and John W. Mellor, "Jobs, Poverty and the 'Green Revolution'," International Affairs, 48 (1) (January 1972).

<sup>3/</sup> The conflicting objectives of growth and their implications to choice of growth strategy are discussed at length in John W. Mellor, The New Economics of Growth - A Strategy for India and the Developing World, A Twentieth Century Fund Study. Ithaca: Cornell University Press, 1976.

<sup>4/</sup> We detail the nature of an employment oriented strategy in three closely related papers: Lele and Mellor, op. cit., January 1972; Uma J. Lele and John W. Mellor, "Technological Change and Distributive Bias in a Dual Economy," Revised Occasional Paper No. 43, Dept. of Agricultural Economics, Cornell University USAID Employment and Income Distribution Research Project, June 1971; and John W. Mellor and Uma J. Lele, "Growth Linkages of the New Foodgrain Technologies," Indian Journal of Agricultural Economics, XXVIII (1) (Jan.-Mar. 1973).

<sup>5/</sup> Data are for the lowest two deciles of the Indian income distribution. See Mellor and Lele, "Growth Linkages," op. cit., Table 3. For a more complete analysis of demand relations, see B. M. Desai, "Analysis of Consumption Expenditure Patterns in India," Occasional Paper No. 54, Dept. of Agricultural Economics, Cornell University USAID Employment and Income Distribution Research Project, August 1972.

there is sharp increase in demand for agricultural commodities. 6/ Money wages rates, social discord, or both are likely to rise with consequent efforts to reduce employment growth unless the increased demand is met by increased supply.

In the case of a few small nations such as Singapore, Hong Kong and South Korea, all or part of the increase in demand for agricultural commodities may be met by rapid growth in agricultural imports and compensating growth in exports of other labor intensive commodities. Thus trade may play an important direct role in a strategy emphasizing labor mobilization. However, for large countries, and the collectivity of small countries, the volume of agricultural imports to support rapid employment growth may strongly affect international terms of trade and hence require that wages goods demand be met largely by increased domestic production, leaving a less direct role for trade in the strategy.

Second. The employment oriented strategy requires a supply of capital commensurate with the needs for the expanded rate of agricultural growth and to complement the large additions to effective employment made possible by increased supply of wages goods. Vigorous growth in agriculture may assist in meeting the capital need through higher savings rates in that sector. 7/ Nevertheless, it seems certain that the employment oriented strategy would require lower capital intensity in the industrial sector than the capital intensive strategy. Such reduction in capital intensity may occur in part through change in the structure of domestic demand towards relatively labor intensive consumer goods, prompted by rising incomes in the more rapidly developing agricultural sector. 8/

Third. Capital intensity of industrial production may also be reduced by foreign trade -- which therefore becomes the third element of an employment oriented strategy. Increase in labor intensive exports is at once facilitated by relaxation of the wages goods constraint and concurrently allows increased employment with a given stock of capital. The larger and more rapidly growing domestic market for relatively labor intensive consumer goods, incident to rising rural incomes, further encourages economies of scale and efficient

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6/ For a full exposition of this position in the context of growth theory, see John W. Mellor, "Models of Economic Growth and Land Augmenting Technological Change in Foodgrain Production," in Nurul Islam (Ed.) Agricultural Policy in Developing Countries, London: The Macmillan Press, 1974.

7/ For an exposition of intersectoral capital flows, see John W. Mellor, "Accelerated Growth in Agricultural Production and the Intersectoral Transfer of Resources," Economic Development and Cultural Change, 22 (1) (October 1973). For a full analysis of the question and application to Taiwan, see Teng-hui Lee, Intersectoral Capital Flows in the Economic Development of Taiwan, 1895-1960, Ithaca: Cornell University Press, 1971.

8/ This potential is discussed at length in Mellor and Lele, op. cit., (Note 4).

production of goods with a potentially competitive position in export markets. Concurrently, increase of capital intensive imports frees domestic capital for more employment oriented, labor intensive production. This need is accentuated as labor intensive production is likely to be materials intensive -- with particular demand for capital intensive intermediate products such as steel, aluminum, plastic and synthetic fibers. <sup>9/</sup> Thus both exports and imports serve to reduce the average capital intensity of production through change in industrial structure.

Fourth. Increased agricultural production to relax the wages goods constraint, change in industrial structure, and foreign trade each play a complementary role in an employment oriented strategy of growth. The increased emphasis on agriculture and trade in particular, and the likely greater importance of small scale industry in this strategy, also argue for the fourth element of the strategy -- a lesser role for central direction of the economy and hence greater use of the market for allocation of resources. Thus the planning procedures also change with a change from a capital intensive to an employment oriented strategy of growth. <sup>10/</sup>

The employment oriented strategy outlined above is in sharp contrast to the strategies implicit in the Indian Second Five Year Plan and generally reflected in the literature of multisectoral consistency and optimizing models. <sup>11/</sup> In that strategy, growth is seen as a function of increase in the capital stock. Greater employment is implicitly unfortunate because it tends to increase demand for consumer goods and divert resources away from capital goods and hence from growth. It can be seen that there is little place for investment in a consumer goods sector such as agriculture in such a strategy. And, trade tends to be ignored (as by Mahalanobis) or treated simplistically (as by Chakravarty), with the export growth rate given exogenously and imports primarily comprised of machinery for increased capital goods production. <sup>12/</sup> The models for this strategy are one factor of production growth

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<sup>9/</sup> See the discussion of this question in the context of small-scale industries in Jan H. van der Veen, "A Study of Small Industries in Gujarat State, India," Occasional Paper No. 65, Dept. of Agricultural Economics, Cornell University USAID Employment and Income Distribution Research Project, May 1973.

<sup>10/</sup> For a detailed exposition of the extreme difficulty of encouraging exports in the context of centrally directed resource allocation, see Jagdish N. Bhagwati and Padma Desai, India, Planning for Industrialization, New York: Oxford University Press, 1970. For the special problems of small-scale industry in a nonmarket context, and the low capital intensity of small-scale industry, see van der Veen, op. cit. (Note 9). For the need for decentralized decision making in agriculture, see Mellor, op. cit. (Note 1).

<sup>11/</sup> For a review of these models in the context of choice of growth strategy, see Mellor, in Islam, op. cit. (Note 6).

<sup>12/</sup> See P. C. Mahalanobis, "Some Observations on the Process of Growth of National Income," Sankhya, 12 (September 1953); P. C. Mahalanobis, "The Approach of Operational Research to Planning in India," Sankhya, 16 (December 1955); and S. Chakravarty, Capital and Development Planning, Cambridge, Mass.: M.I.T. Press, 1969.

models, à la Harrod-Domar, and hence the complex question of resource allocation between capital goods and wages goods does not arise. Three points of importance to this paper should be noted.

First. Just as the strategy has no significant role in growth for agriculture, so it is an appropriate strategy if it is not known how to increase agricultural production through technological change: for then agriculture will be subject to diminishing returns and increasing costs and hence there will be rising costs of labor. The Mahalanobis strategy, including the small role for foreign trade, then follows inexorably through increasing substitution of capital for increasingly costly labor.

Second. The capital intensity of industrial production increases (a) on theoretical grounds, in order to reduce resource leakage away from capital goods and towards employment and wages or consumer goods; and (b) on practical grounds, in that the strategy tends to be associated with political factors arguing for large scale, public sector industries, which are normally highly capital intensive. Thus in India structural change alone, excluding the effect of change in technology, resulted in a level of industrial employment in 1965 that was half as great as would have occurred if all the increments to industrial investment subsequent to 1952 had been invested proportionately to the initial investment. <sup>13/</sup> That structural change was the product of the strategy.

Third. Leading directly from the first and second, the basis for foreign trade is lost. Labor is then not a cheap resource, because of the wages goods constraint, thus eliminating a basis for low income countries to have labor intensive production to trade with high income countries with capital intensive production. Further, since in this strategy growth will then depend solely on mobilizing savings and producing capital goods, there will be little growth in consumer expenditure and so domestic consumer goods markets will stagnate. Thus both the Lindar <sup>14/</sup> and Hecksher-Ohlin <sup>15/</sup> bases for trade are lost. The capital intensive strategy is of course self-fulfilling in that it tends to starve agriculture of resources and structures industry away from commodities with which a low income country has trade advantage. Of course, the practise of development diverges from the theory, and Indian agriculture in particular received attention greater than that suggested in the theory and even the theory was bent to provide greater emphasis on intermediate products, such as fertilizer. But, the strategy follows from a situation of

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<sup>13/</sup> For a detailed analysis by industrial sector, see Mellor, op. cit. Chapter V, (Note 3).

<sup>14/</sup> S. B. Lindar, An Essay on Trade and Transformation. New York: John Wiley, 1961.

<sup>15/</sup> E. Hecksher, "The Effect of Foreign Trade on the Distribution of Income," Readings in the Theory of International Trade, Philadelphia: American Economic Association, 1949; and Bertil Ohlin, Interregional and International Trade. Cambridge, Mass.: Harvard University Press, 1933.

poor agricultural prospects, whether those poor prospects be a function of the natural environment or lack of a positive development effort in the agricultural sector.

It is in this context that we wish to review the Indian record, first in imports and then exports. In the section on imports we wish to emphasize the quite different structure of imports and the higher rate of growth that would follow a shift to an employment oriented strategy. In the section on exports we emphasize that the export potentials are much greater than assumed in justifying the capital intensive strategies and that the capital intensive strategy has served to stifle existing areas of exports and promises to stifle new export possibilities in the same manner. We will use the difficult case of Indian textile exports to underline the argument.

#### The Changing Growth and Structure of India's Imports

The capital intensive strategy of growth suggests a large increase in import of capital goods as the growth strategy is initiated and then gradual decline as the policy of self-sufficiency is successfully pursued. India's import record was initially consistent with the strategy -- imports increasing little from 1950 to 1956, then growing at 12.7 percent per year from 1956 to 1961 as the capital oriented strategy was applied, and then declining to a 7 percent growth rate in the 1961 to 1964 predrought period of rapid industrial growth. <sup>16/</sup> Imports then actually declined by one-quarter between 1964 and 1970, but that was due to the industrial recession incident to the great drought of 1965-67 and the concurrent sharp decline in foreign aid.

A useful perspective on the course of Indian import policy is provided by comparison of the Indian record with that of a set of other countries. For example: from 1950 to 1960 India's imports grew at 5.5 percent per year; this was comparable with mature economies such as the United States at 4.6 percent and the United Kingdom at 3.3 percent (Table 1). Its growth in that period was much more rapid than Singapore's and was comparable with Taiwan (6.4 percent), the Philippines (4.5 percent), and Hong Kong (5.7 percent) among developing countries. South Korea was an exception, having a greatly higher rate of 14.2 percent.

The sharp contrast between India and the other countries occurs in the 1960's. While every other country in the comparison greatly increased its rate of growth of imports, India actually experienced decline in essentially every major category of imports except agriculture, petroleum products, and chemicals, the latter comprised substantially of fertilizers (Table 2). In contrast, other countries experienced rapid growth in nearly all categories

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<sup>16/</sup> Data are from United Nations, Dept. of Economic and Social Affairs, Statistical Office, Yearbook of International Trade Statistics, New York, various issues.

Table 1. Import Performance of Selected Countries by Commodity Groups, 1950-60

Commodity Groups	Taiwan	India	Japan	South Korea	Philippines	Hong Kong	Singapore	United Kingdom	United States
	(percent per year)								
Food & live animals	6.45	1.61	- 1.25	- 1.33	2.31	4.13	- 0.49	3.30	1.10
Beverages & tobacco	6.65	-11.19	- 1.97	-66.39	-35.63	4.82	- 5.42	4.43	7.14
Crude materials	2.56	- 1.32	7.26	39.96	26.72	1.33	3.69	- 1.12	- 1.28
Mineral fuels & lubricants	18.39	2.00	15.69	51.16	4.60	7.73	- 6.28	7.17	11.81
Animal & vegetable oils	7.47	18.73	9.73	14.80	9.00	- 8.74	4.29	- 4.85	- 2.28
Chemicals	9.72	10.07	22.58	16.45	7.76	- 1.33	2.72	7.44	5.32
Manufactured goods	- 0.68	14.81	20.44	3.58	- 1.83	10.10	- 0.54	5.20	5.48
Machinery & transport equipment	10.41	14.80	19.72	30.39	13.59	14.44	0.77	13.18	22.26
Miscellaneous manufactured articles	2.82	9.65	16.87	15.05	- 5.21	6.59	1.76	16.53	14.07
Miscellaneous transactions	-	25.85	7.43	30.93	31.65	3.13	- 1.02	2.37	15.22
Total	6.36	5.51	8.61	14.21	4.54	5.72	0.35	3.34	4.62

SOURCE: Computed from data in United Nations, Dept. of Economics & Social Affairs, Statistical Office, Yearbook of International Trade Statistics, New York, various issues.

Table 2. Import Performance of Selected Countries by Commodity Groups, 1960-69

Commodity Groups	Taiwan	India	Japan	South Korea	Pakistan	Philippines	Hong Kong	Singapore	United Kingdom	United States
	(percent per year)									
Food & live animals	12.63	6.59	14.52	13.92	6.97	10.60	6.91	2.28	0.41	5.15
Beverages & tobacco	7.98	-11.62	12.69	43.82	- 0.12	27.64	6.91	4.84	1.19	9.32
Crude materials	18.51	- 1.43	9.95	18.56	1.69	4.41	5.76	- 5.75	0.23	2.37
Mineral fuels & lubricants	12.10	4.43	15.07	13.49	- 1.36	10.43	9.21	6.64	5.49	5.88
Animal & vegetable oils	3.79	14.87	6.89	10.14	6.18	6.19	- 0.32	8.80	4.12	5.89
Chemicals	18.64	7.06	11.60	9.41	10.97	8.41	8.44	8.22	10.55	12.89
Manufactured goods	23.35	- 5.45	21.57	22.35	3.81	9.81	10.69	9.62	11.35	11.52
Machinery & transport equipment	30.27	- 5.04	8.92	31.45	8.62	12.99	13.63	10.12	14.64	26.24
Miscellaneous manufactured articles	22.84	- 8.40	19.72	15.06	4.60	9.63	14.89	7.14	9.89	16.52
Miscellaneous transactions	14.26	31.81	-	-30.93	-	-28.60	- 1.86	4.75	23.58	15.49
Total	17.61	- 1.18	12.60	18.94	6.08	10.17	9.76	4.46	5.81	11.81

SOURCE: Computed from data in United Nations, Dept. of Economics & Social Affairs, Statistical Office, Yearbook of International Trade Statistics, New York, various issues.

of imports and particularly in manufactured commodities. This is particularly true of those countries which were successful in achieving high rates of growth in exports and in national income.

Consistent with the capital intensive strategy, machinery and transport equipment comprised a large and rapidly growing component of India's imports. However, India's limited resource base required additional large imports of natural resource based commodities; the vagaries of the monsoon and failure to constrain consumer incomes resulted in large food grain imports; and again, somewhat despite the strategy, capital intensive intermediate products such as steel and fertilizer comprised a major portion of imports. It is quite possible that in change to an employment oriented strategy, growth of imports in each of these categories would accelerate substantially. It is that prospect that lends such urgency to accelerating export growth if the employment oriented strategy is to succeed.

Machinery and transport equipment comprised over one-third of all imports in 1965 and in 1969 still equalled over one-quarter of imports. <sup>17/</sup> In the employment oriented strategy, it is likely that a higher proportion of capital goods would be produced domestically to meet the needs of smaller scale, more labor intensive and more consumer goods oriented industries compared to the large scale heavy industry emphasis of the capital intensive approach. Nevertheless the faster overall growth rate could well result in accelerated machinery imports -- quite possibly, however, with compensating greater exports of more labor intensive types of machinery. In this context the Japanese example is instructive. Despite development of a broad base of domestic industrial capacity, Japan's imports of machinery and transport equipment grew at a rate of 20 percent per year from 1950 to 1960 and even from 1961-69 such imports grew at a rate of nine percent per year (Table 1 and 2). Japan's machinery exports grew even more rapidly (see Table 4).

The future course of food grain imports is a function of the pace of technological change in agriculture: the extent to which a demand increasing, employment oriented strategy is pursued on the one hand, and on the other, the extent to which demand is contained by fiscal policy and the availability of foreign exchange from exports or aid. For individual years, of course, weather is the primary determinant of food grain imports. In the longer term, it is perhaps likely that imports would be least with both slow and fast growth rates of food grain production and fastest for an intermediate level.

For example, a four to five percent growth rate of production might result in a low level of imports, as a relatively high growth rate of employment could be sustained with domestic production; while a slow rate of food grains production, of say less than 3 percent, would also be accompanied by only slow growth in food grains imports, as political concern for sustainability of a high level of imports of food grains argued for a low employment growth strategy. Yet a moderate rate of growth of food grains production of 3 to 4 percent might provide sufficient confidence for an expansionary employment policy

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<sup>17/</sup> Ibid.

and an economic base for accelerated export growth and hence both the necessity and the means of large food grain imports in years of poor weather and low food grain production. Further complicating estimation -- particularly within the context of accelerated food grains production and a high employment strategy -- food grain exporting nations could foster increased Indian imports through bilateral concessionary trade agreements and the reduced risks and uncertainty incident to long term agreements.

It seems virtually certain that an employment oriented strategy would require accelerated growth in imports of nonfood grain agricultural commodities. These commodities, particularly including vegetable oils and cotton, had grown to comprise over one-quarter of India's imports by 1968 -- and that for commodities for which demand is highly income elastic and in a context of slow growth of consumer incomes and slow growth of exports, such as textiles for which agricultural commodities are raw materials. <sup>18/</sup> To avoid accelerated rate of growth of imports would require a substantially more rapid rate of production growth for these commodities than for food grains production, presumably requiring a faster rate of technological change than for food grains, or substantial acreage shift induced by relative decline in food grain prices. Such a configuration seems unlikely in the near term.

In the favorable years of industrial growth, such as 1963 and 1964, the capital intensive intermediate products, iron and steel plus fertilizers, comprised about 15 percent of India's import bill. <sup>19/</sup> In a labor intensive strategy of growth, demand for these commodities and others of similar characteristics such as aluminum and synthetic fibers will grow rapidly in response to rising demand from rising national income as well as from growth of labor intensive industries which process such commodities for the export market. Concurrently, the new strategy will allocate capital supplies largely to more labor intensive industries; thus imports of this already large category of commodities must increase rapidly.

Mineral fuels, the most important of the direct resource based imports, have only exceeded 10 percent of imports in one year, 1957, prior to the sharp price increases of 1973-74. <sup>20/</sup> For the same reasons as the capital intensive intermediate products, demand for such commodities will grow at an accelerated pace with an employment oriented strategy. Insofar as such natural resource based commodities are not produced domestically or are exploited through highly capital intensive processes for which foreign exchange is not readily and specifically available, then imports will grow rapidly. A general upward shift in relative primary product prices, as for petroleum in 1973-74, serves to reinforce the logic of shift to an employment oriented growth strategy because of the inefficiency with which the capital intensive strategy provides the then much larger requirement of foreign exchange.

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<sup>18/</sup> Ibid.

<sup>19/</sup> Ibid.

<sup>20/</sup> Ibid.

The "Approach to the Fifth Plan" 21/ is basically at variance with the import expectations set forth here. The "Approach" document is in roughly the same conceptual mould as the Second Plan, is based on an input-output model, assumes a fixed, slow rate of growth of exports at 7 percent, concludes that imports must be constrained to that rate or slower, and argues for doing so in large part by reducing "luxury" consumption and expanding the capital intensive sector to displace imports. Such a plan is probably infeasible, at least at the targeted level, without resumption of large scale net foreign aid on a long term basis. It is certainly inconsistent with an employment oriented strategy.

Further sharpening the contrast between the earlier argument that the capital intensive strategy prejudices exports, the "Approach" document argues that it facilitates exports. 22/ This is presumably because imports are considered relatively fixed and so domestic production of intermediate products relaxes that constraint on production of goods for which they are a raw material. Similarly:

The exercise indicates that progress towards self-reliance will be significantly accelerated if higher levels of production can be achieved in a few sectors such as steel, non-ferrous metals, fertilisers and crude oil. All efforts should be concentrated on expanding production at a fast rate in these sectors.

Likewise . . . .

It may be possible to improve the projected rate of growth of output of fertilisers. Since in the accepted variant, fertilisers continue to be imported in substantial quantities in the terminal year, any increase in production above the estimated level will be desirable from the balance of payments angle. 23/

Again the emphasis falls heavily on these capital intensive sectors. Indeed, so much weight is placed on them that expansion of electric power -- clearly nonimportable -- seems to have been slowed dangerously even by the standards of the "Approach" document, let alone by the standards of an agriculture and employment oriented strategy as set forth here. 24/

Rate of growth of electricity (for the Fifth Plan) is appreciably lower compared to the rate postulated by the Fuel Policy Committee. This is partly attributed to the same factors as mentioned for coal (slower than expected

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21/ Government of India, Planning Commission, "Approach to the Fifth Plan, 1974-79," Delhi, January 1973.

22/ Ibid., p. 14.

23/ Ibid., pp. 21-22.

24/ Ibid., p. 22.

economic growth) and partly on account of restriction implied on the rate of growth of domestic demand for electricity as a result of reduced inequality.

This is, of course, not to say that such an allocational policy will follow as the pragmatic and politically influenced process of policy determination and implementation proceeds.

If India follows an employment oriented strategy, with its consequent substantial increase in trade, the related problems of ensuring vital supplies and protecting against large increases in relative prices must be dealt with. Presumably an effective planning mechanism could make estimates of long term needs and use those as a basis for long term contracts with foreign suppliers; such contracts could be dispersed among political and economic blocks to minimize scope for external pressure. It is by no means clear that such a process involves any greater risk to supplies than do reliance on domestic supplies in circumstances of capital constraint, apparently poor ability to estimate future demand, and uncertain management and technology. It must be remembered that the fertilizer crises of 1972-74 was in the context of an effort to achieve substantial self-sufficiency and probably arose in large part through misestimate of future domestic production, based in particular on overly optimistic estimates of capacity utilization.

#### India's Export Performance and Its Determinants

Exports provide the means of payment for imports and therefore are at the core of a strategy that attempts to spread domestic capital over a larger employment through import of necessary capital intensive commodities. Thus, one of the prime arguments for the capital intensive strategy is a pessimism with respect to export prospects -- usually based on expectation of poor prospects for growth in demand for primary commodities and of protectionism against manufactured goods by high income countries. At least ex poste this argument was also frequently raised in India. <sup>25/</sup> However, the evidence, particularly of the 1960's, does not support the pessimistic view of exports either for low income countries generally or for India specifically.

Total exports from less developed countries grew at a rate of 6.9 percent from 1960 to 1969 (Table 3). This is more than two-thirds the rate of growth of exports from the developed countries for the same period, and 90 percent as fast as growth in exports from the Eastern Bloc countries. More important, the less developed countries had faster rates of growth in almost every major category of exports to nearly every category of area. In all the categories for which developed countries' exports grew rapidly, less developed countries' exports grew even more rapidly. Food and raw materials and ores are the two categories of commodities for which world exports increased slowest. With the minor exception of textiles and clothing to Eastern Bloc countries and

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<sup>25/</sup> See Bhagwati and Desai, op. cit., p. 369 (Note 10).

Table 3. Growth Rates of World Exports by Regions and Commodity Groups, 1960-69

Commodity Groups	Exports of Industrial Areas to:				Exports of Developing Areas to:				Exports of Eastern Trading Bloc to:				World Exports to World
	Industrial Areas	Developing Areas	Eastern Areas	World	Industrial Areas	Developing Areas	Eastern Areas	World	Industrial Areas	Developing Areas	Eastern Areas	World	
(percent per year)													
Food	7.15	4.38	2.45 <sup>a</sup>	6.39	3.50	4.27	7.02	4.17	22.33	14.39	3.57	7.11	5.54
Raw Materials & Ores	5.34	5.80	5.05	5.36	2.84	4.10	2.79 <sup>b</sup>	2.82	10.31 <sup>a</sup>	3.72 <sup>a</sup>	1.69 <sup>b</sup>	4.92	4.33
Fuels	5.34	0.52 <sup>a</sup>	-	5.60	10.19	4.23	-	8.60	8.02	3.75	3.68	5.50	7.43
Basic Metals & Chemicals	11.27	5.12	8.59	9.84	12.52	14.87	12.36	12.33	16.78	7.98	4.63	7.45	10.13
Machinery & Transport Equipment	14.75	9.22	14.08	13.15	32.23	12.67	-	19.60	12.56	10.53	10.01	10.27	12.89
Textiles & Clothing	10.12	3.85	24.05	8.55	13.98	5.21	22.15	10.58	15.55	12.18	14.15	13.72	9.34
Other Manufactures	10.52	5.62	16.04	9.46	16.06	10.23	18.77	13.60	12.01	4.39	2.61	4.67	9.14
Residue	15.77	12.09	6.83 <sup>a</sup>	13.77	8.49 <sup>b</sup>	- 6.03	-	8.70	21.50 <sup>b</sup>	36.68	9.27	23.37	14.39
Total	10.79	6.81	11.39	9.87	7.41	5.42	6.50	6.89	12.24 <sup>a</sup>	10.51	5.77	7.55	8.92

<sup>a</sup>Not significant at 5 percent level.

<sup>b</sup>Not significant at 1 percent level.

Definitions: Industrial Areas comprise North America, Western Europe and Japan.

Developing Areas consist of Latin America, Southeast Asia, Middle East, Africa and other parts of the world.

Eastern Trading Areas include Eastern Europe, U.S.S.R., Mainland China, North Vietnam, Albania, North Korea and Mongolia.

SOURCE: Computed from data in General Agreement on Trade and Tariff, International Trade, various issues.

the "residual" exports, it is only in these two slow growth categories of exports that less developed countries have performed less well than high income countries. It is of course these commodities which have in the past comprised the bulk of less developed countries' exports and it is the heavy weight to these slower growth commodities which accounts for the overall slower growth rate of exports of less developed areas.

It is particularly noteworthy that imports of the various categories of manufactured goods from the developed areas grew much less rapidly than exports of the same categories of commodities from the developing areas to the developed areas. Most striking, exports of machinery and transport equipment from developing to developed areas grew at 32 percent per year during this period while their imports of these commodities from developed areas grew at only 9 percent per year.

Thus the efforts of less developed countries to industrialize seem to have paid off in the form of rapid growth of exports in those export categories experiencing most rapid growth in overall world trade. Presumably manufactures have been found in which less developed countries can quickly become competitive with the more developed nations. As the fast growth sectors expand, the size of these sectors relative to the slow growth sectors increases and overall rates of export growth increase.

Relatively slow growth in the food, raw materials, and ores sectors may be in part due to rapid growth in domestic demand for these commodities as manufacturing increases and to rigidities of supply due to natural resource constraints. The emphasis on developing manufacturing may also have resulted in some perhaps temporary neglect of the primary commodity areas and consequent loss of productive output and export potentials. This neglect has probably been most substantial in agriculture and has taken the form of underinvestment in the means of cost reducing technological change.

India's export performance has been an exaggerated version of the less developed country pattern. Exports of the various manufactured goods categories, except for textiles and clothing, have grown more rapidly than those of the collectivity of less developed countries. The fastest export growth category for less developed countries was machinery and transport machinery -- for which India's rate of export growth in the period 1960 to 1969 was nearly 50 percent faster than that of all less developed countries (Tables 3 and 4). India's generally good export performance in the general category manufacturing was depressed by the poor performance in the subcategory textiles, as shown in a succeeding section. In contrast, for each of the primary commodity areas, India's export performance was considerably worse than that of all less developed countries.

Compounding India's problem of initially unfavorable commodity composition of exports was an unfavorable country composition of export markets which traced from the colonial period. This problem reinforced the pessimistic view of export prospects and thereby strengthened the argument for the capital intensive strategy and its consequent neglect of agriculture and foreign trade.

Table 4. Export Performance of Selected Countries by Commodity Groups, 1960-69

Commodity Groups	Taiwan	India	Japan	South Korea	Pakistan	Philippines	Hong Kong	Singapore	United Kingdom	United States
	(percent per year)									
Food & live animals	11.6	- 0.5 <sup>a</sup>	7.5	19.7	3.0	2.3 <sup>a</sup>	- 3.7 <sup>a</sup>	0.5 <sup>a</sup>	19.6 <sup>b</sup>	3.3 <sup>a</sup>
Beverages & tobacco	7.3 <sup>a</sup>	1.9 <sup>a</sup>	6.7	69.0	65.5 <sup>b</sup>	6.9 <sup>a</sup>	- 4.1 <sup>a</sup>	- 1.6 <sup>a</sup>	7.8	4.9
Crude materials	26.0	2.0 <sup>b</sup>	8.4	17.7	2.0 <sup>b</sup>	8.1	- 1.8 <sup>a</sup>	1.1 <sup>a</sup>	1.0 <sup>a</sup>	5.0
Mineral fuels & lubricants	12.2 <sup>b</sup>	- 1.6	11.3	- 4.5 <sup>a</sup>	13.9 <sup>a</sup>	51.9	21.9	13.1	- 0.4 <sup>a</sup>	4.4
Animal & vegetable oils	- 9.7 <sup>a</sup>	-17.0 <sup>a</sup>	-11.4 <sup>a</sup>	4.0 <sup>a</sup>	-	19.8	-15.8	10.7	- 0.3 <sup>a</sup>	- 0.4 <sup>a</sup>
Chemicals	-11.5 <sup>b</sup>	10.3	20.4	18.2 <sup>a</sup>	10.8 <sup>a</sup>	17.8	- 0.9 <sup>a</sup>	3.6	6.5	8.5
Manufactured goods	23.2	4.2	13.2	50.9	18.9	15.7	7.3 <sup>b</sup>	0.4	6.6	6.6
Machinery & transport equipment	55.0	28.4	22.2	45.4	38.7	-	25.0	- 0.2 <sup>a</sup>	- 4.6 <sup>a</sup>	10.1
Miscellaneous manufactured articles	42.1	14.7	16.0	76.9	19.9	26.1 <sup>a</sup>	16.6	7.4	9.4	7.0
Miscellaneous transactions	107.8	- 5.0	52.7	16.5 <sup>b</sup>	14.6 <sup>b</sup>	23.5 <sup>b</sup>	- 5.2	- 1.3 <sup>a</sup>	1.1 <sup>a</sup>	11.5
Total	20.2	2.8	16.5	35.3	9.4	8.1	12.4	3.3	5.4	7.5

<sup>a</sup>Not significant at 5 percent level.

<sup>b</sup>Not significant at 1 percent level.

SOURCE: Computed from data in United Nations, Dept. of Economic & Social Affairs, Statistical Office, Yearbook of International Trade Statistics, New York, various issues.

Thus in 1953, the United Kingdom received 29 percent of India's exports, a share which had declined to 15 percent by 1968. <sup>26/</sup> The value of India's exports to the United Kingdom declined 15 percent in this period. The record is similar for other ex-colonies, as the uneconomic aspect of colonial trading relationships disappears with the loss of imperial power. Thus from 1952 to 1969 Japan's share of South Korea's and Taiwan's exports declined from 54 and 53 percent to 22 and 15 percent respectively; while the United States increased its share from 33 to 56 percent for South Korea and from 6 percent to 43 percent for Taiwan. <sup>27/</sup> However, in the case of India there was the double liability of reducing a tie with a relatively stagnant trading partner. Thus, from 1961 to 1969, United Kingdom imports increased by 5.8 percent per year in sharp contrast to world imports which increased by 8.9 percent per year, United States imports which increased by 11.8 percent per year and Japanese imports which increased by 12.6 percent per year. <sup>28/</sup>

The major offset to decline of the United Kingdom market was increased trade with the Eastern Bloc countries. Exports to that region were less than one percent of India's exports in 1957. From 1960-61 to 1969-70 they had quadrupled, increasing from 7.5 percent to 21 percent of all exports. The increase was facilitated by Eastern Bloc emphasis on repayment of aid through trade and perhaps by the facility of Eastern Bloc countries and India to manage large trade agreements through state trading agencies. <sup>29/</sup> The only other area with which India's exports have increased rapidly during this period is Japan, to which exports grew at over 10 percent per year from 1950 to 1969. The high growth rate was largely due to rapid growth in iron ore exports.

#### India's Policy Constraints on Export Performance

India's failure to realize the export potentials nascent in the past two decades of development trace primarily from the capital intensive growth strategy and secondarily from the bureaucratic restraints that were, at least initially, themselves a product of the growth strategy. The strategy reflected in compromise of the two principal areas of trade advantage upon which India might have capitalized. The one was use of low cost labor to compete in producing labor intensive commodities for export to high wage countries, and the other, closely interacting with the first, was to use a large, growing domestic market to foster efficient manufacture of relatively labor intensive consumer goods. The consequences for exports that rose from the theory of growth applied in the Second and Third Plans were reinforced by the simplifying assumptions in the planning models developed to guide decision making and the bureaucratic administrative procedures under which they were executed.

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<sup>26/</sup> See United Nations, op. cit., various issues (Note 16).

<sup>27/</sup> Ibid.

<sup>28/</sup> Ibid.

<sup>29/</sup> See Bhagwati and Desai, op. cit., pp. 429-431.

Trade between countries with unlike factor proportions is one of the more plausible theories of trade. <sup>30/</sup> In this view India would produce labor intensive commodities; and as a variant on that theme, India, with its relatively large expenditure on higher education, might give particular emphasis to commodities low in capital intensity but high in requirements of both skilled and unskilled manpower. In practice, however, India's pattern of industrial growth has been highly capital intensive. Thus for the period 1951 to 1965, out of nineteen major industry groups, the four most capital intensive groups increased their proportion of capital investment, value added in production, and employment; while with one exception the four industry groups with lowest capital intensity decreased their share by each of the three measures. All four of the low capital intensity groups are producers of final consumer goods and none of the four most capital intensive industries fall in that category. <sup>31/</sup>

Even if the structure of capital investment had been more labor intensive, the slow growth in agriculture would have created a wages goods constraint. Further, the lack of foreign exchange for capital intensive machinery and intermediate product imports required to produce a labor intensive value added, reinforced the underlying problem. Reflecting the increased capital intensity of production, the capital intensity of exports increased 18 percent from 1964 to 1969. <sup>32/</sup> In four of eight industrial trade categories the weighted average capital intensity of exports increased during the period. <sup>33/</sup> There is also a statistically significant tendency for the industries with greater capital intensity to have had the faster growth in exports, <sup>34/</sup> although the weighted average increase in capital intensity of exports was somewhat less than that for the economy as a whole. <sup>35/</sup>

The capital intensive strategy in practice removed an alternate but related basis for trade. India could have produced inexpensive, low quality consumer goods and capital goods for the home market, thereby achieving efficiency in production, and thus provided competitive exports to similar

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<sup>30/</sup> See Hecksher, *op. cit.*, and Ohlin, *op. cit.*, (Note 15).

<sup>31/</sup> For details and sources, see Mellor, *op. cit.*, Chapter V. (Note 3).

<sup>32/</sup> These data are based on an unpublished work by Uma J. Lele, entitled "An Analysis of the L.D.C.'s Exports of Manufactured Goods." See also the analysis of Bharadwaj confirming a rise in the capital intensity of exports vis-a-vis imports replacement in 1958-59 compared to 1953-54, in Ranganath Bharadwaj, Trade: A Study Suggested by the Input-Output Analysis, University of Bombay, 1962.

<sup>33/</sup> See Lele, *op. cit.*, (Note 32).

<sup>34/</sup> Rank correlation coefficients between capital intensity and export growth from 1964 and 1969 were statistically significant at the 90 percent level. See Lele, *ibid.*

<sup>35/</sup> *Ibid.*

markets elsewhere, particularly in other poor countries. <sup>36/</sup> This theory is somewhat complementary to the resource endowment theory in that poor countries would in practice consume lower quality goods which were labor intensive in production and maintenance, and similarly for capital goods.

The Indian growth strategy militated against this approach to exports on two grounds. Most important, consumer income -- particularly of low income people -- was stagnant, and without such growth in income there is little potential for the aggregate of consumer goods industries to expand and increase in efficiency. Thus while particular segments may expand from a small base the rate of expansion must slow rapidly as they attain significant aggregate size. In this respect, the experience of India is in sharp contrast to Taiwan, which effectively used a rapidly growing domestic market to develop industries which later seized on the export potential. <sup>37/</sup>

It is sometimes argued that Indian export performance is poor because the large domestic market draws off all production for domestic use. While the argument is clearly specious, its refutation clarifies the problem of export performance. Under the capital intensive strategy, there was of course little expansion of consumer goods industries. Nevertheless some increased income payments leaked into consumption demand and thus raised domestic prices of the small quantity of consumer goods. Thus, given the strategy, exports could occur only if domestic income was closely contained. In the alternative strategy, incomes may rise, and with resources available to consumer goods industries they will be stimulated to grow with higher prices providing the basis for investment in capital goods, as necessary.

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<sup>36/</sup> This is, in essence, Lindar's hypothesis that countries with similar per capita incomes and hence similar consumption patterns will trade with each other (see Lindar, *op. cit.*, 1961). In a test of Lindar's hypothesis, Lele finds no correlation between propensities to import and income differences between India and pairs of regions (see Lele, *op. cit.*, unpublished). For this purpose, the world was divided into 10 regions, each relatively homogeneous for per capita income. For each region the average propensity to import from India was calculated by dividing the imports into the region from India by region GNP, then the Spearman rank correlation coefficient was calculated between the ranking of propensities to import of each region and the difference between the regions and India's GNP per capita. Similarly, India's imports from the region were calculated. In both cases the rank correlation was not significant at the five percent level. With the exception of miscellaneous manufactures and machinery and transport equipment which account for only one-sixth of India's export growth in the past two decades, the better performers in exports are commodities going primarily to high income countries, although the growth in trade with the Eastern Bloc countries may reflect some affinity with respect to demand for quality of goods between the areas.

<sup>37/</sup> See Kou-shu Liang and T. H. Lee, "Process and Pattern of Economic Development in Taiwan," Unpublished paper, 1972.

The deleterious implications to trade of the theoretical model behind the Second and Third Plans was reinforced by the simplifying assumptions of the planning models; those simplifying assumptions in turn appearing reasonable in the context of the theory. With the rate of growth of exports set at a fixed percentage of domestic production, the level of imports was then determined by the low level of exports and by foreign aid. Capital goods had a strong priority for the available foreign exchange. This was consistent with a strategy which concentrated resources on provision of capital goods and contained a particularly large requirement of foreign exchange for the capital intensive industries. Application of such models left little foreign exchange for imports necessary to efficient exports.

It is within this context of a theory of growth and a set of planning models -- both inimical to export growth -- that a bureaucracy ill equipped for its tasks is able to further prejudice the export effort. Bhagwati and Desai <sup>38/</sup> detail the bureaucratic deficiency and inefficiency that has characterized and inhibited the Indian export record. For improved performance the strategy of growth must be changed. Then, in the context of a new strategy, the bureaucracy must perform a new set of tasks with increased efficiency. It is perhaps fair to say that under the old strategy, export performance could not have been impressive even with the best administration; under a new strategy export performance will certainly improve, but could be greatly enhanced by positive public administration.

Export markets tend by nature to be residual markets and therefore more competitive and volatile than domestic markets, thus bureaucratic delays and ineptitude particularly inhibit exports. The importance of the strategy becomes clear in this context because facilitation of exports requires removal of controls on capital intensive imports as components and raw materials for exports. It seems unlikely that such imports could be isolated from the domestic market, and in any case growth in the domestic market may be necessary to facilitate economic growth of export industries.

The public sector can, however, also play a vital positive role in facilitating exports, first by taking risks to develop markets and second by taking risks to ensure adequate supplies of raw materials through execution of long term buying agreements. To fulfill this positive role undoubtedly requires technical specialization which is contrary to the generalist philosophy of the Indian civil service. It also requires a change in emphasis away from regulation to compress growth into a plan framework and to prevent leakages of foreign exchange and towards positive facilitation of exports.

In these circumstances the role of the State Trading Corporation might well expand in two directions. First, with expanding volume of imports of easily graded raw materials and capital intensive intermediate products a case can be made for careful estimate of future needs as a basis for use of market power in large scale forward buying. Second, a case can be made for a public investment in market analysis, development and promotion, including risk absorption, to foster exports in new, promising lines.

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<sup>38/</sup> See Bhagwati and Desai, op. cit., pp. 130-134 (Note 10).

Finally, it must be recognized that although they may have been ineffective in achieving export growth, the regulatory bureaucracy is powerfully entrenched and can be expected to fight vigorously and effectively to maintain its power. In doing so it may ally itself with politicians who themselves have much to gain from the distribution of patronage and windfall profit which is innate to such a system of regulation. Thus the greatest harm from the bureaucracy may not be so much its poor performance under the old strategy as the role it might play in preventing change to a new strategy.

### Lessons From the Textile Case

India's performance in textile exports epitomizes the relationship between growth strategy and exports. In 1953, subsequent to the Korean war boom, exports of all textiles and clothing (excluding jute) totalled \$179 million or 17 percent of total Indian exports (Table 5). India then provided 58 percent of all less developed countries' exports of these commodities. By 1968, India's exports of the textile group had increased by only \$4 million; while total less developed countries' exports of textiles had increased by \$1.9 billion. Pakistan had increased from zero to exports two-thirds as large as India's; South Korea from zero to an amount 25 percent larger than India's; Taiwan from zero to an amount nearly 50 percent larger than India's. India's share of less developed countries' exports of textiles declined from 58 percent to 8 percent between 1953 and 1969. If India had maintained her share of less developed countries' exports of textiles, they would in 1969 have totalled \$1.3 billion -- a net addition of over 60 percent to total exports and a sum comparable in size to the largest annual net aid received by India. If India's share of less developed countries' exports of textiles had dropped in half in this period, exports would still have been larger by \$470 million.

It may be argued that India so dominated world textile trade in 1953 that it could not expect a dynamic future performance. Suffice to say that in 1953 Japan's textile exports were 75 percent larger than India's and then nearly tripled by 1969 for an addition to textile exports of \$1.8 billion -- almost exactly equal to India's total exports of all commodities in 1968. Similarly, the sum of the increase in textile exports from Taiwan and South Korea in the two years, 1967 to 1969, was over one-third larger than India's total textile exports in 1969.

India's problem was not market dominance or lack of foreign markets but failure to produce, which in turn was due to lack of market orientation, failure to modernize, and failure to import raw materials. These in turn traced from the development strategy and its implementation and suggests the basis for future failure in other export lines if the strategy does not change.

While India maintained traditional product composition of its textile exports, other countries were making dynamic adaptation to changing market conditions. <sup>39/</sup> From 1953 to 1968, Japan's exports of cotton fabrics increased

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<sup>39/</sup> See Manmohan Singh, India's Export Trends, Oxford: Clarendon Press, 1966, pp. 50-55. Also, Bhagwati and Desai, op. cit., pp. 385-388; and General Agreement on Trade and Tariff, International Trade, 1969, p. 82.

Table 5. Exports of Textiles and Clothing (Excluding Jute Textiles)  
from Selected Countries, 1953-1964

Year	India	Pakistan	Korea	Taiwan	L.D.C. Total <u>a/</u> (million U.S. dollars)	India's Share of L.D.C. Total (percent)	Japan
1953	179	-	-	-	309	58	311
1955	156	-	-	-	332	47	545
1957	184	18	-	-	460	40	957
1959	180	31	1	9	532	34	964
1960	174	40	2	13	615	28	1,142
1961	181	14	1	18	738	25	1,069
1962	166	11	3	33	775	21	1,143
1963	221	18	4	36	1,004	22	1,126
1964	194	49	26	61	1,108	18	1,290
1965	199	53	47	66	1,215	16	1,427
1966	182	60	68	87	1,383	13	1,611
1967	156	67	108	130	1,562	10	1,565
1968	225	101	174	179	1,926	12	1,822
1969	183	127	227	263	2,183	8	2,097

a/ L.D.C. total is estimated by deducting Indian and Pakistani exports of jute textiles from the total value of exports of textiles and clothing shown in the General Agreement on Trade and Tariff, International Trade. Figures for 1953 to 1960 for the L.D.C. total are estimated from the sources below.

SOURCE: Computed from data in United Nations, Dept. of Economic and Social Affairs, Statistical Office, Yearbook of International Trade Statistics, New York, various issues.

General Agreement on Trade and Tariff, International Trade, various issues.

United Nations, Dept. of Economic & Social Affairs, Statistical Office, Monthly Bulletin of Statistics, New York, various issues.

by only 30 percent and \$60 million. <sup>40/</sup> Fabrics of other materials, dominated by synthetics increased over seven times and added \$560 million to exports. Even more spectacular, clothing exports increased ten-fold, by \$350 million. For India, clothing exports only increased to \$20 million in 1968; regenerated and synthetic fabric exports were actually lower in 1968 than in 1953. <sup>41/</sup> Clothing also dominated South Korean export growth, rising from \$7 million in 1964 to \$112 million in 1968. Taiwan too experienced rapid growth of clothing exports, accounting for nearly half of textile exports in 1968; but Taiwan also experienced rapid growth in cotton fabric exports, rising from \$9 million in 1959 to \$43 million in 1968. <sup>42/</sup>

Pakistan is an exception to this pattern but one which further emphasizes the loss to India of not adapting to new market potentials. Textile exports (excluding jute) grew from essentially nothing in 1953 to \$122 million in 1969. Over 80 percent was comprised of cotton yarn and fabrics -- almost exactly the same percentage in these two categories as India. Thus, Pakistan textile export growth, which accounted for about a third of its total export growth from 1953 to 1968 was largely of the traditional type and probably significantly in competition with India. India did not take advantage of its early start to move on to more promising areas, staying to compete with latecomers who may have had few alternatives.

India's textile industry has also tended to stagnate technologically, resulting in high cost production and consequent poor competitive position. The relatively stagnant domestic demand required little expansion of the industry and hence the average age of equipment increased as new capacity comprised only a small proportion of the total. In addition, the capital intensive policies in the capital goods sector left little capital or foreign exchange available for the textile industry. Thus import of special machinery to facilitate exploitation of new markets was not possible. <sup>43/</sup>

This natural result of the chosen development path was reinforced by explicit decision to emphasize the small scale sector of the textile industry. <sup>44/</sup> As a result, from 1951 to 1969, the mill sector stagnated while the small scale sector nearly quadrupled its output. During that period, the physical volume of cotton fabric exports declined 30 percent. Favoring the small scale sector was recognition of the generally deleterious welfare effects of the capital intensive approach to development. The result may well have been the worst of both worlds: inefficient production in the favored sectors by emphasis on overly capital intensive production, and inefficient production in other sectors (such as textiles) by emphasis on excessively labor intensive methods.

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<sup>40/</sup> See United Nations, *op. cit.*, various issues (Note 16).

<sup>41/</sup> *Ibid.*

<sup>42/</sup> *Ibid.*

<sup>43/</sup> Indian Cotton Mill's Federation, "The Indian Cotton Textile Industry," *Cotton and Allied Textile Industries*, 8 (Bombay, 1967):20.

<sup>44/</sup> *Ibid.*

The technological problems of the textile industry also illustrate some of the genuine dilemmas of development. Efforts at import substitution in the textile machinery industry may well have been a sensible policy, for India may only require modest time to develop the essential skills for competitive position in textile machinery production. During the period of protection the domestic textile industry suffers from high cost machinery and probably from technological backwardness as well. In the vigorous expansion incident to an employment oriented strategy, this interim period would be passed quickly. Under India's capital intensive strategy it has continued for a long period.

An additional difficulty of India's textile industry is high cost and unreliable supply of basic fibers, which comprise over 50 percent of the total cost of the industry. <sup>45/</sup> Again, we illustrate that exports require imports. Cotton production has grown only slowly in India and hence even with slowly rising demand, cotton prices have risen relative to other prices. Thus in the last half of the 1950's, while the United States subsidized cotton exports to the benefit of Japan and many other textile exporters, Indian producers encountered rising cotton prices. India's potential comparative advantage in providing value added in the textile industry was, in effect, sacrificed to her then current comparative disadvantage in cotton production.

Similarly, the plan effort to restrict imports to capital goods prevented imports of synthetic fibers -- themselves the product of a highly capital intensive industry. And, as synthetics became more acceptable in the plan framework, the emphasis has shifted to domestic production, with further concentration of capital in a few industries and firms and on a few employees, thereby starving other users of capital, including the more labor intensive textile industry.

### Conclusions

The detail with respect to India's textile exports was presented not to make a general case for textile exports from low income countries, but rather to illustrate that export growth is related to the overall growth strategy affecting (1) the supply of wages goods and the extent to which labor can be mobilized; (2) the structure of domestic demand and hence the commodity composition of increasing production efficiency; (3) the basis for allocation of capital and foreign exchange and its further affect on commodity composition of output; and (4) the planning procedures themselves.

It is implied that the rapid growth rate in a few relatively labor intensive exports, such as engineering goods, is in risk of being truncated as expansion becomes sufficient to meet the aggregate constraints faced by textiles. Conversely, these and many other commodities could expand rapidly to major aggregate proportions with change to a facilitative overall strategy.

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<sup>45/</sup> Ibid.

It is argued further that India's strategy of growth illustrated how either the fact or the expectation of poor prospects in domestic agricultural production may confirm a strategy which is inimicable to export performance, and conversely, how expectation of poor export performance may confirm a capital intensive strategy that is in turn inimicable to providing resources or demand for rapid growth of agriculture. It follows that to be successful, attempted change in trade policy, agricultural policy, or employment policy must be accompanied by appropriate change in policy in the other complementary areas.