Chapter VII

SECTORAL ALLOCATION IN PLANS
The aim of planning in the context of economic development is to transform as rapidly as possible the semi-feudalistic set up in Pakistan into one of industrialism. (1) The country has to shift over to a higher level of technique and this can be performed predominantly through industrialization. Industrialization therefore remains the most important part and the ultimate objective of economic development in Pakistan. (2) Rapid industrialization through planning would necessitate the attaching of priorities to the different sectors in a certain order depending upon a number of factors including the level of industrialization already achieved in the country, the share and importance of the agricultural sector, the availability and requirement of social overhead capital etc. The order of priorities will be different in different economies according to the variations in these factors.

The Place of Agriculture

After partition, agriculture, along with its branches, was the largest single sector in the economy of Pakistan. About 61% of the national income was derived from this sector (3) with 75%

(1) The First Five Year Plan 1955-60, Government of Pakistan (Karachi, 1957) 395. Henceforth cited as FFYP.

(2) Ibid., 81.

(3) W. N. Peach and others, Basic Data of the Economy of Pakistan (Karachi, 1959) Table 18, p. 35.
of the civilian labour earning their living directly or indirectly from agriculture and 90% of those living in rural areas. (4) Industry or manufactures on the other hand formed an insignificant part of the economy contributing only about 6.97% to the national income and employing roughly 6.2% of the total civilian labour force. (5) It is obvious that agriculture constituted the backbone of the Pakistan economy as it existed at that time.

Keeping this in mind, the First and Second Plans attached the top priority to agriculture for it was thought that it had to be imparted at least a part of the customary 'industrial' dynamism if it was to cater to the expanding needs of the industries and a rapidly increasing population. (6) In quantitative terms agriculture was allocated a sum very much smaller than the sums allocated to a number of other sectors during both the Plans because heavy investment was considered unnecessary for the achievement of the objectives relating to agriculture.

Starting with the desire to point out the most effective approach for the achievement of the development objectives, the Pakistan planners could have adopted any of the three approaches regarding agricultural investment for economic development.

1. Agriculture may get a very low priority during the initial stages of economic development.

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(4) FFYP, 213.

(5) Peach, n. 3, 35, 15.

(6) FFYP, 213.
ii. There may be increased investment outlay in agriculture permitting an increase in agricultural production sufficient to meet the increased demand for it.

iii. The last possible approach would be to attach the highest priority to investment in agriculture and to depend upon it for setting the ball rolling in the process of the transformation of an under-developed economy into a developed one. (7)

Developmental planning in Pakistan realized fully the importance of agriculture to economic development and hence the top priority to agriculture. At first sight this sounds somewhat surprising because the share of the total investment going to agriculture and also the additional contribution it is expected to make to the gross national product were much smaller than that of industry. It is clear that the Plans gave priority to agriculture in a special sense of the word. The 'priority' given to agriculture becomes more meaningful in the perspective of the past level of investment in agriculture.

It was, further, claimed, that the Plans had recommended the 'maximum feasible' programme in agriculture. Such a claim is meaningless since it cannot be verified. The feasibility was measured in terms of the administrative capacity available. But a top priority sector should get the same priority in the allocation of administrative services also. It seems, the highest priority

to agriculture was merely a declaration of pious intentions rather than investment or administrative policy. (8) So in spite of the priority attached to agriculture, it falls more appropriately under the second category rather than the third which demands accelerated investment in agriculture. In fact a case can be made out in favour of each of the three approaches to agricultural investment as much as a case against each of the three approaches. The suitability of an approach will depend upon the conditions prevailing in the country under consideration and it is just not rational to suggest any of the three as a general approach. Brahmananda has made out a general case for 'accelerated agricultural investment' in the over-populated under-developed countries. (9)

To contradict that, it should not be difficult to make out equally or even more compelling considerations in favour of a low priority approach to agriculture or in favour of a moderately increasing investment in agriculture backed by technological progress and a more effective use of resources already committed to the agricultural sector. The example of Japan and Taiwan can be cited in this context where investment was largely indirect and non-monetary and a substantial increase in the rate of growth of agricultural production was achieved. (10) That Pakistan has adopted a similar approach is clear from Table No. 24. In Japan


(9) Brahmananda, n. 7, 411-12.

and Taiwan the three key elements responsible for the increase in productivity and the output of basic foodcrops were (i) agricultural research leading to the development and selection of higher yielding varieties; (ii) increased application of fertilizers and (iii) activities that facilitated wide use of the most productive plant varieties and of improved farm practices. (11) The table shows that both the Plans in Pakistan concentrated their efforts primarily in the above mentioned three fields with very small direct investment in agriculture. The approach of accelerated investment in agriculture may be more appropriate in an economy where the area of land under agriculture is inadequate and a rather small part of national income comes from agriculture employing a fraction of the total population; the bulk of income coming from some mineral export etc. While the problem of Pakistan is just the reverse with excessive pressure of population on land, agriculture contributing a major portion to the country's national income and with adequate land under it. Under these circumstances the problem becomes primarily that of transferring the excess population to non-agricultural sectors and eliminating all the shortcomings which have kept agriculture at the subsistence level. For this purpose 'accelerated investment' in agriculture is unnecessary and more so in view of the fact that Pakistan has only marginal shortages of foodgrains but, on the other hand, large investment becomes imperative in other sectors. A modest programme of investment coupled with organizational changes may increase

(11) Ibid., 570-1.
### Table 24

Public Sector Development Expenditure During
I & II Plan

<table>
<thead>
<tr>
<th>Description</th>
<th>I Plan (Millions)</th>
<th>II Plan (Millions)</th>
<th>Revised Estimates (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Manures &amp; Fertilizers</td>
<td>200.28</td>
<td>318</td>
<td>420</td>
</tr>
<tr>
<td>2. Seed multiplication &amp; Dist.</td>
<td>64.53</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>3. Plant Protection</td>
<td>60.03</td>
<td>256</td>
<td>331</td>
</tr>
<tr>
<td>4. Marketing &amp; Storage</td>
<td>166.53(a)</td>
<td>200</td>
<td>279 (a)</td>
</tr>
<tr>
<td>5. Agri. Education, Research &amp; Extension and Plant Breeding</td>
<td>77.98</td>
<td>85</td>
<td>219</td>
</tr>
<tr>
<td>6. Land Reforms</td>
<td>11.50</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>8. Soil Conservation &amp; Surveys</td>
<td>8.54</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>9. Mechanization</td>
<td>48.66</td>
<td>63</td>
<td>70</td>
</tr>
<tr>
<td>10. Colonization</td>
<td>114.87</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>11. Farm &amp; Range Management</td>
<td>10.71</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>12. Animal Husbandry</td>
<td>113.82</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>13. Fisheries</td>
<td>34.92</td>
<td>46</td>
<td>60</td>
</tr>
<tr>
<td>14. Forestry</td>
<td>90.10</td>
<td>134</td>
<td>159</td>
</tr>
<tr>
<td>15. Underdeveloped Areas</td>
<td>5.4</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>17. Reserves</td>
<td>190.0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>18. Village Aid</td>
<td>297.9</td>
<td>480</td>
<td>280</td>
</tr>
<tr>
<td>19. Miscellaneous</td>
<td>-</td>
<td>-</td>
<td>498</td>
</tr>
</tbody>
</table>

a. 'Marketing & Storage' under the First Plan includes 59.41 millions allocated for marketing regulation and government storage and 107.12 millions for 'Cooperatives, rural credit and marketing' while for the Revised Estimates it includes 185 million for foodgrain storage; 64 million for seed stores and 30 million for cooperatives.

Sources:
the productivity considerably and even generate a surplus which can be utilized for further economic development in various ways.

**Pattern of Agricultural Investment**

In order to feed, clothe and shelter the population adequately, agriculture has to provide the understructure in the initial stages of economic development and for this far-reaching improvements have to be brought about in the entire set-up of agriculture in the under-developed countries—the changes embracing technology, organization, the land tenure system and finally the institutions financing and providing other services to agriculture. (12) Such improvements could be achieved with a more effective utilization of the resources already employed in agriculture and with very modest requirements of new capital stocks. The experience of other countries in this respect can be helpful only in a very broad manner because of the differences in climate, soil, human resources and above all the institutional set-up. Apart from factors like climate, the agricultural productivity has tended to be low because of the primitive and uneconomic organization and technique used for working and improving the quality of the soil i.e. agricultural productivity is low because of the absence of certain institutional, educational and technical inputs. Such inputs have been divided into four parts. (13)

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(13) Johnston and Mellor, n. 10, 584.
i. Research to develop improved production possibilities;

ii. Extension - education programmes;

iii. Facilities for supplying inputs of new and improved forms specially seeds and fertilizers;

iv. Institutional facilities for servicing agricultural production such as credit and marketing agencies etc.

Agricultural Research

Research is the foundation of progress today as ever. Modern industrial concerns as well as nations find a consistent relationship between expenditure on research and the rate of economic growth. (14) The same is true of agricultural research also. Potentialities of increase in agricultural productivity in the developing economies exist because a considerable amount of knowledge has been accumulated in fields like geology, botany, agronomy etc. which as yet has not been applied in these economies. The developing economies can draw on the accumulated knowledge. The finding out of the fruitful avenues of progress, the testing and adapting of seed varieties and other cultural practices to local conditions etc. are inevitable for realizing the gains from the accumulated knowledge. (15)

Both long term and short term research is basic to economic development but in both the Plans the emphasis was somewhat more on short term research because of the necessity of increasing the foodgrains production immediately. (16) While basic work may


(15) Johnston and Mellor, n. 10, 586.

continue, the immediate need is of increasing the productivity through the application of basic knowledge in testing and improving the known types of plants especially suited to the land and climatic conditions of Pakistan - tolerant to extremes of temperature, water conditions, soil acidity, salinity or alkalinity and more resistant to tropical diseases. Valuable results have been achieved in the evolution of new varieties of rice and wheat, the major foodcrops. New varieties have been evolved in jute and cotton while research is being done on a number of other cash crops. (17)

Shortage of qualified agricultural scientists may be a formidable obstacle in Pakistan and can be overcome by inviting scientists from abroad in order to conduct research work as well as train the local youngmen in the various research institutes. Research workers can also be sent abroad to get advanced training.

Extension - Education Programme

The main purpose of an extension-education programme is to carry to the farmers the findings of agricultural research and carry back the knowledge of the farmers' problems to the research staff. The success of such programmes depends upon making tradition bound farmers accept the new alternatives and train them to make their own choices from out of such alternatives. (18) In Pakistan these activities are carried on by the "Village Aid and Rural Development" programme. The First Plan laid down the objectives of this programme as:

(17) FFYP, 222 and SFYP, 149-52.

(a) to raise rapidly the output and income of the villagers through better methods of farming and the expansion of cottage industries;

(b) to create a spirit of self-help, initiative and co-operation among the villagers;

(c) to multiply the community services available in the rural areas; and

(d) to create conditions for a richer and higher life.

The programme achieved a fair degree of success during the First Plan. The adoption of improved farm practices were faster in the development areas than elsewhere though accomplishments in agriculture on the whole were short of expectation. (19) The Second Plan treats extension as a significant instrument of rural development especially in relation to agricultural production. (20) But the feeling conveyed by the Plans is that extension has been treated rather casually, not giving it the importance it deserves.

Supply of New Inputs

Chemical fertilizers and pesticides are of critical importance for increasing the agricultural production. These inputs must come from outside the traditional sector, in most cases necessitating imports of the inputs or machinery to produce the inputs. The return on investment in these inputs can be extremely high. Also, the multiplication and distribution of seeds can step up the production considerably.

(19) SFYP, 393.

(20) Ibid., 394.
Generally speaking the soils of Pakistan, like other tropical soils are rather low in plant nutrients for satisfactory crop production without fertilization - East Pakistan being deficient in nitrogen and phosphates and West Pakistan in nitrogen and humus. (21) The use of fertilizers will not only correct these deficiencies and help in increasing the yield, but more importantly their use will also permit the production of other varieties of crops which otherwise could not be grown at all. The use of fertilizers may increase the production depending upon the soil, crop, type of fertilizer etc., but it has been estimated that under optimum conditions the increase may be as high as 50%, or even more. (22) The absence of accurate and complete soil surveys is the main obstacle in the proper and efficient use of the fertilizers but all the same the two Plans made considerable provisions for the use and production of fertilizers.

Improved varieties of seeds must be multiplied on a minimum necessary scale and distributed to and sown by the cultivators. The use of highest yielding, adapted crop varieties is perhaps the most economical means of increasing agricultural production. Seed being a basic cost in agriculture is present whether or not the improved varieties are used. It is therefore necessary that the best variety of seeds be used. By combining in an improved variety "high yield, disease resistance, wide adaptation and added responsiveness to fertilizers and irrigation a built-in permanent improvement can be provided" without raising the cost but making

(21) FFYP, 227.

(22) Ibid., 227.
a tremendous contribution to the increase in production. (23) Yields can be increased, it has been estimated, by as much as 25% with the use of improved varieties only. (24) The performance in the First Plan was not very encouraging, still there was no cause for getting disheartened and a bigger programme was put forward for the Second Plan. The programme requires three steps all of which are rather time consuming. First is the multiplication of the foundation seeds on government farms; second is the multiplication of seed on the farms of registered growers and finally the distribution of seed to farmers generally.

Plant protection is the third important input. No precise estimates are available to show the exact loss from pests and diseases but rough estimates indicate that about 5% to 15% of the total crop production is lost every year on this account. (25) The losses vary from year to year depending upon the seriousness of the infestation. These losses can be reduced greatly through proper control measures. The Second Plan allocation for plant protection was increased very greatly in order to cover as much area as was possible.

This type of investment raises the average productivity of the farmer, meaning that if such investment is effective, the same amount of output can be produced by a smaller number of farmers. Therefore the relationship between labour and this type of investment is not complementary but substitutive. Fei has called

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(23) Government of India, n. 14, 194.
(24) FFYP, 225.
(25) Ibid., 229.
this investment 'lagged inputs' because he assumes that there is
a lag of one planning period between the input and the output.
Moreover, such measures aiming at an increase of agricultural
production can only be effective slowly and gradually. (26) In
addition to this it is thought that the output obtained from such
inputs are, once and for all, in nature. (27) It is doubtful if
investments in such fields are any more lagged than let us say
'fixed investments'. In fact all types of investments present a
certain minimum lag before benefits from them can be realized and
'lagged inputs' are no exception in the sense that fertilizers,
improved seeds etc. will not have a longer lag than irrigation and
drainage schemes. On the other hand the latter will have a much
longer 'gestation period' in the sense that it will take a much
longer period of time to construct dams and drainage systems.
There is no reason at the same time because of which these inputs
should be effective only gradually. Empirically, it has been
shown that Japan developed her agriculture tremendously and quite
rapidly by the use, primarily, of such inputs. Moreover precisely
this type of investment is required in Pakistan because of the
existence of a significant amount of disguised unemployment and
with this type of inputs the average productivity per worker will
rise making it possible to produce the same output with fewer
workers. Agriculture in most of under-developed countries has
remained at the subsistence level because of the absence of such
inputs.

(26) J. C. H. Fei and others, An Analysis of the Long Run
Prospect of Economic Development in Pakistan (Karachi, 1962) 22-3.
(27) Ibid., 24.
These inputs do generate outputs of the nature of once and for all outputs and this is so because these are by their very nature more akin to 'variable capital' rather than fixed capital. It has been realized that the rate of return on fixed investment in Pakistan is likely to be lower than the rate of return on 'lagged inputs'. (28)

Moreover fixed investments are more capital intensive than 'lagged inputs'. And if Pakistan wishes to have a heavy industry oriented pattern of growth, she must conserve capital in all possible ways. In agriculture a considerable saving of capital can be effected by investing in the 'lagged inputs' rather than fixed ones. When, of course, a certain level of industrialization has been achieved, she can always go in for fixed investments.

Institutional Facilities

These include all the facilities necessary for servicing agricultural production such as agricultural marketing, storage, credit etc. along with measures to improve the land tenure, provide medical facilities etc. All these are extremely important for increasing the agricultural productivity; so much so that in Mymensingh, East Pakistan, the rice and jute crop increased by 15% on an average, and in some cases by 40% as a result of one year of D.D.T. spraying. (29) Instead of the usual situation with

(28) Ibid., 25. The rates of return for 'lagged inputs' and fixed capital for Pakistan have been calculated at 2.6 and 2.7 respectively but the later is likely to be much lower because a part of the return to the fixed capital investment must be compensation for the labourers who work with the capital.

three out of five workers sick from malaria during the planting and harvesting season, most workers were well and able to participate actively. Without any improvement in cultivating practices or seeds the crop was sizeably increased. Similar increases can be achieved by eliminating wasteful storage, improving marketing and credit facilities and above all by land reforms.

All the four unconventional inputs discussed above are primarily organizational, but for the provision of fertilizers and pesticides, and can be put through with rather modest demands on capital with promise of substantial increase in productivity. Chemical fertilizers and pesticides could be developed in the industrial sector.

Pakistan's programme for agriculture is primarily a programme for its reorganization; allocating only 16.5% of the public expenditure to agriculture during the First Plan; 15.9% and 15% of the total expenditure to agriculture during the Second Plan and the Revised Estimates respectively. The bulk of this investment was made in purely organizational fields (Table 24). It is not possible to comment on the magnitude of the allocations made to the agricultural sector on the whole because apart from the objective tests subjective considerations play an important part in determining the total proposed investment in agriculture; all the same, it can be pointed out that the approach adopted towards agricultural development in Pakistan was, in principle, undoubtedly the most suitable of all the available alternatives. The idea was to achieve increases in agricultural production with modest investments of capital.
The shortfalls in the agricultural sector during the First Plan were due to distinctly worse than normal weather conditions, water logging and salinity, and administrative inefficiency in implementing the agricultural development programme. Obviously, these were factors not possible to control during the initial stages of economic development and the failure in the agricultural sector was in no way indicative of a faulty approach to the problem.

**Social Overhead Capital**

Quantitatively, social overhead capital got the highest priority in both the Plans in the sense that it got the maximum allocation, i.e., 66.5%, 74.4% and 77.4% of the public sector programme during the First, the Second Plan and the Revised Estimates respectively. It was so partly because 'a steady progress in providing social services' was one of the objectives of planning (30) and partly because it was thought that the setting up of these facilities would be conducive to the development of industry and agriculture.

Though social overheads are defined to include all public services from law and order to education, health, transportation etc., yet the hard core of the concept can be restricted to transportation and power while we have included transport, power

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(30) FFYP, 13 and SFYP, 6.
### Table 25

**Development Expenditure on Social Overheads During I & II Plan**

(in corres)

<table>
<thead>
<tr>
<th></th>
<th>I Plan</th>
<th>II Plan</th>
<th>Revised Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>%</td>
<td>Semi-Public</td>
</tr>
<tr>
<td>Total</td>
<td>750 (a)</td>
<td>100</td>
<td>975.0</td>
</tr>
<tr>
<td>Social Overheads</td>
<td>498.9</td>
<td>66.4</td>
<td>736.0</td>
</tr>
<tr>
<td>Water &amp; Power</td>
<td>215.8</td>
<td>28.8</td>
<td>314.0</td>
</tr>
<tr>
<td>Transport &amp; Comm.</td>
<td>133.3</td>
<td>17.8</td>
<td>199.0</td>
</tr>
<tr>
<td>Housing &amp; Settlement</td>
<td>68.9</td>
<td>9.2</td>
<td>89.5</td>
</tr>
<tr>
<td>Education &amp; Training</td>
<td>46.4</td>
<td>6.2</td>
<td>89.0</td>
</tr>
<tr>
<td>Health</td>
<td>23.1</td>
<td>3.1</td>
<td>35.0</td>
</tr>
<tr>
<td>Social Welfare etc.</td>
<td>10.7</td>
<td>1.4</td>
<td>9.5</td>
</tr>
</tbody>
</table>

(a) I Plan figures have been adjusted for uniform planned shortfall of 20%.

Source:  
(i) The First Five Year Plan 1955-60, Government of Pakistan (Karachi, 1957) Table I, p. 15.  
and water, health, education, housing and social services. (31)

"Water and power" in the two Plans came for the maximum allocation i.e. 28.8% of the public sector expenditure in the First Plan, 17.8% and 19.1% of the total expenditure in the Second Plan and Revised Estimates, respectively while 'transport and communication' came next with 17.8% of the public sector in the First Plan and 17.6% and 17.6% in the Second Plan and Revised Estimates, respectively. (32) In spite of such high allocations, relatively at least, it was felt that it would just meet the most urgent needs for the completion of on-going schemes and cover only those rehabilitation, replacement and expansion requirements which are considered most urgent and which should help to prevent bottlenecks likely to frustrate the realization of the Plans. (33) The outlay on education, health and housing, as well was increased during the Second Plan, rather more so in the Revised Estimates but the actual requirement of the country was still higher.

In the field of transport the emphasis was primarily on the rehabilitation of the system. The programme was framed more on the basis of ad hoc needs and pressures than a comprehensive survey or

(31) A. H. Cole condemns the existing elaboration of the concept of social overheads as fuzzy, inadequate and misleading. It tries to explain a uniformity which never existed and is a collection of items, thrown into a pot without adequate thought regarding any similarity among them. Moreover an examination of history does not reveal any relationship between the setting up of such social overheads and economic development but for the fact that these have been the result of development. A. H. Cole, 'A Note on Social Overhead and a Dynamic Analysis of Industry," Quarterly Journal of Economics, August 1960, 413-15.

(32) See Table 25.

(33) SFYP, 14, 16.
a long term development programme. The result was that the transport system developed in a manner not particularly helpful to the industrial development of the country. (34) 'Housing' on the other hand, consisted greatly of the construction of luxury houses (35) while the educational programme stressed college and university education rather than technical education. The result was a new problem of the educated unemployed. (36)

Planning Commissions in the under-developed countries during recent years have been very particular about social overhead capital. As a result, it has widely been thought that enlarged availabilities of such facilities are essential preconditions for economic development. Investment in social overheads is advocated not because of its direct effect on output but because of its indirect effect in promoting the setting up of other productive activity. (37) The difficulty with social overhead capital is that it is impervious to the investment criteria. Moreover the computation of capital output ratios often presents insurmountable difficulties apart from being misleading at times. (38) It can be generalized all the same that social overheads like power, transport, education, housing etc. require large amounts of capital. In addition to this, their capacity utilization as well as output value

(34) Haq, n. 8, 167.
(35) Ibid., 167-8.
(36) Ibid., 167-8.
(38) Ibid., 84.
both remain normally low in the under-developed countries. (39) In Pakistan roads have been poorly utilized because of the inadequate number of buses and trucks in operation, (40) while the construction of roads may be a little more expensive in Pakistan than in the developed countries. In the developed countries also the capital coefficient in social overheads is higher than in other productive fields. In the U.S. for instance the capital coefficient was .31 for textile mill products, .23 for food and kindred products, .92 for iron and steel, .22 for fabricated structural metal products, .48 for other fabricated metal products, .69 for metal working machinery and .53 for other machinery. On the other hand the coefficient for railroad transportation was 3.34, for housing 8.16 while in other cases like health, education etc. the product remains intangible for the calculation of capital output ratio. (41) But generally these are fairly capital intensive and indirect estimates place the capital coefficient rather high - very much higher compared to the other industries. The capital coefficients in Pakistan cannot be identical with those given for the U.S. but their relative positions may not be very dissimilar. Therefore an investment pattern loaded with investment in social overheads would, ceteris paribus, generate lower incremental output than the

(40) SFYP, 16.
one emphasizing manufacturing industries and having minimal overheads. These minimal overheads, moreover, will be utilized to capacity, pressing down their capital coefficient. (42) The capital output ratio becomes high because first, the initial capital outlay on social overheads is higher and second, because capacity utilization is never to the full.

The approach that can be followed during the initial stages of rapid industrialization, is to draw upon the social overheads capital of the past. (43) By admitting a certain overcrowding in the existing housing facilities, overworking the health and educational facilities etc. a few new industries could possibly be organized without affecting their cost structure. This 'resource utilization' effect will raise the productivity and thus lower the marginal capital-output ratio, partially offsetting the rise in capital-output ratio caused by the 'capital deepening' effect of a particular pattern of investment. Precisely this result was achieved in the U.S.S.R. by borrowing social overhead capital from the past and channelling their investment resources to those sectors of the economy in which the capital co-efficient was 'relatively' low. This borrowing was reflected in a marked overcrowding in the cities and significant strains upon the transport system. (44) But in the U.S.S.R. the process of industrialization had gone on for some time before the outbreak of the World War I, as a result of which it was possible for them to accord a low priority to social overheads,


(43) Hirschman, n. 37, 88.

(44) Eckstein and Gutman, n. 41, 442.
borrow these from the past and concentrate upon heavy industries. (45) While Pakistan at partition or even afterwards was at a much earlier stage of economic development than Russia of 1928; so there were hardly any reserves of social overhead capital to fall back upon. Moreover, such a squeezing of the social overhead capital may be just impossible in a state which is not considerably centralized.

But there has been found to be a direct linear relationship between the marginal demand for power and transport facilities and the growth of industrial output. Regardless of economic conditions, a fairly uniform proportion of total investment is devoted to these two. Countries with planning have devoted anything from 18% to 40% to transport - 18% in Pakistan during the First Plan and 40% in Afghanistan. (46) Transport not only plays the passive role of accommodating traffic generated by activities taking place in the economy but also plays the active role of making new resources available. (47) 'Power' on the other hand is the main motive force in the modern large scale and heavy industries. It has an ever increasing role to play in the development of agriculture also. In the case of Pakistan the one redeeming factor is that she has a vast amount of unutilized water resources, the utilized resources in 1954-55 being .6% of the potential power resources. Since the success of economic development elsewhere depends partially upon how efficiently the transport and power systems function, investment

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(45) Ibid., 444.


(47) Ibid., 182.
in these can be paced proportionately with the anticipated growth of industrial production. While for other complementary requirements, such as housing, education, health, sanitation and other social services which are not only capital intensive but also slow to develop, reliance may be placed upon a better and more intensive utilization of the already existing services. (48) In a country like Pakistan such withdrawals from the past cannot be very heavy and would have to be made up in the successive periods of planning as the rate of capital formation increases. But initially when the need to step up the rate of capital formation necessitates a large feedback, investment in the social overheads sector could be low and the reliance on the already existing means of necessity high. (49)

While in Pakistan, social overheads came in for the highest allocation in both the Plans, it was thought that it would provide only the minimum necessary facilities in certain fields. It may be possible to determine the requirement somewhat accurately in the case of transport, power, housing etc. but in the case of other overheads with intangible outputs it is just impossible to determine the same accurately.

For transport, power, irrigation and technical education the derived demand could be determined from the output targets of the Plans in the fields of agriculture and industry. Provisions should,

(48) For instance by introducing double or triple shift teaching, mobile dispensaries and cheap houses with little cement and steel structures.

(49) Wagle, n. 39, 132.
generally, be in excess of the expected demand because bottlenecks in these fields can be more damaging than idle capacity. It requires sound judgement, on the whole to make allocations to the Social Overheads, rather than quantitative prescription.

Barring transport and power, expenditure on all the other overheads could be reduced significantly. During the First Plan in China, for instance, education, culture, public health, municipal utilities, trade, banking, commodity reserves and working capital were allocated only to the order of 14% of the state investment, while power was treated as a part of the industry sector. (50) It is not to suggest that Pakistan also should follow the same policy but the idea is to show that rapid economic development is facilitated with investment in industry rather than social overheads ahead of demand. Pakistan could definitely have reduced its expenditure on social overheads and diverted the resources so released to the industrial sector.

Industry

In the developed countries of today industrialization was spread over a number of years and the process itself could be divided into three distinct revolutions. The first revolution based on steam, coal and steel, railways and steamers started towards the end of the 18th century and lasted till the middle of the 19th. The second wave of industrialization was based on internal combustion engines, electric power, oil, metalled roads.

(50) Choh-Ming Li, Economic Development of Communist China (Los Angeles, 1959) 9.
and the electric grid. This took place in the beginning of the 20th century. The third industrial revolution is now underway based on automation, nuclear energy, chemical industry and rockets. (51) The under-developed countries of today have to compress all the three stages into one. They have to build railways, electric power, metalled roads and the electric grid, automatic factories etc. at the same time. Such a compression makes economic development an extremely difficult task. This coupled with the fact that the under-developed countries are late-comers is bound to make their development into a less spontaneous and more deliberate process than was the case with the pioneers in the field of industrialization. The late-comers have the advantage of advanced technology but precisely for the same reason they have to introduce planning and thus introduce a pattern of development different from the pattern in the pioneering countries. The pattern of industrial growth proceeded initially with the domination of the consumer goods industries, the capital goods industries becoming increasingly important and their output rising to half the size of the consumer goods industries during the next stage. During the final stage, a sort of a balance was established as between the consumer goods and the capital goods industries with a tendency for the capital goods industries to expand more rapidly than the consumer goods industries. (52) The same general pattern of industrialization is


visible in all the countries. (53)

Pakistan started from a very low level of development and in 1955 embarked upon planning, realizing that industrialization was the most necessary part and ultimately the main objective of economic development. (54) All the while during 1947-55 the industrial situation was improving. The main aim in the circumstances of the country is to complete the transition from feudalism to industrialism as rapidly as possible and therefore industry was given a priority only second to agriculture. Quantitatively, industry was allocated only 17.4% of the public expenditure during the First Plan. The picture changed vastly during the Second Plan since only 2.5% i.e. 25 crores, of the public sector expenditure was allocated to industry, the rest of the investment of 465 crores coming from semi-public and private sectors, though on the whole, the total investment in industry increased absolutely as well as relatively rising to about 25.8% of the total outlay during the Second Plan. In the Revised Estimates the share of Industry went still higher, being 26.6%.

Producer or heavy industries were attached greater importance during the Second Plan. Compared with the First Plan investments in chemicals, engineering, metallurgy and non-metallic minerals, especially cement, were larger while investment in textiles, food and agriculture processing, wood etc. was smaller. (55) This clearly shows a shift in emphasis over to the producer goods industries.

(53) Ibid., 67.
(54) FFYP, 81, 395.
(55) SFYP, 15.
Table 26

Consumer's Goods

<table>
<thead>
<tr>
<th></th>
<th>I Plan</th>
<th>II Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Food, Beverage &amp; Tobacco including Agri. Processing</td>
<td>48.5</td>
<td>39.9</td>
</tr>
<tr>
<td>2. Textiles</td>
<td>69.5</td>
<td>72.8</td>
</tr>
<tr>
<td>3. Wood Work &amp; Furniture</td>
<td>0.2</td>
<td>1.0</td>
</tr>
<tr>
<td>4. Footwear</td>
<td>*</td>
<td>1.0</td>
</tr>
<tr>
<td>5. Paper</td>
<td>18.4</td>
<td>6.3</td>
</tr>
<tr>
<td>6. Leather</td>
<td>2.8</td>
<td>2.5</td>
</tr>
<tr>
<td>7. Rubber</td>
<td>.4</td>
<td>1.2</td>
</tr>
<tr>
<td>8. Printing</td>
<td>1.9</td>
<td>3.0</td>
</tr>
<tr>
<td>10. Small-scale Industries</td>
<td>11.8</td>
<td>25.0</td>
</tr>
<tr>
<td>11. Industrial Estates</td>
<td>.7</td>
<td>7.5</td>
</tr>
<tr>
<td>12. Productivity Centre</td>
<td>.1</td>
<td>-</td>
</tr>
</tbody>
</table>

Producer's Goods

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Chemicals</td>
<td>52.3</td>
<td>54.9</td>
</tr>
<tr>
<td>2. Petro-Chemicals &amp; Petroleum</td>
<td>29.1 (a)</td>
<td>23.3</td>
</tr>
<tr>
<td>3. Non-metallic Mineral Pro.</td>
<td>14.1</td>
<td>27.4</td>
</tr>
<tr>
<td>4. Engineering Industries</td>
<td>34.7</td>
<td>58.5 (b)</td>
</tr>
<tr>
<td>5. Electrical Industries</td>
<td>3.8</td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>134.0</td>
<td>170.3</td>
</tr>
</tbody>
</table>

(a) This includes the investment in 'Liquid Fuels' and 'Natural Gas'.

(b) This includes the investment in 'Basic-metal industries', 'metal products', 'machinery' and 'Transport Equipment'.

These had to be grouped because of the variations in classification between the two Plans.

Source: 1. The First Five Year Plan 1955-60, Government of Pakistan (Karachi, 1957) Table 1, pp. 429-34.
2. The Second Five Year Plan 1960-65, Government of Pakistan (Karachi, 1960) Table 1, p. 231.
One of the most important of these was steel and the Plan considered
the expansion of this as of the utmost importance. It was hoped
that such an industry would function as a nucleus to the development
of the heavy engineering industry. During the First Plan roughly
about Rs. 134 crores were allocated to the producer's goods while
during the Second Plan it rose to Rs. 170.3 crores approximately.
The percentage was about 41.9% of Rs. 405 crores, the total
investment in industry sector including working capital etc. and
excluding the outlay on minerals and fuels or 50.1% out of the
investment of Rs. 339 crores in the industries alone during the
Second Plan. (56)

With the popularization of planning it has been realized
that the rapidity of economic growth to a very great extent depends
upon the direction of investment, that is, upon the way investment
is dispersed over the various sectors. For rapid growth, industriali-
zation is inevitable and so a significant part of the investment
outlay under planning must go to the industry sector. It is not to
suggest that industrialization is the only method of achieving rapid
growth. Another possibility is commercialization of agriculture
for exports requiring a favourable 'factor endowment and favourable
demand conditions abroad.' This is a rare combination and may be
dismissed as devoid of much practical utility for Pakistan. There-
fore industrialization had to be resorted to. In the industry
sector the main component for growth acceleration is the capital
goods industries. This generates a large feed back which is primarily
responsible for accelerating capital formation. Increased investment

(56) See Table 26.
in capital goods industries may give lower immediate output but a higher rate of growth than if the investment is made in the consumer's goods industries. But after a certain point, the gap created by the higher output of consumer's goods industries is made up by the capital goods sector. But if the output, we lose initially, is not more than recovered later on, it would be better to go in for consumer's goods industries. (57) This may be rare. The relationship between capital goods production and economic growth is an extremely close one. Steel, for instance, is a commodity/factor which has the highest correlation with national income; the coefficient of correlation being +.75 for a group of 19 countries. (58)

In view of this, in the initial stages investment has to be highly concentrated in the industry sector and more so in heavy industries to promote a vertical development of the industries. The extent to which investment can be concentrated in 'industry' sector and ultimately the heavy industries, would depend upon the extent to which the increase in wage goods for the industrial workers can be achieved with organizational changes in agriculture, of course, with modest capital investments and the extent to which the industry sector can draw upon or borrow the social overheads of the past. No doubt a certain dispersion of resources in other sectors has to be there and this essential minimum dispersion is governed by techno-physical requirements of the industries. (59)

China is the typical example of a country which achieved a tremendous concentration of investment in the heavy industries during her First Plan. Industrialization in the Chinese First Plan has been defined as, "the marshalling of all efforts and resources for the development of heavy industries so as to lay down a foundation for an industrialized state and a modernized national defense." (60) Consumer's welfare has a secondary place in the scheme of things. The investment in the industries sector was of the order of 61.8% out of which 88.8% were invested in heavy industries and only 11.2% in the light or consumer's industries. The investment in agriculture was very small, being only 6.2%. Moreover a bulk of this investment in agriculture was used for water conservation projects etc., so that the investment in agriculture proper and forestry represented less than 3% of the total government investment. (61)

Transport came in for 17.1%, 13.3% being the share of railways. Now, if the share of railways is added into the amount for heavy industry, 70% of all capital investment is found to have gone into the development of a heavy industry complex. As a result of this concentration in the heavy industry complex, the marginal capital coefficient for China should have been raised significantly but it remained 1.3 compared to much higher coefficients elsewhere. (62) The Chinese achievement during the First Plan as a

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(60) Choh-Ming Li, n. 50, 7. The definition is typical for its emphasis on the heavy industries.
(61) Ibid., 53.
(62) Ibid., 137.
Table 27

The Chinese State Investment Plan 1953-57

<table>
<thead>
<tr>
<th>Field of Investment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Industry (including mining, electric power)</td>
<td>61.8</td>
</tr>
<tr>
<td>2. Agriculture, Water Conservation, Forestry</td>
<td>6.2</td>
</tr>
<tr>
<td>3. Transportation, Communication</td>
<td>17.1</td>
</tr>
<tr>
<td>(i) Railways</td>
<td>13.3</td>
</tr>
<tr>
<td>(ii) Others</td>
<td>3.8</td>
</tr>
<tr>
<td>4. Education, Culture, Health</td>
<td>7.2</td>
</tr>
<tr>
<td>5. Municipal Utilities</td>
<td>3.7</td>
</tr>
<tr>
<td>6. Trade, Banking, Commodity reserves</td>
<td>2.9</td>
</tr>
<tr>
<td>7. Working Capital, Extensive repairs etc.</td>
<td>1.1</td>
</tr>
<tr>
<td>8. Others</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Total 100.0

Source: Choh Ming Li, Economic Development of Communist China (Los Angeles, 1959) Table 1, p. 9.
result of this pattern of investment was remarkable. The rate of investment rose from 9% in 1952 to 20% in 1957. The aggregate national output was raised by 40% and the average annual rate of economic growth was 7% to 8%.

Contrasted to this, Indian planning was for the overall economic development of the country and having a much broader investment scatter during the First Plan investing only 19% in the industry sector. The main emphasis was on the social overheads with the investment of 66% in this sector. The share of large scale industries was negligible being less than 4% of the planned investment while on the whole the industrial sector got 19%. During the Second Plan, a relatively large share was allocated to the industrial sector, i.e. 34% while a lower share was allocated to agriculture and the social overheads. The achievements during the First Plan were significant but modest as contrasted to China. The investment rate remained much lower than the Chinese while the national output in India increased by 18% during the First Plan and 20% during the Second Plan, (63) whereas in China it increased by 40% during the First Plan. The annual rate of growth in India during the First Plan was 3.7% and during the Second Plan 3.9%. (64) Obviously the Indian figures do not compare favourably with the Chinese ones.

In spite of the fact that heavy industries came in for a very modest allocation the capital coefficient in India was 1.8;

(63) The Third Five Year Plan 1960-65, Government of India (New Delhi, 1960) 34.

(64) Calculated from ibid., Table 4, p. 35.
### Table 28

#### Distribution of Outlay in the Indian Plans

<table>
<thead>
<tr>
<th></th>
<th>I Plan</th>
<th>II Plan</th>
<th>III Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agri. &amp; Com. Dev.</td>
<td>15%</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>2. Major &amp; Med. Irrigation</td>
<td>16%</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>3. Industry &amp; Minerals including small industries and power</td>
<td>19%</td>
<td>34%</td>
<td>37%</td>
</tr>
<tr>
<td>(i) Power</td>
<td>13%</td>
<td>10%</td>
<td>13%</td>
</tr>
<tr>
<td>(ii) Large industries &amp; minerals</td>
<td>4%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>(iii) Others</td>
<td>2%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>4. Transport &amp; Comm.</td>
<td>27%</td>
<td>28%</td>
<td>20%</td>
</tr>
<tr>
<td>5. Social Services &amp; Misc.</td>
<td>27%</td>
<td>18%</td>
<td>17%</td>
</tr>
<tr>
<td>6. Inventories</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Source: *The Third Five Year Plan*, Government of India (New Delhi, 1960) Table 2, p. 33; Table 2, p. 53.

Higher than the Chinese coefficient which was 1.3. The Indian coefficient was higher because of the emphasis on social overheads and an absence of what has been called the resource utilization effect while in China the capital deepening effect was offset by the resource utilization effect leaving the coefficient low. (65)

The development of the cotton textile industry, which has been rather important in the development of almost all the countries has been subsidiary in the industrialization of China (66) while heavy industries occupied the first position.

(65) Wagle, n. 39, 123.

(66) Choh Ming Li, n. 50, 30.
It is obvious that the pattern of investment in the two Plans of Pakistan was very similar to the patterns laid down in the Indian Plans. Similar to the Indian Plans, the investment scatter in Pakistan Plans also was too widespread. The required concentration of investment in the industry sector was lacking and this in the case of India brought down the growth rate to the level of the unplanned economies. In spite of the favourable factor endowment, Indian planning revealed an inherent lack of dynamism. Pakistan has an added disadvantage by way of an unfavourable endowment of the various factors – basic minerals i.e. coal, iron ore and petroleum, skilled labour and managerial capacity, a dynamic trade set up – required for rapid economic growth. In view of this it would be rather presumptuous to think that Pakistan would be able to put up a performance very much superior to that of India.

The excessive allocation to social overheads and a relative neglect of the industry sector in Pakistan as well as India provides an excellent illustration of a sequence where 'social overhead capital' precedes 'directly productive activity' while China illustrates a sequence where it is the other way round. The former is essentially a permissive sequence while the latter is a compulsive one. (67) The permissive sequence no doubt serves to reinforce motivation that already exists but it invites rather than compels. The opposite holds with respect to the other sequence. A shortage of social overhead capital is bound to be followed by attempts to remedy it by these who suffer from it, resulting in a more powerful sequence.

(67) Hirschman, n. 37, 93.
Whichever the sequence, there is no doubt that sooner or
latter any country desirous of rapid development must concentrate
its efforts on industry sector and more so on the heavy industry
complex within it. Fundamentally the Pakistan Plans are not
designed to achieve the same.

But as has been pointed out Pakistan suffers from an inherent
handicap, in that she is deficient in all the three vital mineral
resources—iron ore, coal and petroleum. This problem of deficiency
can be solved by developing industries for which the economy has a
natural comparative advantage.

As a matter of fact every pattern of industrialization
requires the basic minerals, the difference being that of degree
only. Pakistan can concentrate upon those industries for which she
possesses enough raw materials within the country and which require
relatively small quantity of these inputs. The emphasis on
industries with a natural advantage can be combined with techniques
which economize in the different inputs.

The Pakistan Plans follow a similar approach with regard to
the basis on which the industries are to be set up. (68) But even
on the basis of the above considerations a general approach to
sector allocation for the whole country would be unrealistic since
it would be ignoring a very important fact of the data i.e. the
regional division of the country. It may be alright in principal
to say that agriculture should get the top priority though
improvements are to be brought about through institutional changes
or that social overheads should be developed vigorously since a

(68) SFYP, 221-3.
shortage would hold up industrialization or that industries especially producer goods should be developed in order to make the country self-sufficient in machinery etc. But these policies cannot be applied to the country as a whole regardless of the existing regional disparities. A realistic approach would be to attach due importance to regional basis which are rather important in Pakistan, and make suitable variations in these policies while applying them to the two regions though in general they may continue to serve as the guide lines.

Basically the economies of both the regions are primary producing though more so in East Pakistan. West Pakistan is relatively more industrialized and has shown a faster rate of industrial growth. (69) Moreover large scale industries form 72% of the industrial sector and only 33% of the exports consist of primary goods. The situation is different in East Pakistan as is obvious from the table given below.

<table>
<thead>
<tr>
<th></th>
<th>1951-52</th>
<th></th>
<th>1959-60</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>East Pak.</td>
<td>West Pak.</td>
<td>East Pak.</td>
<td>West Pak.</td>
</tr>
<tr>
<td>1. Agri. as a % of regional income</td>
<td>68</td>
<td>50</td>
<td>65</td>
<td>46</td>
</tr>
<tr>
<td>2. Industry &quot; &quot;</td>
<td>7</td>
<td>8</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>3. Exports &quot; &quot;</td>
<td>12</td>
<td>10</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>4. Primary Exports as a % of total exports</td>
<td>100</td>
<td>86</td>
<td>70</td>
<td>33</td>
</tr>
<tr>
<td>5. Large Scale Industries as a % of industrial sector</td>
<td>15</td>
<td>41</td>
<td>43</td>
<td>72</td>
</tr>
</tbody>
</table>


(69) See Table 29.
In East Pakistan the main cash crops are jute, tea, tobacco, sugarcane and oil seeds. Out of these jute and tea are two of the major exports not only of the region but of the whole country while tobacco is an important import substitute for the cigarette industry. Rice is the main food crop. In a complete absence of the other raw materials and an organized industrial sector, the main emphasis to begin with and for sometime to come will have to be placed upon increasing the productivity in the field of agriculture primarily through improvements such as the use of fertilizers, coastal embankments to control floods and low-lift pump irrigation. Productivity per acre of rice has to be increased in order to eliminate the tendency of food crops to encroach upon the area under cash crops. Increase in the production of cash crops will on the one hand provide additional foreign exchange and on the other hand provide stimulus for setting up new industries within the region.

East Pakistan is greatly deficient in social overheads and the need for the means of transportation may increase very substantially with the improvements in agriculture. The construction of roads and railways may prove to be rather expensive because of a large number of bridges which will have to be constructed over the various rivers and channels in the region. The cheapest means of transportation may hence be the inland water transport system.

In East Pakistan therefore a vigorously improving agriculture backed by inland water transport system may provide the initial kick to economic development. This does not mean that East Pakistan is to remain an agricultural region and the other social overheads are to be ignored but simply that the process of economic development
starts with agriculture and once this is done industrial and social overhead development can proceed as the next step on a broader scale.

West Pakistan has cotton, sugar cane, tobacco and oil seeds as the main cash crops and wheat as the major foodcrop. The problem of increasing the agricultural yield is much more difficult in the barren lands of West Pakistan. It may require an extensive network of irrigation canals and solution of the problems of salinity and waterlogging which may turn out to be very expensive. Moreover none of these crops is an important foreign exchange earner. In the field of industries, a beginning has already been made. Though not rich in industrial raw materials, the region is definitely better endowed than East Pakistan with regard to such raw materials. In view of this the advantage of West Pakistan lies in developing the industrial sector to begin with and in that especially the heavy industries such as chemical and petro-chemical industries, cement, metal products, iron and steel, etc. and consumers goods industries like textiles, sugar, wheat milling, leather goods etc. The main inputs for all these industries are available within the region. Railways being the most developed of all the transportation means in the region should form the backbone of the system. This does not mean that agriculture is to be ignored entirely. It simply means that a different orientation has to be given to the programmes in West Pakistan compared to East Pakistan. The industrial sector is to be based upon Sui natural gas, Khewra salts, gypsum, limestone, chromite etc. found within the region. Moreover increases in agricultural productivity on the basis of irrigation and drainage
schemes may prove to be more expensive with a gross capital output ratio of 3.5 for the entire country during the First Plan. For the industrial sector on the whole it was only 2.0 and for the large scale industries it was 3.0; meaning thereby that it would be cheaper for West Pakistan to begin with the industrial sector. The ratios may be somewhat higher for West Pakistan. (70)

Hence development in both the regions may be based primarily upon one sector which will activate the rest and carry them behind through the inducement mechanism. This approach of unbalanced growth is not unknown in the history of the growth of the developed countries. On the contrary balanced growth is a process which has never been experienced by any country so far. (71)

**The Capital-Output Ratio**

Almost every under-developed country including Pakistan has a shortage of capital in the initial stages of its economic development. At this stage productivity of capital becomes of crucial importance, each country trying to maximize the productivity per unit of capital or turned upside down, trying to minimize the capital output ratio. Almost every country has the minimization of capital-output ratio as a consistently followed policy. Emphasis on economizing in the use of one type of input is reasonable when from the social point of view the opportunity cost of other inputs

(70) Haq, n. 8, 159.

can be ignored. (72) An important aspect of Pakistan's strategy of growth is the economy in the use of capital. Projects with relatively high capital output ratio are to be carefully scrutinized from the standpoint of the economic use of resources. And the general principle is to use less capital intensive methods wherever possible and substitute labour for capital to the extent possible. (73)

In Pakistan net capital-output ratio was found to be 1.6 in the pre-Plan period and 2.0 during the First Plan. (74) Compared with the developed countries these are very low but with reference to the other under-developed economies, there is nothing very surprising. For instance in India's First Plan the capital-output ratio was 1.8. The main reason for low capital-output ratios in the initial stages of India's economic development was that there was widespread excess capacity in the economy. The total stock of capital was small while labour was abundant, cheap and unproductive, as a result, capital productivity was high since the input of labour was large. But low capital-output ratios are not a permanent feature of economic development because as soon as a country has passed through the elementary stage of development, capital requirements in social overheads and industry become enormous. Though capital becomes relatively abundant, much more capital is required per unit of output since the entire structure of the economy undergoes changes with the initiation of the development programmes.


(73) SFIP, 8-9.

(74) Haq, n. 8, 58.
The capital-output ratio in Pakistan's First Plan was higher for agriculture (2.5) than for industry (2.0). (75) It does not mean that the average productivity of capital in agriculture was higher than industry.

Table 30

<table>
<thead>
<tr>
<th>Sector</th>
<th>Capital-output ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>2.5</td>
</tr>
<tr>
<td>Intensive (Fertilizers,</td>
<td>.8</td>
</tr>
<tr>
<td>seeds etc.)</td>
<td></td>
</tr>
<tr>
<td>Extensive (Irrigation</td>
<td>3.5</td>
</tr>
<tr>
<td>drainage etc.)</td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td></td>
</tr>
<tr>
<td>Large Scale</td>
<td>3.0</td>
</tr>
<tr>
<td>Small Scale</td>
<td>.3</td>
</tr>
</tbody>
</table>


This rather reflects upon the wisdom of the intra-sectoral allocation. It is obvious that agricultural productivity can be increased much more through investment in 'lagged inputs' than through irrigation drainage schemes etc. In industry only Rs. 20.47 crores (1.9%) were allotted to small industry even though productivity there was 10 times higher than large scale industries. (76)

The Second Plan (Revised Estimates) projected an overall gross capital-output ratio of 3.2. (77) Capital-output ratio in

(75) Ibid., 158-9.
(76) Ibid., 159.
(77) Ibid., 175.
agriculture and manufacturing during the Second Plan was higher than it was during the First Plan. It was so because the excess capacity

existing in the country was mostly utilized during the First Plan, so that now more investment was required for each unit of output. Moreover, during the Second Plan greater emphasis was given to the capital goods industries which are definitely more capital intensive.

With the acceleration of development, as has been mentioned, the capital-output ratio will rise and in fact there are several reasons for expecting a rise in the capital-output ratios in the future: (78)

1. With economic development 'idle' capacity in the twin fields of agriculture and manufacturing will disappear;

2. Gradually increase in agriculture output will require higher investment as the law of diminishing returns becomes applicable to the lagged inputs;

(78) Ibid., 60-1.
3. the allocation of resources is to be increasingly in favour of the industries and especially the heavy industries and

4. the choice of technique will gradually become less labour intensive as unemployment declines. In addition to these ever increasing expenditure would be needed for transport, power, education, housing and social services in the coming plans. Though they may be ignored to a certain extent during the early stages, it would not be possible to do so in the later plans. After considering all this the net capital output ratio is expected to behave in the following manner in the future plans.

Table 32

<table>
<thead>
<tr>
<th>Expected Net Capital Output Ratio in the future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preplan (1951-55)</td>
</tr>
<tr>
<td>Net</td>
</tr>
<tr>
<td>Gross</td>
</tr>
</tbody>
</table>


The trends in the capital-output ratios are sometimes blurred by a geographical difference in the phases of economic growth. This holds particularly true of Pakistan where the two regions are vastly different from each other. The overall capital-output ratio concealed within it considerable differences between the ratios of East and West Pakistan. The net capital-output ratio in East Pakistan during the pre-Plan period was 1.6 while in West Pakistan it was 2.4. During the First Plan it increased to 1.4 in East Pakistan and fell to 2.3 in West Pakistan. (79) It would be wrong

(79) Ibid., 59.
to interpret from these ratios that the productivity of capital was higher in East than in West Pakistan. In fact, it was indicative of the backwardness of East Pakistan. Output in East Pakistan grew erratically primarily as a result of the former's struggle for survival apparent in its non-monetized investment effort which cannot be estimated. As such output has been keeping pace with population growth though its relationship with monetary investment has remained a nebulous one. (80) It would not be correct to assume that output in East Pakistan would keep on growing in this proportion with such little doses of capital. In fact the need for economic and social overhead capital may raise the capital-output ratio even above that of West Pakistan.

Capital-output ratio is one of the planning decisions. It is possible to manipulate this through various measures. The capital-output ratio may be lowered considerably by varying the priorities and technology. This may also be achieved by following the strategy adopted in USSR. Whatever little data are available point to the fact that U.S.A. had the lowest incremental aggregate capital output ratios, (81) being 3.0 - 3.2 for the fifty year period 1879-1929 and an incremental fixed capital output ratio of 2.5 for the period 1900-1929. Contrasted to these the Soviet ratios, in spite of her concentration on capital intensive heavy industries, were surprisingly low, the incremental fixed capital output ratio being 3.0. But the margin of error in this figure is

(80) Ibid., 59.
(81) Eckstein and Gutman, n. 41, 440.
very considerable and the incremental fixed capital-output ratio is around 2.2 and the aggregate incremental capital ratio is below 3.0 rather than above. (82) For manufacturing, the incremental capital-output ratio is 2.8 for the U.S. in 1880-1919 compared to 2.9 in Soviet Russia.

There are three main factors which account for the low capital output ratios in the U.S.S.R. in spite of her concentration upon the heavy industries. (83)

(i) Rapid growth in the non-agricultural labour force resulting in rapid increases in national product and a marked stepping up in the utilization of plant and equipment.

(ii) The pattern of investment in U.S.S.R. was heavily concentrated upon heavy industries, about 20% of the total investment going into metals and metal products, with minimal attention to social overheads which were borrowed from the past, thus depressing the capital coefficient.

(iii) Capital stock in U.S.S.R. grew at a very fast rate (12.1%) facilitating the replacement of new capital for old making possible a rapid modernization, rapid improvement in technology and making obsolete and rundown capital a diminishing proportion of the total.

Though the emphasis laid upon capital output ratio by the various planning commissions as a criterion for resource allocation may seem excessive, it cannot be denied that it is a useful measure of industrial efficiency, though rather unprecise, yet among others can serve as a criterion for resource allocation in countries intent upon economizing capital.
Pakistan can without much difficulty adopt the three methods of economising capital mentioned with regard to U.S.S.R.

1. In Pakistan the government can push up the rate of growth of non-farm labour force by encouraging the workers to move to the cities. This will mean a transfer of labour from a sector where there is considerable disguised unemployment and under-employment to a sector which is expanding and has a demand for more labourers. Such an increase in the strength of the non-farm labour force, it is hoped, will lead to an increase in the national product.

2. Secondly, the pattern of investment, without any difficulty, can be so moulded as to concentrate upon industry and make the minimum necessary investment in social overheads. The capital requirements have a tendency to be especially high in the case of social overheads. The Plans can devote the necessary capital to power and transport but can economize in other fields. This may lead to some inconvenience by way of overcrowding etc. as it did in the U.S.S.R., but this should not alarm us.

3. Finally, the common factor between the Russian economy of 1928 and the Pakistan economy of 1947-54 happens to be the small capital base. The stepping up of the rate of investment as a result of planning means replacement of the old, worn out capital stock by modern, more efficient and technologically superior capital stock. If the capital intensity remains the same or increases proportionately less than the increase in the product, the capital output ratio may show a fall.