REGIONAL PLAN HARMONIZATION

A Case Study of R.C.D.

by

Dr. Parvez Hasan

Note: This is a revised version of a study prepared for the ECAFE Secretariat in the summer of 1966, and published in the Economic Bulletin for Asia and the Far East, Vol. XVIII, No. 1, June 1967.

PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS
Old Sind Assembly Building
Bunder Road
Karachi-1.
Pakistan

JANUARY 1968
INTRODUCTION

This paper seeks to examine and explore the economic rationale and the possibilities of R.C.D. with special reference to the role of regional cooperation in the harmonization of national development plans. Section II provides a brief theoretical analysis of the need for and the meaningful approach to regional

*Dr. Parvez Hasan is Chief Economist and Additional Secretary to the Government of West Pakistan, Planning and Development Department.

1/ The 'Regional Cooperation for Development' (RCD) is an experiment in economic cooperation among Pakistan, Iran and Turkey. The R.C.D. was launched in July 1964, following the Summit Conference which was attended by the Heads of States of all the three countries. The summit conference observed that "the emergence of regional economic groupings enjoying a community of interest is an outstanding feature of our time for accelerating the pace of economic growth". It was further noted that active and sustained collaboration on a regional basis was particularly desirable in the case of Iran, Pakistan and Turkey in view of the cultural and historic ties of friendship among the people of three countries and because of economic necessity.

The summit conference led to an agreement in principle on a wide range of objectives notably:

1) Free or freer movement of goods through all practical means such as the conclusion of trade agreements;

ii) Formulation and implementation of joint purpose projects;

(iii) Improvement of transport and communications links among the three countries.

The summit conference also instituted the organizational arrangements for R.C.D. A Ministerial Council composed of the

(Foot-note Contd...)
cooperation emphasizing specially the meaning of economic collaboration in the context of planned effort. In light of the criteria developed, Section III examines the economic structure of the three member countries and reviews the basic characteristics of their industrial plans with a view to indentifying the major areas where harmonization of production plans might be feasible. Section IV attempts a critique of the actual progress made in the brief span of three years and reviews the mechanism of regional cooperation as it has evolved under the R.C.D.

foreign ministers (with the participation of other ministers) was set up to consider and decide upon measures for regional economic and cultural cooperation. The Ministerial Council was to be assisted by a Regional Planning Council composed of the heads of the three plan organizations who will specially study the development plans and production potential of the region with a view, inter alia, to making recommendations on joint purpose projects and long-term purchase agreements. The Regional Planning Council may make proposals regarding the harmonization of the national development plans in the wider interest of accelerated regional development. The Council is assisted by various committees who report to it.

The R.C.D. experiment in economic cooperation is vested with special interest and significance because geographical continuity, the close religious, cultural and historical ties among the three members, a fair degree of identity of political interest notably the lack of any political conflicts and the existence of a military pact among them (all three countries are members of CENTO) fulfill almost ideally the pre-conditions of regional collaboration. Thus a very high degree of harmony in non-economic objectives of national policies exists among R.C.D. countries and purely economic considerations can, therefore, receive full weight.
II. ECONOMIC RATIONALE OF REGIONAL COOPERATION

The approach towards regional cooperation and economic integration is often associated primarily with trade liberalization. This is perhaps so because the most successful experiment of regional cooperation in recent times has been exemplified by the European Common Market which is a customs union requiring free trade among the member countries for most commodities and common internal tariff of the group against the non-member countries. But in discussions relating to the possibilities of regional economic cooperation among developing nations, there has been a growing realization that 'the main task of policy is not to expand the trade flow along traditional lines on which the existing trade barriers are of a marginal significance but rather to create deliberately a new pattern of complementary production, on the basis of which along new lines trade can be developed'. In other words, in order to be meaningful, regional cooperation must aim directly at the coordination of production plans of participating countries and trade expansion might be regarded more as a consequence than the means of harmonization. There is a basic reason for this difference in emphasis. Regional cooperation among developing countries must almost inevitably be viewed in the context of dynamics of economic growth and planning for development. The crux of planned development effort is the mobilization and allocation of resources with a substantial direction through economic controls. The required changes in the patterns of investment, production and trade cannot be brought

2/ In the long run, of course, the European Economic Community visualizes a full economic union involving a complete economic coordination including free movement of goods and services and factors of production and common investment, fiscal, monetary and social policies.

3/ See specially, 1; 2; 3. 7.
about through the market mechanism alone and thus the State must interfere. Given the market imperfections and the commitments of Governments to define national objectives of growth and planning, intra-regional trade liberalisation alone cannot be expected to go nearly far enough to influence the production structure on the desired lines.

It is understood that the ultimate objective of regional or sub-regional cooperation is the more efficient utilization of a region or sub-region's resources through a greater specialization and division of labour so that collective welfare is maximised and all participating countries can benefit. Thus in the final analysis, all forms of regional cooperation influence the pattern of investment and output in participating countries. But in the context of developing countries which are planning for growth, agreed specialization appears to be necessary in order to exploit the full benefits of regional cooperation. The rationale of agreed specialization or mutually acceptable division of labour on a regional or sub-regional basis is provided, essentially by two factors:

1) Economies of scale
2) Need for assured export outlets.

That the Division of labour is limited by the extent of market is a well-known tenet in economics. Regional cooperation widens the market and thus makes room for greater specialization within a nation. The advantages of specialization lie in the economies of scale which are important in manufacturing particularly heavy industries. These economies of scale represent to some extent differences in technology which are playing increasingly important role in determining relative cost differences between nations as compared with relative differences in capital and labour endowment.

But it can perhaps be argued that external economies of scale are a necessary but not a sufficient condition for regional cooperation. For instance, if the demand for exports of a country was elastic and the international trading system was sufficiently flexible, a country could take full advantage of the economies of scale by concentrating on a few lines of production and exports.
The well known fact, however, is that developing nations face definite limits to export expansion on a global basis. The access of the developing countries to the markets of developed countries is not free from restrictions. Despite changing international comparative advantage, the developed countries often find themselves forced for social and political reasons to protect their well established but no longer efficient industries. The U.K. and U.S quotas on cotton textiles imports are cases in point. This is perhaps a major reason why import substitution, defined as raising the ratio of domestic production to domestic supply, is an important element in the development strategy of most developing countries. But import substitution becomes increasingly difficult and costly after imports of simple manufactures have been replaced by home products. It is in the production of intermediate products and capital goods that economies of scale occupy a central place. If import substitution in some of the more complex manufacturing industries is attempted on a national scale, the market limitations would lead to the establishment of plants of inefficient size.

Thus, we may conclude that limited possibilities of expanding exports on a global basis act as a constraint on economic growth which is sought to be avoided by pushing ahead with import substitution but import substitution increasingly comes up against the barrier of high costs because of the narrowness of the market and limited technical skills in developing countries. The advantage of regional cooperation lies in that it enables to overcome this dilemma by providing the possibilities of import substitution on a regional or sub-regional basis rather than on a national basis and thus fuller use can be made of economies of scale and optimum size of plants. The greater division of labour implied in regional cooperation finds expression in increased intra-regional exports and imports and thus trade expansion is a necessary adjunct of import substitution on a regional basis. The essence of agreed specialization is that scope for exports of a country is enlarged by its having an assured market for expanded exports on an intra-regional basis in return of its undertaking correspondingly to increase imports from the region.
It can be argued that theoretically there is no reason why regional cooperation should be limited to pooled import substitution. It is equally possible to conceive of agreed specialization for promoting extra-regional exports. The practical difficulties in arriving at agreement for pooling resources for exports appear, however, to be greater, partly because extra-regional export demand is more difficult to forecast than intra-regional demand. It would perhaps be more fruitful, therefore, to concentrate on the possibilities of 'pooled' import substitution at least in the early stages of regional cooperation. But it should be emphasized once again that even pooled import substitution postulates an expansion of intra-regional exports.

An element which may modify to some extent the advantages to be gained from greater specialization and division of labour is the transportation costs. The importance of transportation costs in ensuring the success or limiting the role of regional cooperation has not received sufficient attention in the literature on the subject. Perhaps the difficulty lies in arriving at readily applicable generalizations. But it is obvious that a part of the cost advantage accruing as a result of the optimum size of plants would be offset by the added transportation costs of intra-regionally traded commodities. It has been suggested that location economies influence production and trade structure to a considerable extent and thus import substitution proceeds even normally \[4\]. The reduction of regional transport costs to economic levels must, therefore, be a pre-requisite of visualized expansion in intra-regional trade. But it must be realized that it is very difficult indeed to apply precise cost-benefit calculus to provision of transportation services in a region. In other words, it is far from easy to define the economic level of transport costs. Fortunately, however, the expenditure on the improvement of transportation facilities may be conceived as being chargeable to non-economic objectives of regional cooperation, i.e., political and cultural objectives.
III. ECONOMIC STRUCTURE & INDUSTRIAL PLANS OF R.C.D. COUNTRIES

The argument has been developed in the previous section that the approach to regional plan harmonization can be made perhaps most fruitfully by examining the possibilities of agreed specialization for the purpose of joint or pooled import-substitution effort. This section would analyze briefly the present structure of output, the pattern of foreign trade and the chief characteristics of development plans in the three R.C.D. countries, Iran, Pakistan and Turkey, in order to determine the economic significance and scope of their cooperative effort from the above viewpoint. More precisely, the discussion of economic structure and development plans of R.C.D. countries would enable us first to visualise the broad possibilities of creating complementarities in the pattern of production of the three countries and subsequently to examine to what extent these possibilities have actually been (and/or being) explored in the last two years.

The salient features of the economic structure of R.C.D. countries are summarised in the accompanying Table I. The first striking fact is the difference in per capita income of Pakistan on the one hand and Turkey and Iran on the other. While Iran and Turkey with per capita incomes of $224 and $230 respectively are fairly well off by the standards of underdeveloped countries, Pakistan with a per capita income of around $84 is relatively poor. But the wide disparity in per capita incomes is more than compensated by differences in the size of population. So, Pakistan the least 'developed' of the three countries has the largest gross national product ($8.3 billion) while oil-producing Iran has the smallest ($4.9 billion).

This wide variation in level of living standards might have some significance in long run for regional cooperation to the extent that substantial wage differences exist and lead to relative differences in factor supplies and costs. But at the
<table>
<thead>
<tr>
<th></th>
<th>Pakistan</th>
<th>Turkey</th>
<th>Iran</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Population</td>
<td>98.68</td>
<td>30.26</td>
<td>22.18</td>
</tr>
<tr>
<td>(millions)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Gross domestic</td>
<td>8,297</td>
<td>6,950</td>
<td>4,968</td>
</tr>
<tr>
<td>product (million US $)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Per capita product</td>
<td>84</td>
<td>230</td>
<td>244</td>
</tr>
<tr>
<td>(US $)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Relative contrib-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ution to G.D.P.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Agriculture</td>
<td>49</td>
<td>38</td>
<td>25</td>
</tr>
<tr>
<td>b) Industry</td>
<td>12</td>
<td>17</td>
<td>30</td>
</tr>
<tr>
<td>of which</td>
<td>11</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>manufacturing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Services</td>
<td>39</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>5. Fixed capital</td>
<td>15</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>formation as per cent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of G.N.P.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Foreign trade in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>million US $</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Exports</td>
<td>416</td>
<td>368</td>
<td>919</td>
</tr>
<tr>
<td>b) Imports</td>
<td>888</td>
<td>691</td>
<td>517</td>
</tr>
<tr>
<td>c) Total</td>
<td>1304</td>
<td>1059</td>
<td>1436</td>
</tr>
<tr>
<td>7. Foreign trade as</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>per cent of G.D.P.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Exports</td>
<td>5.0</td>
<td>5.3</td>
<td>18.4</td>
</tr>
<tr>
<td>b) Imports</td>
<td>10.7</td>
<td>9.9</td>
<td>10.4</td>
</tr>
<tr>
<td>c) Total</td>
<td>15.7</td>
<td>15.2</td>
<td>28.8</td>
</tr>
<tr>
<td>8. Major industries.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cotton textiles,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>jute textiles,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tobacco manufactue,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>refined sugar, edible</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>oils, paper,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>manufacture,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cement, fertilizers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and other chemicals,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>basic metals and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>metal products</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Continued)
<table>
<thead>
<tr>
<th>Country</th>
<th>Major Exports</th>
<th>Minor Exports</th>
<th>Major Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakistan</td>
<td>Raw jute, raw cotton, cotton textiles, jute textiles.</td>
<td>Superior rice, fish, hides &amp; skins, leather, carpets, sports goods.</td>
<td>Machinery and transport equipment, iron &amp; steel, foodgrains, mineral fuels, chemicals, vegetable oils, wood.</td>
</tr>
<tr>
<td>Turkey</td>
<td>Raw cotton, tobacco, hazelnut.</td>
<td>Dried fruit, Hides and skins, refined sugar, wool, oilseed cake, non-ferrous ores, sheep &amp; lamb i.e. lead and skins, wool, non-ferrous ores, textiles, copper and alloys, olive oil.</td>
<td>Machinery and transport equipment, iron &amp; steel, textiles, mineral fuels, sugar, chemicals, vegetable oils, wool, rubber.</td>
</tr>
<tr>
<td>Iran*</td>
<td>Petroleum and products, carpets, raw cotton.</td>
<td></td>
<td>Machinery and transport equipment, iron &amp; steel, textiles, rubber manufactures, synthetic fibres, paper &amp; board.</td>
</tr>
</tbody>
</table>

* The figures relate to 1963 in order to make them comparable for all countries. The main sources are 5, 6, 7, and various country courses of data mentioned elsewhere in the paper.
present stage of development of these countries, the supply and
the cost of labour cannot be considered as a dominant factor in
growth since substantial underutilized labour in agriculture is
a phenomenon characterising all of them.

The fact, however, that the differences in the economic size of the three countries, as indicated by GNP, are not great
should be considered a positive factor in regional harmonization
since equal distribution of gains from joint ventures can
presumably be brought about more easily.

It may also be mentioned in passing that the combined
regional income of the R.C.D. countries exceeds U.S. $20 billion
with a population of over 150 million, giving a per capita income
of around $135. The R.C.D. regional income though not large by
Western European standards (even small countries like Belgium or
the Netherlands have a gross national product of $15 billion) is
substantially larger than Thailand, Malaysia, Philippines, the
countries in the Association of South East Asia (ASEA) which have
a regional product of roughly $10 billion, and a population of
over 70 million.

The sectoral distribution of output shows considerable
differences in the dependence on agriculture. While in the case
of Pakistan, agriculture accounts for nearly half of the gross
domestic product, in Iran it contributes a quarter; the proportion
in Turkey being 38 per cent. However, the relative importance
of manufacturing in R.C.D. countries is not nearly divergent.
Thus excluding oil and mineral production, industrial output
accounts for 18 per cent of the total in Iran, 15 per cent in
Turkey and 11 per cent in Pakistan. Furthermore, the pattern of
manufacturing in the three countries is remarkably similar. The
detailed composition of industrial output is given in the Appendix
the Table A-1. The data indicate that in all three countries, food,
beverages, tobacco and textile industries taken together account
for 60 to 62 per cent of industrial output (excluding oil and
minerals). In line with the typical pattern of industrial growth
in developing countries, advance in market-oriented industries such as cotton and woollen textiles, sugar, edible oils, canned food, beverages, cigarettes, footwear, has been extremely rapid in all three R.C.D. countries during the last decade. This suggests that, in general, import substitution in these lines has been carried for already. Indeed cotton textiles from Pakistan and refined sugar from Turkey figure prominently in the exports of their respective countries.

A look at the pattern of imports of R.C.D. countries confirms the impression that the dependence on the imports of manufactured consumer goods is not heavy. The figures show that the food imports account for 16.88 per cent of total in Pakistan and 13.88 per cent of total in Iran but only 1.67 per cent in Turkey.

The bulk of Pakistan imports of food consist of foodgrains, especially wheat, and have been financed mainly by PL 480 imports from the United State of America. The largest scope for import substitution in consumer goods is thus in agricultural products. The attainment of self-sufficiency in foodgrains in the shortest possible time is an important objective of Pakistan's development policy. The urgency of eliminating reliance on foodgrains imports arises in part from uncertainty and the increasing foreign exchange incidence of future PL 480 imports. To the extent that Pakistan is able to achieve self-sufficiency in foodgrains, the need for import substitution in other more complex industrial goods would be diminished. The food imports in Iran at present consist mainly of refined sugar, though imports of tea, wheat, and dairy products are also substantial. The imports of refined sugar into Iran amounted to 463,000 tons in 1964 and were valued at US $ 56 million or 8.5 per cent of total imports. The annual domestic production in recent years has been around 180,000 tons having shown an increase of about 150 per cent over the last decade. The sugar industry is based on beet crop the production of which is in the neighbourhood of a million tons. It has been noted that
"Iran can double this output from the same hectares by the row-planting method of cultivation, the use of chemical fertilizers, the wider application of insecticides, and more regular irrigation and weeding, thus bringing the average yield upto 35 tons per hectare as against the present 15-20 tons per hectare [8, pp 110-11] In view of the considerable possible improvement of productivity in beet production, Iran aims at self-sufficiency in refined sugar and there are several sugar mills under construction and in the active planning stage. The ability to achieve self-sufficiency would be determined, however, largely by the extent to which beet production can in fact be increased.

The hydrogenated vegetable oil industry has also made considerable progress in the R.C.D. countries. In Iran the vegetable oil production has grown over the past seven years from a few hundred tons to 65,000 tons in 1965 but nearly two-thirds of the raw materials are being imported from abroad. The total annual value of vegetable oil imports is US $ 12 million. In Pakistan the production is currently estimated at 90,000 tons annually and is nearly sufficient to meet home demand. The imports of vegetable oil and fats, mainly soyabeen oil, are around $35-40 million annually. In Turkey, there is substantial production both of vegetable oil (170,000 tons) and margarine (90,000 tons). A part of the olive oil production is exported (1962-64 average 16,000 tons annually) while soyabeen and cotton seed oils are imported in substantial quantities (1963-64 average 74,000 tons).

The textile industry, particularly cotton textiles, is also well developed in the R.C.D. region and is the largest industry in all three countries. Imports of textile yarn and fabrics into Turkey and Pakistan are marginal. Turkish imports of textile yarn, fabrics, etc., averaged $ 15 million during 1962-64 and formed only 2.5 per cent of total imports. Furthermore, nearly half of these imports were accounted for by yarns of synthetic
fibres. In Pakistan, textile imports amount to $12 million in 1963 and accounted for 1.3 per cent of the total; about one-third of these consisting of yarns of synthetic fibres. The dependence on synthetic yarn imports would be further reduced or eliminated after the commissioning of viscose rayon plant in East Pakistan and the acetate rayon plant in West Pakistan.

In Iran, the aggregate imports of textile yarn and fabric are relatively large and amounted to $45 million in 1964 or about 7 per cent of total. But over three-fourths of these imports consisted of artificial yarn, artificial fabrics, woollen yarn and woollen fabrics. But while Iran is able to meet its basic cotton textile requirements internally, the cotton textile industry in Iran has been beset with problems of underutilization of capacity, low financial return and inefficient management—\( ^2 \), pp.106-107.

The above discussion brings out quite clearly that basic consumer goods production in R.C.D. countries has been developed with a view mainly to attaining self-sufficiency on a national basis and with a degree of success. The major instances in which further scope for import substitution at present exists are foodgrains in Pakistan, refined sugar in Iran and vegetable oils in all three countries. The plans for fully exploiting import substitution in these lines appear to be already in hand. A part of the rationale lies in the desire to utilise fully the opportunity of increase in agricultural production and to base industries on domestic agricultural raw materials. Furthermore, the characteristic feature of these light consumer good industries, viz., low capital and skill requirements, is a significant advantage in the case of the developing countries.
requirements, large employment effects, and limited economies of scale render them quite manageable and economical for development on a national basis.

The intermediate products and capital goods are relatively less developed in the R.C.D. region. As suggested above, in all the countries their contribution to manufacturing output is less than 40 per cent. There are, of course, some important country differences in the relative development of individual industries and a very brief review of major ones would be helpful. Both Pakistan and Turkey have a sizeable paper industry, producing newsprint, writing and wrapping paper and various kinds of board. The newsprint production in Pakistan amounted to 37,000 tons in 1965 while it was around 20,000 tons in Turkey. Pakistan has a small exportable surplus in newsprint while Turkey imports one-third of its requirements. Iran relies chiefly on imports for its paper and paperboard requirements and these imports amounted in 1964 to $14 million or 2 per cent of the total. Turkey's and Pakistan's imports in the same year were $7 million and $5 million respectively. Pakistan is planning a very rapid expansion of its paper industry during the Third Plan period (1965-70); the output of writing paper and newsprint would be more than doubled while that of paperboard would be more than tripled. Turkey is building a kraft paper plant which is scheduled to be completed by 1967. The plant will produce sack paper (for cement and fertilizer) and the raw material for corrugated paste-board.

All these countries have substantial cement production and are nearly self-sufficient. The output of Turkey, Pakistan and Iran respectively in 1965 is estimated at 3.2 million tons, 1.7 million tons and 1.0 million tons. All three countries plan to increase production sharply largely to meet growing home demand. Pakistan's target is 6 million tons by 1970 and Iran is planning to increase output to 2.5 million tons in the near future. The experience of both Pakistan and Iran suggests the need for optimum size of plants and this might be one factor in ambitious expansion plans.
Another growing industry in the region is the fertilizers. Admittedly production as yet is small. Pakistan's production of nitrogenous fertilizer did not exceed 50,000 tons in 1964-65 (in terms of N) and phosphatic fertilizers production was 7,000 tons only. Iran has only one fertilizer plant at Shiraz with a capacity of 80 tons of ammonium nitrate and urea per day\textsuperscript{[8]}, p. 115\textsuperscript{[7]}. All the three countries import fertilizers and requirements are estimated to grow rapidly.

<table>
<thead>
<tr>
<th>Imports of Fertilizers (Million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pakistan (1963)</strong></td>
</tr>
<tr>
<td>Turkey (1962-64)</td>
</tr>
<tr>
<td>Average</td>
</tr>
<tr>
<td>Iran (1963-64)</td>
</tr>
<tr>
<td>Average</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

In Pakistan the original Third Plan production target of 500,000 tons (in terms of N) of nitrogenous fertilizer has already been revised upwards. Throughout the Third Plan period (1965-70) Pakistan will have to rely on fairly heavy fertilizer imports. In Iran, however, the installed capacity of nitrogenous fertilizer (N) is proposed to be expanded very rapidly to 319,000 tons by 1970-71, as against the projected consumption of 35,000 tons \textsuperscript{[9-7]}.

Both Iran and Pakistan have large reserves of natural gas so the rapid development of petro-chemical industries other than fertilizers is an understandable aspiration of these countries. Pakistan has already sanctioned small production units of P.V.C. and Polycrylctitrile fibre, polyethylene, methanol and urea formaldehyde. Total output of these commodities would be about 20,000 tons annually. However, according to a plan developed by consultants and endorsed by U.N. Special Fund experts, a production programme aiming at the output by 1970 of 315,000 tons of plastics and resins, synthetic rubber, synthetic fibres, insecticides and other chemical products is envisaged \textsuperscript{[10], p. 472\textsuperscript{7}}. In Iran the natural gas discovered in the Jurassic Formations of the Masjed-i-Sulaiman (MIS) oilfield has very high hydrogen sulphide content ranging from 25 to 35 per cent. Two projects for the production of sulphur have been initiated by the
National Petro-chemical Company of Iran. At the initial stage, 1,000 tons of sulphur per day will be produced from MIS Jurassic gas and 450 tons per day from Kharg Island gas. After the MIS gas reserves have been further evaluated and proved to be large enough for producing 2,000 tons of sulphur per day, additional facilities will be installed to permit a total production of 2,450 tons per day or about 800,000 tons per year. It is believed that considering the size of the unit and the proximity of the source of supply, the sulphur produced in Iran will be available at prices lower than international prices [Al, p.47. There is considerable scope, therefore, for joint ventures or long term delivery agreements. Furthermore, the sweet gas available at the proposed sulphur plant of 1,000 tons per day capacity at MIS could be utilized for an ammonia plant of the capacity of 2000 tons per day. Thus, the nitrogenous fertilizer and sulphur recovery plan could be integrated in Iran.

Among other chemicals, a viscose rayon plant for Iran based either on local linters or 50 per cent local linters and 50 per cent imported pulp has been recommended by U.N. Industrial Survey Mission. As already mentioned, Pakistan is already establishing two rayon acetate and viscose rayon plants. Turkey is also dependent on import of yarn of synthetic fibres and is planning ultimately to meet local requirements from domestic sources.

Turning to basic metals, Turkey is the only R.C.D. country which is producing steel at present; its output of crude steel in 1965 amounted to 576,000 tons. Still its imports of iron and steel products are sizeable and averaged 320,000 tons valued at 3 45 million annually during 1962-64. Turkish steel production is based on domestic ore which has an iron content of 55 to 66 per cent. Though Iran and Pakistan have relatively low grade iron ore deposits, both are attaching considerably high priority to development of a steel industry. Because the market for steel is large and growing, it is felt that production of steel
even on imported iron ore/steel and coke would effect considerable import saving. Imports of steel and products into Pakistan are now in the neighbourhood of a million tons annually valued at £130-140 million. The requirements of steel by 1960 are estimated at a minimum of 1.5 million tons (1 million tons in West Pakistan and 0.5 million in East Pakistan). A steel mill to produce 150,000 tons of ingots is under construction in Chittagong and is scheduled to come into production in 1967. The plan for setting up of a 500,000 tons of ingots steel mill at Karachi based on imported scrap is in a very advanced stage though financing agreement has not yet been signed. Possibilities of setting up another steel mill in Karachi based on imported ore and a steel mill in Kalabagh based on indigenous ore are also being explored. Iran has also under construction an integrated steel mill, presumably on imported ore, which will ultimately produce 1.2 million tons of steel products. The first stage is scheduled for completion in 1970 and would produce 500,000 tons. Iran's imports of iron and steel totalled 465,000 tons valued at over £65 million.

The abundant natural gas, large quantities of which are flared, presents the possibility of supplying electricity at a very low rate in Iran. Cheep fuel, petrol coke, labour, water, and sea transport facilities are also available in the southern regions of Iran. The U.N. Industrial Survey Mission to Iran has, therefore, recommended the establishment of an aluminium industry there even though bauxite has to be imported. One proposal was for an Indo-Iranian joint project for an alumina plant of 100,000 tons annual capacity (200,000 tons bauxite) to be installed by an Indian industrialist at an estimated cost of £25.2 million and an aluminium reduction plant of 20,000 tons capacity per year with future possibility of expansion upto 50,000 tons including a carbon plant to be set up in Iran at an estimated cost of £24 million. The establishment of the latter plant, as shall be discussed subsequently, has already been finalised and this would develop as an R.C.D. project.

Pakistan and Turkish imports of aluminium alloys worked and unworked amount to roughly £4 million and £3 million respectively.
Finally, the industries which are least advanced in the R.C.D. region and for the products of which the dependence on abroad is the heaviest are machinery producing and transport equipment industries.

**IMPORTS OF MACHINERY AND TRANSPORT**

**Equipment in R.C.D. countries.**

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Imports (Million $)</th>
<th>% of Total Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakistan</td>
<td>1963</td>
<td>275</td>
<td>34.6</td>
</tr>
<tr>
<td>Turkey</td>
<td>1964</td>
<td>225</td>
<td>40.0</td>
</tr>
<tr>
<td>Iran</td>
<td>1964</td>
<td>221</td>
<td>33.1</td>
</tr>
</tbody>
</table>

The combined imports of the R.C.D. countries should be currently in the neighbourhood of U.S. $800 million and constitute over 35 per cent of their total imports. This is also potentially the fastest growing group of exports since investment levels must increase both absolutely and relatively if growth rates are to be accelerated. In Pakistan, an important element in the strategy of industrialization during the Third Plan is a shift in emphasis from consumer goods to capital goods. A machine tool factory is under construction. A heavy machinery complex and a heavy electrical complex are planned, and a railway carriage factory is being constructed. Iran attaches high priority to the development of machine tool industry though in their case the basic problem of good quality iron castings must be solved first.

The broad foregoing review of the industrial structure of R.C.D. suggests a fair degree of uniformity in the pattern of their industrial growth. Most of the consumer goods industries and some of the intermediate products notably cement are well developed in all three countries and the reliance on imports is relatively limited. The dependence on supplies from abroad is much heavier in the case of basic metals, fertilizers, chemicals, machinery and transport equipment. The emphasis of industrialization is, therefore, shifting in this direction. About 70 per cent of total industrial investment in Turkey during the First Five Year Development Plan period (1963-67) is proposed to be made in chemicals,
basic metals, non-metallic products, metallic products, and machinery and transport equipment. The corresponding proportion for Pakistan during the Third Plan period (1965-70) is 60 per cent. The precise composition of Iran's industrial programme is not available but it is evident that proposed aluminium, fertilizer, steel, chemical, and machine-making industries would claim a very sizeable portion of the total.

From the point of regional cooperation, it should be considered fortunate that Iran, Pakistan and Turkey have already achieved a degree of self-sufficiency. For several reasons outlined earlier, these industries are not best suited for development on a regional basis. If industrial plans of the R.C.D. countries in the near future had consisted mainly of consumer goods industries, the scope for plan harmonization would almost certainly have been smaller. In other words, a certain degree of competitiveness of industrial structure must exist among participating countries to provide the groundwork for regional cooperation. The fact that in R.C.D. countries industrial growth propelled by import substitution must now increasingly be concentrated in heavier and more complex industries should be regarded as a factor governing regional integration of production plans. Our discussion has focussed on the importance in investment plans of all three countries of industries like steel machine-making, aluminium, fertilizers and petro-chemicals. These are precisely the industries in which economies of scale are extremely important, and advanced technological skills and large capital investments are required. It is not necessary here in this paper to go into details of scale economics and optimum size of plants. These have been discussed at length elsewhere \[12,13,14,15\]. But some examples would suffice.

According to an ECLA publication, a study of the iron and steel industry in Latin America, while over 1 million tons of ingot is the annual output of an integrated steel plant of efficient size, costs are approximately 16 per cent higher at
capacity levels of 0.5 million tons and 33 per cent higher in a plant producing 0.25 million tons per year. Yet in some of the countries of R.C.D. region, the proposed steel plants are likely to attain optimum size by say 1970. The recent technological developments in ammonia production has made it possible for the production of fertilizers at much reduced costs than would have been possible in the past.

Finally, some important petro-chemical intermediate products namely ethylene, vinylchloride, caprolactam are highly sensitive towards economies of scale. For example, in the production of ethylene by naptha cracking, the capital investment is approximately U.S. $160 per annual ton, for a plant of 50,000 tons per year capacity; it declines to $120 per annual tons for a plant with a capacity of 100,000 tons.

But while a definite scope for a more efficient use of resources through greater division of labour in the R.C.D. countries seems to exist, our analysis has shown that currently operative industrial plans were drawn up essentially from a narrow national standpoint. This is quite understandable since R.C.D. did not come into being till the middle of 1964 and there is hardly any other background of regional cooperation in the area. The success of R.C.D. from the point of view of regional harmonization of plans must be judged by the extent to which thought has been given in the past three years to modifying the production plans and mechanism which is being evolved to explore and utilize the possibilities of economic integration. To this we shall now turn.

IV. A REVIEW OF PROGRESS

The agreement on R.C.D. contains acceptance of a wide range of objectives. Of these, three having most economic significance may be singled out as freer movement of trade, formulation and implementation of joint purpose projects and improvement of transport and communication links. In the light of our earlier analysis, the formulation and implementation of joint purpose projects can be regarded as being the key objective at least in the immediate
future though the freer trade and improvement of transport facilities must be important allied objectives.

Joint Purpose Enterprises

It should be mentioned at the outset that three years is a very short period for judging the success of regional cooperative efforts particularly in an area as complex as the joint enterprises. The R.C.D. has, nonetheless, reported notable progress in the field. Three large industrial projects, namely aluminium, carbon black and bank-note paper have been worked out in detail and are being taken in hand for implementation on a joint equity participation and production sharing basis. The mechanics of the tentative agreement on the three joint projects in the industrial field are of considerable interest.

Aluminium

Iran would set up a plant with a minimum capacity of 20,000 tons per annum of aluminium ingots based on imported alumina. The equity of the project would be about $8 million. Pakistan would participate to the extent of 10 per cent of the equity and Iran and the foreign collaborator would take up the balance. Pakistan, and Iran would enter into long-term arrangements for 5 years for the supply of 10,000 tons per annum of aluminium ingots to Pakistan, the cost of supplies being internationally competitive. Pakistan would be free to develop its aluminium industry to meet its requirements beyond 10,000 tons even during the period of five years.

Bank-Note Paper

Pakistan would take up a Bank Note Paper Project and Iran would contribute 10 to 15 per cent of the equity capital. (Turkey was considering the question of equity participation). Iran and Turkey may buy their requirements of Bank Note Paper from Pakistan at internationally competitive prices.
Carbon Black

Iran would set up a plant with the production capacity of at least 14,000 tons with the participation of United Carbon Company of the U.S.A. Iran would lift 4,000 tons per annum and Pakistan 5,000 tons per annum while the United Carbon Company would be marketing the balance of the production. Fifty per cent of the equity would be held by Iran and up to 25 per cent by Pakistan.

Several notable features of the above tentatively agreed joint venture projects may be singled out.

First, even though the R.C.D. consists of three countries, development of joint ventures on a bilateral basis has been considered sufficient. In other words, participation of all three countries is not considered necessary in an individual project. In so far as negotiations can often be progressed more easily on a bilateral basis, the above practice would seem to impart greater flexibility to cooperation under R.C.D. Iran-Pakistan aluminium project is a case in point. Turkey also has plans in hand to set up an aluminium production plant based on indigenous bauxite with an annual production capacity of 70,000 tons of alumina and 30,000 tons of aluminium. The Turkish plans though parallel to Iranian plans have not hindered Pakistan-Iran cooperation in the industry. Indeed, it is understood that Turkey would study the feasibility of expanding this plant to meet the alumina requirements of Iranian project.

Secondly, the significance of equity sharing along with market sharing lies in the fact that benefits accruing from regional cooperation can be distributed to some extent on a project by project basis. This would in turn facilitate cooperation on an individual project basis, i.e., agreement can be reached on projects without involving a full agreement on sectors or sub-sectors. The joint venture projects themselves must, however, be distributed fairly evenly among participating
countries because no country can afford to export capital on a net basis. In other words, a country cannot be required to acquire net equity interests abroad on a large scale under schemes of regional cooperation.

Furthermore, the market-sharing agreement may be for short (aluminium project) or long periods (carbon black project). Even a short-term agreement would enable a country to have a more economic size plant than it can afford at the moment on the basis of home needs. By the time the market agreement comes to an end the home needs would grow presumably to a level to justify the economic size of the plant. This suggests that it is not necessary to envisage increasing division of labour or increasing specialization in order to enjoy gains from regional cooperation. Thus, the long-term goal of diversification of economy may not necessarily be compromised by postponing import substitution in certain lines for a period of time, i.e. till economic-size plants become justifiable on the basis of home market demand alone. In other words, one need not necessarily believe in the desirability of a growing relative dependence on foreign trade sector to benefit from regional cooperation.

Finally, an important criteria underlying the joint venture under the R.C.D. appears to be that products of such enterprises established in a particular country should be sold to other member countries at internationally competitive prices. This cost consciousness must be welcome. However, it must be realized that in some cases it might be quite justifiable economically to produce a commodity on a regional basis even though its cost of production is somewhat higher than opportunity cost of obtaining it from abroad. The infant industry argument applies to a region as well as to a country. If a commodity deserves protection on an intra-regional basis, all that is necessary to ensure is that it is produced on a least cost basis within the region and that element of protection afforded to it is really justified. But this pre-supposes that trade barriers within the R.C.D. region do not exist and this is not
a realistic assumption for the present.

Apart from the above three projects, agreement in principle has been reached on a large number of projects. Four of these projects, namely locomotives located in Turkey and three projects located in Pakistan namely cotton linter pulp, wires and cables and ball bearing are now in an advanced stage of project preparation. Thirteen more projects (listed below) have been approved in principle more recently for development on a joint purpose enterprise basis:

i) Manufacture of textile machinery to be located in Pakistan.

ii) Streptomycin, to be located in Turkey.

iii) PAS sodium, to be located in Pakistan.

iv) Naphthol dyes, to be located in Iran.

v) Organic pigment dyes, to be located in Turkey.

vi) Basic and chrome dyes, to be located in Turkey.

vii) Reactive dyes, to be located in Pakistan.

viii) Optical bleaches plant, to be located in Pakistan.

ix) Ultramarine blue, to be located in Pakistan.

x) Toxaphene, to be located in Pakistan.

xi) Dipterex plant, to be located in Pakistan.

xii) Borax and boric acid, to be located in Turkey.

xiii) Jute manufactures, to be located in Pakistan.

The Regional Planning Council has directed that the member governments of the countries where the above mentioned projects were to be located should prepare detailed projects and feasibility studies by specified date after which the representatives of member governments would meet to finalise and sign the memorandum of understanding.

Studies on the manufacture of chemical plants, electronics, diesel engines, earth-moving machinery and
machinery for tea factories and have been completed and were under examination. The other fields of work are being pursued under the direction of the Committee on joint purpose enterprises are listed:

a) Rotating electrical machinery (low-speed generators up to 1,000 RPM and above 600 kw. High tension motors above 2,000 K.W.)

b) Carbon rods and carbon products for dry cells and for other electrical use.

c) Machine tools.

d) Tungsten carbide.

e) Gear box

f) Clutch system

g) Steering system

h) Differential system

i) Instruments (Automobiles)

j) Static electrical equipment (H.T. transformers, capacitors, switch-gears; electrical instruments such as AM meters, volt meters, etc., excluding Volt meters).

k) Cables and wires (special types of cables and cables for telephones).

l) Filaments for electric lamps.

m) Iron and steel.

n) Boilers, pressure vessels and steam heating appliances.

o) Pumps and compressors.

p) Coal.

q) Wheels.

r) Brakes.

s) Boilers (large size for grid power stations).

t) H.T. insulators (ceramic glass).

u) Special type of dry cells.

v) Mechanical equipment (hydraulic turbines and coupling system, etc.)

Iran

Pakistan

Pakistan

Pakistan

Pakistan

Pakistan

Pakistan

Pakistan

Pakistan

Pakistan

Pakistan

Turkey

Turkey

Turkey

Turkey

Turkey

Turkey
Among such studies mentioned may be made of the studies on sugar and cement manufacturing plants, agricultural machinery and basic component of tractors.

The allocation of a study to a country apparently does not necessarily mean that the joint project, if agreed upon, will be located in that country. But a presumption to this effect probably exists. Three factors in country allocation of studies may be distinguished. Some allocations seem to have been made because of a country's pronounced lead either in planning or implementation of a particular industry. Others have been apparently influenced by factors endowment and comparative advantage. Finally, the share of a country in the regional market for a commodity must also be an important influencing factor in location. Unless there are strong comparative advantageous considerations to the contrary, it would be logical to locate an industry in the country with the largest share of the total market.

The Regional Planning Council has recommended that while carrying out project studies, a uniform and standardised proforma (See Appendix) should be followed to collect the requisite information about the available sanctioned and planned production facilities and possibilities of expanding and sharing these facilities among the three countries. The planned capacities should be estimated over a period of five years and preferably over a period of ten years.

In addition to the committee on joint purpose enterprises, the committee on petro-chemicals is also examining the possibilities of joint ventures. Iran has been requested to study the possibility of developing a joint purpose enterprise based on ammonia to be produced in Iran. A Turkish study on Aromatics has indicated that Turkey will not be able to satisfy the requirements of Iran and Pakistan for Aromatics. The Regional Planning Council has, therefore, recommended that Iran prepare a project and feasibility report for the manufacture of Aromatics for meeting its domestic requirements and those of Pakistan taking into account any export possibilities. Iran is also finalizing its project on caprolactum with understanding to supply certain fixed
quantities to Pakistan and Turkey and equity participation by these countries. It is also understood that Iran when preparing the third sulphur project based on sour gas in Jurassic zone will negotiate with Pakistan for participation. Meanwhile the R.C.D. countries have agreed to the supply intra-regionally of certain quantities of petro-chemical products notably polyester fibre, polyacrylonitrile fibre, methanol, formaldehyde, glycerine, from existing capacity.

The R.C.D. countries are conscious that to achieve success in the field of joint ventures, a degree of harmonization in tax and foreign investment policies of these countries is essential. As initial steps, tax rules and regulations with regard to joint purpose enterprises are being examined in detail by the appropriate agencies in the R.C.D. countries. The three governments are also examining the possibility of a tripartite agreement on the avoidance of double taxation. From an economic viewpoint, there must be a uniform tax policy for joint purpose enterprises because tax differentials would lead to differences in the rate of return, not related to the economics of project. Similarly, there should be no restrictions on the transfer of profit and dividends, relating to joint ventures if investment is to be 'pooled' to some extent within a region. Finally, at least the products of joint ventures entering intra-regional trade should be free from customs duties. The R.C.D. countries intend generally to liberalize intra-regional trade but the specific problem of national tariffs on joint venture products has apparently not engaged their attention. The problem would not arise to the extent that participation in joint ventures on a government-to-government basis and thus customs duties can be disregarded in working out the costs of obtaining products intra-regionally. But for private sector the existence of tariffs on intra-regional trade would act as a definite disincentive for planning joint production and would rather encourage industrial development on national lines. This stresses once again the close inter-relationship of trade and production and simultaneous harmonisation in both areas.
The review of joint ventures, under the R.C.D., makes it clear that the main focus of attention has been on the capital goods and intermediate products. No spectacular agreement on joint ventures has emerged as yet but none could be expected in such a short period as two years. The agreements on carbon black, aluminium and bank-note paper represent modest but significant start. The mechanics of cooperation are becoming clearer and possibilities of joint ventures are being explored over a wide range of heavy industries. The R.C.D. experience seems to suggest that plan harmonization can conveniently begin on a project by project basis without waiting for a broader integration of economic policies and plans. The increasing agreements on joint ventures must inevitably lead to closer alignment of the plans for sub-sectors and sectors of production. But the approach to plan harmonization can be made quite fruitfully from agreement on a limited number of joint projects. In other words, plan harmonization must begin from below rather than above. Similarly, the integration of basic economic policies such as taxation and investment though essential can in initial stages follow agreement on patterns of production. Only what is necessary is a sincere belief in and effort towards regional cooperation.
## APPENDIX A

### Table A-1

**Programme for Project Studies**

- i) Name of the industry,
- ii) Items covered by this industry,
- iii) Description and specifications of the items,
- iv) Installed and sanctioned capacity, according to latest statistics,
- v) Capacity planned by 1970 and 1975,
- vi) Estimated present requirements and requirements by 1970, 1975 and 1980,
- vii) Main raw materials requirements, on the basis of present capacity and the capacity by 1970-1975, indicating whether indigenous or imported,
- viii) The existing type of machinery in use and the experience gained from the use of existing machinery,
- ix) Suggested measures for cooperation by way of:
  - a) Supply of finished goods,
  - b) Supply of intermediates,
  - c) Supply of raw materials,
  - d) Supply of components and parts,
  - e) Division of production amongst the three countries.
Reference


