INITIAL PROBLEMS IN THE SOVIET ECONOMIC DEVELOPMENT OF CENTRAL ASIA

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Introduction

In recent years the problem of the induced economic development of under-developed areas has received increasing attention throughout the Western world. Economic development itself is nothing new; all the advanced nations of the world were, at one time or another, economically backward with respect to their present level of development. However, the phenomenon of induced economic change is less common, and it is not easy to discover clear cases of substantial development produced quickly and under governmental auspices. Such instances should be of exceptional interest and value in studying the problems confronting the Point-Four Programme, the Colombo Plan, the Indian Five-Year Plan, and other attempts to stimulate economic development.

The development of Central Asia by the Soviet régime is an excellent example of just this type of economic change. Isolated from the rest of Russia by desert and semi-desert steppe, inhabited by non-Russian peoples, in large part governed by their own laws and semi-independent rulers, the region's primitive economy was preserved until the revolution of 1917, and for a considerable period thereafter. There is no doubt that Central Asia had almost, if not all, the characteristics generally attributed to under-developed areas: low productivity, antiquated technology, widespread poverty, little or no modern, intensive, or mechanized agriculture, widespread illiteracy, and so forth.

During the Soviet period substantial economic development has taken place. Of this there is little doubt. The most significant progress has been made in cotton production, and there has also been a substantial industrial development in the fields of textiles, shoes, metal working, and hydro-electricity.

The development of agriculture and industry, although inconsistent with some of the typical characteristics of backward areas such as illiteracy and a low level of technology, does not automatically cause a rise in the standard of living. Even if an increase in *per capita* real income is assumed to have resulted from the economic development, any such increase may be diverted to other areas or completely reinvested, leaving nothing for increased consumption.

The problem of the extent and nature of the economic development of Central Asia and the allocation of resources involved has been covered by Henze* and Wilhelm,† probably as thoroughly as the available statistical data will permit. It is not the purpose of this discussion to go over this

* Henze, P. B., "The Economic Development of Soviet Central Asia to the Eve of World War Two," R.C.A.S. Journal, 1949, Vols. XXXVI, XXXVII.

† Wilhelm, Warren, "Soviet Central Asia: Development of a Backward Area," *Fo*[illegible] February, 1950.

ground again, but rather to describe some of the initial, practical problems met by the Soviets in undertaking their development programme and, in so far as possible, to ascertain the methods used in overcoming these problems.

Unfortunately, material clearly indicating the methods used by the Soviets in overcoming the difficulties of development is less easy to obtain from the sources available than information regarding the problems themselves. In the Soviet literature, on which this paper is based, it is frequently the case that blame for some particular failure is attributed in such a way that the observer has no way of telling whether or not the criticism reflects the actual situation or merely is the result of the requirements of Communist ideology. There are almost no critical Western accounts of Central Asia for the period studied, and literature in English is almost exclusively limited to highly popular and sympathetic descriptions, usually of much less value than the Soviet material written for serious internal use.

Although this study is based on Soviet source material it is not primarily concerned with the Communist theory of economic development nor with the general Soviet political policy toward Central Asia. In general, ideology will be considered only in so far as it is directly connected with the practical questions under discussion. It is not meant to deny the immense importance of the ideological framework in which a development programme is carried out. The ideological aspect has, however, received more study than the specific development problems and the theoretical basis is readily available in the writings of Lenin and Stalin.*

For the purposes of the following discussion, Central Asia shall be defined, as is usual in the Soviet literature, to include the four republics of Uzbekistan, Kirgizstan, Tadzhikstan, and Turkmenistan. Within Central Asia no attempt will be made to treat the four republics individually since they were not designed as economic but as ethnic units. The economic heart of Central Asia is divided between Uzbekistan, Kirgizstan, and Tadzhikstan on purely national lines. The chronological period covered is roughly from 1925 to 1935.

Education and Cultural Development

A fundamental problem which must be met in the economic development of a backward area is the typically low educational level of the population. Not only is there usually a lack of technicians, but even of persons able to read any language at all. It is regrettable that specific and detailed information regarding the Soviet educational programme in Central Asia is so scanty. There is little doubt that the effort in the field of education was great and that the effects were widespread. The question receives considerable attention in the Soviet literature, but usually in only the most general terms.

Until and even after the end of the first five-year plan, the main educational effort was apparently concentrated on the elementary level, and understandably so, since the native population was almost totally illiterate. As late as 1933 in the republic of Tadzhikstan the claimed literacy rate was

* Holdsworth, M., "Soviet Central Asia 1917-40," *Soviet Studies*, vol. 2, 1951-52.

only 30 per cent., and 90 per cent. of the school teachers had only the lowest level of education. In relatively more advanced Uzbekistan the corresponding figure, for teachers, a year earlier, was 72 per cent.

The most difficult problem involved in the educational programme was to persuade the women and girls of this strongly Moslem society to participate. The following figures, cited by Narysov, despite the progress they show, suggest the extent of the difficulties that must have been encountered. In 1927-28, of the 4,930 students in Tadzhikstan schools, only forty-four were women. By 1931-32, of 135,976 students, only 22,317 were women. It is not surprising, however, for during the turbulent years of the Basmachestvo revolt in the mid-twenties the village teachers and the " emancipated " women were not infrequently assassinated.

The more complex problem of higher education for the native population gradually came to receive increasing attention. In 1927 only 2·4 per cent. of the students at the Central Asian State University in Tashkent were members of the local national groups. By 1933 the general figures for all technical schools and colleges reached 75 per cent. and 62 per cent. respectively in Uzbekistan. As part of the expansion programme the polytechnical schools of Tadzhikstan were separated from the kolkhozes and state industrial enterprises, which were reluctant to use their funds for educational purposes, and the schools were placed in line for direct governmental aid. A sympathetic Western observer, commenting on the Central Asian University, observed that the native students tended to memorize the writings of Marx and Lenin as they would have memorized the Koran a few years previously in the Moslem religious schools. The influence of local traditions in the agricultural schools was severely condemned in a Soviet publication. The professors were accused of being apologists for century-old equipment and techniques. Whether they actually were so or merely were attempting to adapt to the physical limitations of the situation confronting them is impossible to tell.

It is possible that the intensification of the drive for " higher " education was accompanied by a lessening or complete abandonment of the campaign to educate the older peasants. Soviet material gives no indication of this, but the conclusion was reached by an apparently sensitive and objective English traveller who visited Central Asia in 1933.* It would not seem surprising if the Party chose to expend its limited resources of equipment and trained personnel on the more pliable younger generation.

Closely connected, and indeed essential, to its educational programme was the Soviet Nationality policy. In the period under discussion the question of " nativization " (*Koren'izatsiia*) of the school system and other cultural institutions received the most attention in the Soviet literature on education in Central Asia. The increase in the native enrolment in the institutions of higher learning has already been noted. On the elementary level the impossibility of immediate and total " nativization " of the teaching staff was recognized, but this was clearly the goal. The general tenor of the article making this observation suggests that native teachers who were unqualified either politically or academically may have received positions in an over-enthusiastic drive to complete the programme. This type

* Goldman, Bosworth, *Red Road through Asia*, p. 168, London, 1934.

of problem is one which can be attributed to the Soviet emphasis on quantitative goals and their strict fulfilment.

The most important aspect of the nationality policy was the general introduction and use of the local languages among the native peoples, and the substitution of the Latin alphabet for the traditional Arabic letters which were ill-suited to the languages of Central Asia and which made reading difficult to learn. Some of these languages had almost no existing literature on which to base a new written language. Most of what did exist was of a highly archaic nature with little relation to the present-day spoken tongue. The large intermixture of Arabic words also was a problem to the Soviet linguists, for these words were an integral part of the orthodox Moslem religious tradition and, therefore, had to be eliminated. The needs of modern technology, however, required the introduction of a great many new words and concepts. Narysov lays down two principles to be followed in the construction of a new Tadzhik literary language: first, maximum use is to be made of the conversational language of the masses; and second, the assimilation of terms and Russian words used in all the national languages of the U.S.S.R. provided they are compatible with Tadzhik phonetics.

The construction of suitable dictionaries for the new written languages caused considerable difficulty. A new Tadzhik-Russian dictionary was condemned for failing to contain common everyday words and for being filled, instead, with Arabic and archaic words. This dictionary was compiled before any newspaper or other material had been printed in modern Tadzhik and the only source available was the classic literature, so the reasons for its failings are not difficult to understand. Another critic levelled even more serious charges against the same work. According to him, the dictionary failed to include the words "Bolshevik" and "Bolshevism," and for this reason alone it should have been destroyed. In addition, he finds fault with the definitions of several words. For example, "grumbler" (*nynik*) should not merely be simply defined as such, but the consequences of this attitude should be explained. A "grumbler," it should be explained, is someone who is opposed to socialist construction and the progress of Socialism.

The technician in such a situation is faced thus not only with the inherent difficulties of his task but also with the added burden of maintaining and positively affirming adherence to the orthodox ideology. Of course, from the Communist point of view, the acceptance of the Marxist-Leninist philosophy is essential to sound economic development. No effort was, therefore, spared in the propagation of it by every available means and through all channels.

A written language and the ability to read it is not enough. Something for the newly educated peasant to read must be supplied. The extant literature in the various languages was either completely lacking or antique, and steeped in feudal tradition. To meet the need for proper reading matter numerous newspapers were established, translations made from Russian, traditional ballads written down, and indigenous writers encouraged. All this was done not only to develop the new written language but to present the Soviet point of view. The annual circulation of newspapers *per capita*

in Uzbekistan increased from 4·1 in 1928 to 21·0 in 1932. By 1932, 392 books had appeared in Tadzhik with a circulation of 2,191,500. The text of these new publications was not always understood by the average reader because of the large number of new words introduced; nor was the content free from criticism. The economic journal of Central Asia, *Narodnoe Khosiaistvo Srednei Azii*, was accused of being run by bourgeois professors and of failing to orient its readers toward class-conscious thought. Its name was changed to *Kommunisticheskii Vostok*, but it was again brought to task for giving insufficient attention to the problems of regional planning in the individual republics. The Turkmen economic journal was criticized for failing to assist the local planning agencies. Supervision of content was evidently strict and centralized, for these criticisms appeared in the important Soviet journal *Planovoe Khoziaistvo*.

The stimulation of the native theatre and native music would apparently seem to have little connection with economic development. In the Central Asian context, however, this aspect of the Soviet policy must not only be regarded as a part of the general Communist nationality policy (no attempt is made in this paper to consider the more recent developments and controversial aspects of the Soviet nationality policy), but as a conscious attempt to overcome the strong anti-Russian sentiment which arose in the pre-Revolutionary years when large numbers of Russians were settled on native-held lands. The initial use of the Latin rather than the Russian alphabet to replace the Arabic was doubtless part of this same effort. Song and theatre were, of course, fully exploited for purposes of political indoctrination.*

The major aim of the Soviet educational and cultural programme was, as we have seen, to make possible the introduction of a more advanced technology and a new political doctrine while simultaneously counteracting the local anti-Russian feelings. The problems met were principally those of insufficient material and trained personnel. The methods used to overcome these difficulties appear to have been the stimulation of local initiative while maintaining a strict centralized control, a control that sometimes seems to have been a handicap to those working the field.

Early Compromises and Adjustments

The most important factor in the Central Asian economy is cotton production. Not only is it important for Central Asia, but also for the whole of the U.S.S.R. During the period under study, the most pressing problem confronting the Soviet planners in Central Asia was how to increase cotton production and make the Union independent of foreign supplies. By 1928 production had recovered from the tremendous drop of the troubled early twenties, and had reached the pre-revolutionary level of about one million bales. By 1932 production reached 1·5 million, and in 1937, 2·9 million were produced and the U.S.S.R. became substantially independent of imported cotton.

The land reform programme, and later the collectivization programme, were all designed, in part at least, to help achieve this goal of increased

* *Op. cit.*, Goldman, p. 188.

cotton production. The first steps taken in the direction of land reform (1921) were directed against Russians with large holdings. Though of little economic significance, this too was part of the campaign designed to gain the loyalty of the native peasants. The Soviet writer Gurevich maintains that it also convinced the Bolshevik party of the value of the land question as a tool for agitation. As Central Asia came more firmly under the control of the Soviets, more radical steps were taken. In December, 1922, the land and water were nationalized, and large and absentee holdings confiscated. The proportion of peasants leasing their land was reduced from 45·2 per cent. to 5·6 per cent. Work animals and equipment also were confiscated from the more prosperous. Gurevich says that the most important consequence of the land reform was to increase the proportion of land devoted to cotton from 35 per cent. in 1924 to 62 per cent. in 1926. Soviet and Western sources are agreed in this respect that the kulak preferred to maintain his self-sufficiency by growing grain, but that the smaller landholder was so dependent on the government for seeds and other aid that he had to grow cotton and hope that sufficient grain and manufactured goods would be imported to meet his needs. The land reform, however, was not regarded as anything more than a temporary expedient and was never effective in the more remote regions. The Party did not approve of it in the long run because it was an aid to the middle peasant but did little for the poorest class.

It is impossible to ascertain from the Soviet literature the degree to which physical coercion was used in forming the Central Asian collectives. It is clear, however, that the resistance to collectivization was strong and the programme was accompanied by a tremendous slaughter of livestock. It is believed that the herds did not regain pre-collectivization levels until 1943.

In addition to the coercion used to stimulate their growth, the collectives had many advantages over the private peasant. They were given preferred treatment in the allotment of credit, work animals, and other equipment. Since large numbers of those entering the collectives had no equipment or animals, this was probably a substantial incentive to the poor peasant who had formerly had to lease his tools and animal power. The traditional extended family system in some areas hindered the further development of the collective system by making the entrance of new members difficult. In one instance 100 of the members of a collective were from one family and the remaining fifty-five from another. In such cases the selection of the kolkhoz manager was especially difficult, each group being offended unless one of its members was chosen. The infiltration of " reactionary elements " into the kolkhoz management, the local Soviets, and even into the party, was evidently a recurring problem in the 'twenties and early 'thirties. Though from many points of view the position taken and the attitudes held by these so-called " reactionary groups " may have great merit, it must be recognized that these elements were an obstacle to economic development as it was being carried out by the Soviet authorities, and, therefore, they cannot be ignored when the problems facing the Soviet authorities are discussed.

The Party was, however, quite willing to make use of what it would

normally have considered " reactionary elements " when it was convenient. Retail trade was extensively developed in Central Asia on the basis of a very large number of small traders, and the Soviet authorities were willing to make use of the existing system. The attempt to develop co-operative stores proceeded slowly, and what is even more interesting, frequently faced the competition of state-owned trusts and syndicates. Stefanov, writing in *Planovoe Khoziaistvo*, goes so far as to state that the problem is not to eliminate private trade, but to utilize it to the greatest possible extent. He says, " With our paucity of means it is not permissible to have in one village both a government store and a workers' co-operative."*

The development of the Soviet legal system follows a pattern similar to that of the land policy, though it developed more rapidly. It was realized in the early 'twenties that at least temporarily some accommodation would have to be made to the traditional legal system of the traditional *Shariat* courts, which were based on Moslem law. Political matters were immediately transferred to the local Soviet courts " under the general controls of the working masses," but the " Soviet authorities recognized the possibility, as a temporary measure, of giving permission for the organization of people's courts for the trial of the affairs of the native population according to the regulations of the *Shariat*. . . .† The Soviet authorities soon found that the influence of these traditional courts and their application of Moslem law was incompatible with their economic development programme, especially with respect to the assertion of women's rights and subsequent introduction of women into the industrial labour force. The *Shariat* courts were, therefore, gradually abolished. In 1922 *Shariat* jurisdiction was limited to crimes listed in the Soviet legal code and which did not involve any Soviet documents, thereby eliminating many actions from prosecution which were illegal under Moslem law, as well as removing matters connected with Soviet activities from the jurisdiction of the *Shariat* courts. In 1923 financial support was withdrawn and all expenses were henceforth borne by the litigants. After 1924 they had no criminal jurisdiction, and by 1926 they had disappeared entirely. Although officially abolished, the Moslem tradition certainly did not disappear immediately. In 1927, according to a sympathetic Western observer, in many of what were supposed to be Soviet workers' courts the judges were illiterate and continued to enforce the old Moslem law, the only one they knew, and culprits were punished for offences no longer illegal.

The Collectives in Operation

The collectivization of agriculture was the most significant single change in the organization of the Central Asian economy brought about by the Soviet development programme.

The general organization of a planned agricultural system involved numerous difficulties. In 1934, 318,000 hectares, which had been prepared for irrigation, were not sown to cotton or any other crop. The figure is a rough but conservative estimate according to an article in *Planovoe Khozi-*

* Stefanov, N., *Planovoe Khoziaistvo*, 1927, No. 6, p. 247.
† Suleimanova, Kh., *Sovetskoe Gosudarstvo i Pravo*, 1949, No. 3, pp. 62, 64.

aistvo, approximate because there were no proper records kept and the exactness of the figures regarding the total amount of land sown was admittedly questionable. The reasons given for this serious blunder are: (1) Improper planning, no provision having been made as to who was going to cultivate the newly prepared land; (2) improper construction, the smaller water distribution channels being either completely omitted or incorrectly placed; (3) no provision for proper water conservation measures, those located near the source taking more than necessary and leaving none for collectives farther along the canal; (4) the low level of education of the operational personnel. It is evident that the Soviets had as yet been unable to build up a new system of laws and regulations with regard to water rights, so necessary in a desert country to replace the old, abolished by the land and water reform laws. The water was nationalized, but there was still not enough at the right time at the right place to satisfy all needs.

The first five-year plan saw a large increase in the acreage devoted to cotton. Yields, however, remained below the pre-revolutionary average despite the introduction of some machinery, improved seeds, and mineral fertilizers. Gradually, more attention was focused on the problem of increasing yields. It was realized that the cost of new irrigated acreage was high and that " projects for large and grandiose irrigation works unfortunately divert attention from improved cultivation."* Much of the increase in cotton acreage had been accomplished at the expense of lucerne, a leguminous cover crop which was part of the usual rotation with cotton in Central Asia. Naturally, this led to a fall in yields and a shortage of fodder. Truck crops and vineyards were also neglected. Although the importance of lucerne was recognized by Bushchuev in 1930, it was during the same year that an article appeared in the same journal which declared that " the struggle against cotton specialization, against monoculture, is the struggle for precapitalist conditions."† The author was, doubtless, concerned primarily with the competition of grain with cotton, but such a fervent pronouncement in an article loaded with Marxist invective and entitled *The Struggle for Cotton on the Ideological Front in Central Asia* would certainly tend to discourage the planting of almost anything except cotton. By 1934, however, the situation was clearly understood, the trend toward monoculture declared to be reversed, and the extension of lucerne cultivation listed as the foremost agricultural problem in Central Asia.

A lack of trained personnel on the collectives was a universal complaint. The basic cause is obvious and need not be discussed. However, certain aspects of the problem are interesting. Not only were trained technicians scarce, but it was difficult to induce them to leave the cities where they were also in demand and to undergo the hardships of life in a Central Asian village where they were frequently unwelcome and distrusted by the local population. According to Bushchuev, the technician would often " want to abandon the business and put the city-made plans and the directives of governmental agencies away in a cabinet." Not only poor living conditions but frequent transfers and the conflicting orders of the local officialdom made constructive work difficult.

* Bushchuev, M., *Planovoe Khoziaistvo*, 1930, Nos. 7, 8, pp. 232-3.

† Boranoe, A., *Planovoe Khoziaistvo*, 1930, No. 12, p. 308.

Despite the lack of technicians, Central Asia was better supplied with agricultural experiment stations than the rest of the U.S.S.R. The work of the stations was criticized for being too academic and far removed from the practical aspects of cotton production. It was probably easier and more pleasant to work at an experiment station than in a village with a group of conservative and illiterate peasants.

Centralized organization and planning, whatever its advantages, can, as has been shown, present problems as well. Before considering the individual collective farm, perhaps a few more general organizational and administrative difficulties mentioned in the Soviet literature should be noted. It was found that the setting of a " deadline " for the completion of sowing resulted in improper or incomplete work in the rush to finish the planting on time. The relatively unsuccessful kolkhozes tended to be forgotten and to receive less attention and equipment than they were entitled to, thus tending to put them even farther behind the others. The cotton growers' and the cotton users' organizations were not properly co-ordinated. Seed farms were kept waiting the decision of the Textile Kombinat to decide what sort of fibre it desired.

Information regarding the specific problems of the Central Asian collective farm and the methods used in meeting them is much less plentiful than on the general problem of the organization of agricultural production.

Attempts were made on the farm level to solve the problem of trained workers and technicians by establishing schools on the larger units with special attention being given to the participation of natives and women. It was frequently urged that this educational programme be extended. The introduction of women as equal members of the kolkhoz was an important step and it was pressed wherever possible, for it made their labour available for cotton picking, which had not generally been the case in the past.

The operations of a kolkhoz or sovkhoz involve a large amount of book-keeping, which must be done with accuracy and skill if the farm income or piece-work wages are to be distributed fairly among the members or workers in accordance with their work contribution. The lack of qualified book-keepers and the insufficient incentives offered to them frequently resulted in the improper use of materials or allotments of pay which was not only wasteful but tended to increase the already high labour turnover. The book-keepers were urged to get out into the fields and to see what work was actually being done. Quite comprehensibly, they preferred their comfortable offices to a hot cotton field.

The collectives were constantly faced with the problem of dealing with the traditions of the society which they were designed to change. For example, the Uzbeks were reluctant to plant the newly introduced American medium-staple cotton, because its seeds produced poorer oil and its husks were not as satisfactory for cattle food. Nor did collectivization eliminate the traditional differences in the level of productivity of the different nationalities. The Uzbeks, with their long experience in irrigated agriculture, still consistently produce the highest yields of cotton in the U.S.S.R., higher than those produced in the Kirgiz part of the Fergana Valley under similar conditions.

The Party organization on each farm unit naturally took the lead in

efforts to accomplish the assigned tasks. On one of the larger sovkhozes, a Party member or Komsomol was assigned to each working brigade in the spring sowing campaign with specific instructions from his cell. Each cell, in turn, was responsible to, and severely judged by, the Party Committee of the sovkhoz. In theory each worker in every group was assigned a specific task, such as a row to cultivate, and careful watch was kept on the quality of the work performed. It was also claimed that the introduction of the Stakhanovite piece-work movement into the machine-tractor stations and sovkhozes greatly increased productivity.

It is not within the scope of this discussion to consider the question of whether the collective form of organization is the most desirable from the point of view of economic efficiency, or to weigh the relative merits of tractor and animal power under Central Asian conditions. The essential merits of the tractor and of the collective system were unquestioned axioms not open to debate in the Soviet literature studied. Anything which interfered with the use of tractors was automatically considered a problem to be eliminated. Irrigated plots found too small for tractor cultivation were, therefore, to be enlarged. A writer who suggested that mechanization did not necessarily increase per acre yields was severely criticized for ideological deviation. Despite these convictions, the use of tractors, especially in sowing, was by no means universal even in 1938. The percentages of work done with tractors varied from 15 per cent. in Tadzhikstan to 48 per cent. in Turkmenistan.

Industrial Development, Urbanization, and Community Services

Although in comparison with the rest of the U.S.S.R. the industrial development of Central Asia is relatively small, it is substantial relative to the size of the area and its previous level of development. The most extensive development, especially in the earlier years, was in the field of textiles, as would be expected from the general Soviet policy of establishing processing industries near the sources of their raw materials in order to meet local needs for finished goods and develop the urban working class. By 1941, Central Asia produced 6 per cent. of the Union's textile products. The major centre of Soviet textile production remains, however, in the old central industrial area.

The determination of the scale of the enterprise is one of the first decisions which must be made when planning new industrial development. The Soviet decision to erect large central cotton ginning plants was based not only on a conventional cost analysis, balancing the increased efficiency against the increased transportation costs, but on considerations of a political nature. Since the peasant was responsible for providing transport for the crop, the extra costs would not fall on one of the "progressive sectors" of the economy. Thus the gins constructed were not of optimum size from the purely economic viewpoint.

Long-term planning of large developments such as the Kara Bugaz chemical scheme on the Caspian Sea was difficult in the rapidly changing economy of the Soviet Union. The Soviet writer Mitrokhin,* in discussing

* Mitrokhin, T., *Problemy Turkmenii*, 1934, Vol. I, p. 155.

the Kara Bugaz project, emphasized that development of similar resources in other areas must be continued because of insufficient knowledge of the potentialities of the Kara Bugaz development. A lack of proper surveys, in at least one instance, is believed to have resulted in the construction of smelter capacity (at Chimkent in Kazakstan) in excess of that justified by the ore supplies.*

The specific problems of the Kara Bugaz development are perhaps indicative of the difficulties faced in long-range industrial development in Central Asia. The Kara Bugaz Gulf is a natural evaporating basin in the Caspian Sea, and quantities of various salts have accumulated or can be extracted from the briny water. The area had no settled population until 1929, is excessively hot, lacks a source of fresh water, and is barren of vegetation and, therefore, subject to sandstorms. The discussions of the project written in the early 'thirties contemplated a very extensive development during the second and third five-year plans. A large chemical plant was to be constructed, vegetation planted to prevent sandstorms, and vegetables were to be grown to provide fresh food for the workers. It is interesting to note that these problems were evidently more difficult to solve than was expected in the original planning stages, for the chemical plant was still unbuilt in the early post-war years. The Kara Bugaz has been developed to a limited extent as a source of raw chemicals, which are shipped by water to Dagestan and other points on the Caspian Sea.

The establishment of a large textile mill in Tashkent in the middle 'thirties involved a number of interesting problems. The requirements of standardized production on a large scale required a change in tastes on the part of the local consuming public. Tastes were, therefore, to be "Europeanized" so that fewer types of cloth would be demanded.

It is generally found that in the establishment of a large industrial enterprise in an under-developed area not only must a substantial investment be made in plant equipment and construction, but in addition large sums must be spent for housing and other facilities which would not be required in a more highly developed area. The breakdown of the capital investment in the Tashkent Textile Kombinat clearly shows the extent of these external diseconomies. Of the total investment of 173·3 million roubles, 25 per cent. was for the construction of the factory and 33 per cent. for equipment, while 27 per cent. was devoted to "the construction of socialistic living quarters and cultural facilities" (*Zhilsotskultbytstroitel'stvo*), 6 per cent. to the training of workers, and 9 per cent. for communal eating-places and other facilities. In all, 42 per cent. of the total investment was devoted to secondary items.

Although the training of workers involved a relatively small portion of the initial capital investment, it was without doubt one of the most difficult problems. It involved an attempt to do what normally took ten years to do in the older industrial areas in a period from six months to a year by means of intensive training courses in Tashkent. A small group of forty workers was sent to Leningrad for special instruction. The initial results of the training programme were unsatisfactory because of a lack of sufficient

* Connolly, Violet, "Development of Industry in Central Asia," R.C.A.S. JOURNAL, 1941, Vol. XXVIII, pp. 1, 9.

practical training with the machine which the particular worker was to use, most of the training having been done on group basis.

Special efforts were made to include large numbers of natives and women in the training classes, and they were evidently successful, 70 per cent. of those participating being natives and 67 per cent. women. These figures correspond closely with the proportions projected for the total working force of twelve thousand. In the then (1935) already existing light industry of Uzbekistan, 58 per cent. of the workers were natives and 56 per cent. women.

The construction of housing for the workers in projects like the Textile Kombinat involves the general problem of urban planning and development. The Soviet writers on the subject constantly stress the integral relationship between housing and production. Feudal and capitalistic housing is held to be incompatible with the socialist way of life. Space must be provided for nurseries, laundries, and dining-halls in order to free women from household duties so that they may take part in production. The importance of maternal and child health programmes is stressed for similar reasons.

The Soviet preference for large housing units to make communal facilities economically justified was difficult to put into effect in Central Asia because of the nature of the available construction materials. The standard building material in Central Asia is a soft clay brick which is unsuited for structures in excess of two stories in height. Low buildings, however, require more roads, water mains, and so forth, thus raising the *per capita* cost of community services. The construction problem was apparently unsolved in the early 'thirties, and writers contented themselves with declaring that it was necessary to create an architectural form fitted to socialist life, but using the local materials.

According to one of the few contemporary reports of a Western observer, the new socialist living quarters were not popular with the natives and "the new town was a much worse muddle than the old, since the houses were built closer together, and there was consequently less space in which to dissipate the dirt.* An English M.P. who visited Central Asia during the Second World War remarked on the fact that newly built houses had separate quarters for the women, true to the ancient Moslem tradition.† The development of "socialist architecture" had evidently bogged down.

The allotment of housing space in the cities was used as a means of stimulating the preferred industries. The housing goals for the second five-year plan in the cities of Uzbekistan were, for workers in heavy industry, 12 square metres, for workers in other industries and transport 5 square metres, and for the remaining population 4·72 square metres, the average being 6·5 square metres. At the end of the first five-year plan the average amount available was 3·81 square metres per person.

The problem of water supply is difficult in a desert country like Central Asia. The dust problem on the cobbled streets is also mentioned. It

* *Op. cit.*, Goldman, p. 171.

† Parker, John, "Impressions of Soviet Middle East," R.C.A.S. JOURNAL, 1946, Vol. XXXIII, p. 349.

seems most likely that every problem of rapidly growing cities was met in Central Asia and in a rather acute form in most instances.

General Observations

The foregoing discussion, incomplete though it is, does suggest certain general observations about the nature of the process of economic development in Central Asia. As would be expected, many problems—those arising from the nature of the area and the character of its population—were similar to those met in other under-developed areas. The lack of trained personnel, the conflict with a traditional culture, these are not aspects peculiar to Soviet development, but there is a second group of problems which stemmed not from the situation confronting the developers, but from the methods and attitudes connected with the development programme. In Central Asia the difficulties that arose from centralized planning and ideological orthodoxy are examples of this type. Such "derived" problems are, in effect, the price paid for the use of the methods chosen. When considering alternative approaches to a developmental problem it is then clearly essential to examine not only the effectiveness of the method with respect to the problem at hand, but also the secondary problems likely to arise from the approach itself.

It is impossible to tell from the sources consulted to what extent physical coercion was used to facilitate economic development after the open revolts of the early 'twenties were suppressed. As has been shown in the above survey of development problems, economic coercion was used unabashedly to eliminate the opposition and to channel labour into preferred industries. In democratic States the extent to which such measures may be used is limited by the population's willingness to accept them, but they are by no means absent. High taxation, differentially assessed, is one form of economic pressure common in Western nations.

The degree of effectiveness of the Soviet educational and propaganda campaigns is not as firmly established as that of economic coercion, but they must have had some effect or extensive economic development would hardly have been possible. An intriguing aspect of this problem is to what extent was the old culture replaced by the new, and to what degree the new was merely superimposed upon the old without altering the basic structure of the traditional society. Adequate information on this question is probably unavailable for Soviet Central Asia.

The West could make more widespread use of education and propaganda than it has until now. The Soviets do, however, have an apparent advantage in their monopoly control of education and communication facilities. The techniques of education and propaganda are ones which conflict far less with democratic ideals than do either physical or economic coercion when they are not the exclusive prerogative of the State. The Soviet developer has the substantial additional advantage that he is able to carry out any given programme with a lower level of social consensus on his side than the developer in a democratic State, or, for that matter, in one with an insecure authoritarian government.

In examining the Central Asian experience it must not be forgotten that

Central Asia had a number of advantages which most under-developed areas do not have. It is politically united and controlled by the State which undertook its development and which, in turn, is the principal market for Central Asian goods. The local population could, therefore, be more easily compelled by external power to abandon certain aspects of their traditional culture for the sake of economic development. The special importance of cotton in the Soviet's foreign exchange position during the 'twenties and 'thirties lent added zeal to their efforts to develop Central Asian production, and the Central Asian producers, in turn, were not faced with a fluctuating world market price for cotton.

Substantial though these advantages may have been, it would be foolish to disregard the Soviet achievement as evidence that economic development can be induced in an area by an outside agency with only the most limited type of co-operation from the local population. As indicated above, however, it would seem that the Soviet methods are adapted only in a very limited degree to Western needs and values.