

**Patterns of Urbanization and Growth of
Working Class in Soviet Union
(1950—1975) : A Case Study of
Soviet Central Asia.**

Thesis submitted to the Jawaharlal Nehru University
for the award of the Degree of
DOCTOR OF PHILOSOPHY

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1988



CERTIFICATE

This is to certify that this thesis entitled
"PATTERNS OF URBANIZATION AND GROWTH OF WORKING CLASS
IN THE SOVIET UNION (1950-1975): A CASE STUDY OF SOVIET
CENTRAL ASIA", submitted by Mr. AJAY KUMAR PATNAIK for
the award of the degree of DOCTOR OF PHILOSOPHY (Ph.D.)
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for any degree of this or any other University. This
is his own work.

We recommend this thesis be placed before the
examiners for evaluation.

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C O N T E N T S

	<u>Page</u>
PREFACE	1
CHAPTER I INTRODUCTION: A Theoretical perception of the relationship between the patterns of urbanisation process and the social structure	1
CHAPTER II CENTRAL ASIAN URBANIZATION AND WORKING CLASS GROWTH IN HISTORICAL PERSPECTIVE, 1850-1950	78
CHAPTER III AGRICULTURE AND MANPOWER MOBILITY, 1950-1975	148
CHAPTER IV INDUSTRIAL PATTERN AND THE URBANIZATION PROCESS, 1950-1975	226
CHAPTER V GROWTH, DISTRIBUTION AND RE-DISTRIBUTION OF THE LABOUR FORCE, 1950-1975	298
CONCLUSION	367
APPENDICES	391
BIBLIOGRAPHY	397

PREFACE

Soviet Central Asia consists of the Soviet republics of Uzbekistan, Kirghizia, Turkmenia and Tajikistan. This study undertakes to analyse some of the developments in Uzbekistan and Tajikistan. At the time of Tsarist occupation, these two republics had historically similar socio-economic experiences. They had relatively advanced sedentary farming and feudal agrarian relations as compared to the other two republics of the region. In the colonial period, also, commercial agriculture developed very quickly in these two republics, where cotton came to dominate the social and economic life of the people. However, the pre-revolutionary Central Asia did not exist in its present form. The major part of Central Asia, which was directly under Tsarist rule, was known as the Turkestan province. The rest of the present day Central Asia existed in the shape of two Khanates, Khiva and Bukhara, which were protectorates of the Tsarist empire.

Central Asia woke up from its feudal slumber with the introduction of capitalist relations under the aegis of Tsarist imperialism. This introduced new elements of development as well contradictions in Central Asia. With the introduction of the colonial factor into the feudal society, the development process in Central Asia was geared to the needs of metropolitan capital while the society remained generally backward. Industrial development and urbanization

in Central Asia were patterned by the existing social relations in Tsarist Central Asia.

A study of the process of urbanization is crucial to understand the dynamics of change and progress in a given society. Any dynamic society involves the mobility of its population. Urbanization is the spatial expression of this mobility. The redistribution of manpower spatially is a complimentary process in the socio-occupational mobility of the population.

Urbanization is not an independent process capable of transcending the limits of the social formation in which it takes shape. Different historical formations have historically evolved patterns of urbanization, which are not only different in each mode of production but do also differ according to the various forms of the same mode of production. The first chapter in this study is an attempt to relate the pattern of urbanization with the specific social system. In the process the theoretical study involves a discussion of the slave, feudal, capitalist and socialist societies in their different aspects. The period chosen for detailed study is a more recent one (1950-75). The period before 1950 was one in which the Soviet Central Asian republics were engaged in dismantling the earlier colonial territorial division of labour. The foreign intervention, civil war as well as the existence of former exploiting classes, continued through the 1920s.

The second World War and the subsequent reconstruction dominated the 1930s and 1940s. Thus, any study preceding 1950 could not have done justice to the study of socialist development in Central Asia. That is why a more peaceful and stable period is chosen. The cut-off year 1975 has been chosen to make the study more effective. Spanning the study to some later period could have had the danger of oversimplifying trends without knowing the actual outcome. More recent study is also confronted with the problem of data availability. The year 1975 allows that much space for analysing the outcome of the process of development and give any opinion on the pattern of development. However, the study has not always strictly adhered to the time frame suggested above. This has been mainly due to the difficulties of obtaining data on a particular year. For example, the trend in 1950 has been on occasions based on 1959 census data. So also that in 1975, which relies on 1979 census data on some occasions. However, this has not affected the spirit of the study, which is mainly concerned with the pattern of growth of urbanization and working class. The overlapping of the years on some occasions has been helpful in studying the patterns and trends of growth in the two Central Asian republics.

Chapter two is a historical study, that covers a century and forms a background to the actual study. This chapter deals with the pattern of urbanization in Tsarist period

beginning from the 1850s and that in the Soviet period between 1917-1950. It helps in identifying the two distinct stages in the Soviet period so far. The first period, till the 1950s, was more a quantitative phase of development. Nonetheless, these quantitative developments set this period apart from the Tsarist period qualitatively. The industrialization of the Central Asian republics was spatially expressed in terms of the nature and function of urbanization in this period, which were different from that during the Tsarist period.

The second and third^{and fourth} chapters deal with agriculture and industry respectively since 1950. The process of urbanization involves both agricultural push and industrial pull. As such the study focuses on the restoration of the balance between the push-pull mechanism in the two Central Asian republics. The outcome of the study shows that in the period between 1950-75, the economic structure of the two Central Asian republics was highly perfected. The removal of the earlier constraints facilitated the growth of the productive forces. Yet the territorial and socio-occupational mobility of the indigenous population did not improve to the desirable extent. The study shows that there were sufficient constraints imposed by demographic and cultural factors on the redistribution of the population socially as well as spatially.

The growth of an indigenous industrial working class was shaped by the existing pattern of urbanization, i.e., the migration pattern, the pattern of urban growth and the level of urbanization. The territorial, sectoral, skill and sex distribution of the working class remained ethnically uneven. The growth of a surplus rural population, non-participation of the indigenous population in social production are the outcome of the process of urbanization which is constrained by demographic and cultural factors. The last chapter which studies the growth of working class in the two Central Asian republics, provides ample evidence on the role of the non-economic factors in the process of urbanization of Central Asia. The mere perfection of the economic structure of these republics has not been enough to bring homogeneity in the class structure of the ethnic Central Asians.

The availability of data has been a major problem in undertaking this study. In the absence of a field trip, whatever data could be available has been made use of. In the process, I am aware that I may not have done full justice to some of the problems I have endeavoured to analyse. These limitations apart, I hope the study would be useful in sociological research of the problem of urbanization and manpower mobility in Soviet Central Asia.

Finally, the study has mainly been focussed on the two Central Asian republics of Uzbekistan and Tajikistan. These two republics are fairly representative of the Central Asia as a whole and thus generalizations may be made on the basis of the study of these two republics.

I would like to express my heartfelt gratitude to my supervisor, Prof. R.R. Sharma, who is himself an authority on Soviet Central Asia, for his constructive guidance and encouragement in the preparation of this thesis. I am also thankful to Prof. Devendra Kaushik, Chairman of Soviet and East European Studies in JNU at present and also a renowned authority on Soviet Central Asia, for providing valuable ideas during many discussions I had with him. I am equally indebted to Prof. Zafar Imam, Director of the Soviet Area Studies Programme in JNU, for providing me with opportunities like seminars etc. to discuss my views with other experts on Soviet Union.

During the long period of my research work, I have received constant care, affection and encouragement from my parents, my elder brother and his wife, and all my brothers and sisters. My work also owes a great deal to Prof. Vijay Gupta and Prof. Suman Gupta, my parents-in-law and who themselves are teachers in JNU, for discussing with me many of the theoretical problems associated with my work. As for my indebtedness to my wife goes, I can only say that without her practical help in data analysis and compilation of tables, it would have been difficult for me to complete my work in time. My thanks to all my friends during my career in JNU who made my research work less tiresome by their company and association.

I must acknowledge my gratitude to the Librarian, JNU, for making the books, related to my research, available whenever required. I, finally, record my thanks to Shri Om

Prakash for the help extended to me in getting the manuscript typed. While acknowledging my gratitude to all the persons mentioned above, I am fully responsible for the views and conclusions contained in the thesis.

A. Patnaik
AJAY KUMAR PATNAIK.

Chapter I

INTRODUCTION:

A Theoretical perception of the relationship between the patterns of urbanisation process and the social structure

"The most important division of material and mental labour is the separation of town and country...

The separation of town and country can also be understood as the separation of capital and landed property, as the beginning of the existence and development of capital independent of landed property - the beginning of property having its basis only in labour and exchange."

(Karl Marx and Frederick Engels)

The purpose of the undertaken study is to analyse the growth of working class in Soviet Central Asia in the process of urbanisation and in terms of industrial organisation of space. But before a specific study of the above mentioned area is undertaken it is necessary to arrive at some methodological principles expressed through definitive, generalised concepts.

The problem with non-Marxist Western urban sociology has been, in most cases, the lack of any conceptual tool and most of them have been empirical studies of life within the city itself. Social phenomena are interpreted in terms of the city, intra-city activities.¹

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1. "The city", by R.E. Park, E.W. Burgess and R.W. Mckenzie (eds.), Chicago, 1924, symbolizes the empiricism of American urban sociological research. This empiricism was also summed up by Prof. Niles Carpenter, who said that the recent trend in sociology has been epitomised by the quest for data. Cited in Paul Meadows and Ephraim H. Mizruchi (eds.), Urbanism, urbanisation and change: Comparative perspectives (Massachusetts, 1969), p.10.

Those who have tried to give a general definition, have remained within the above empiricist framework. The city is seen as a natural-spontaneous and ideal-typical construct.¹ They attempt to define 'urban' in cultural terms, through quantitative variables of spatial organisation and ignore the historical causal growth of urban forms. In Wirth's view, the social-psychological consequences arising out of the ecological and demographic structure of city life constitute the urban culture or a 'way of life' which is termed 'urbanism'.² City is a continuum, a permanent settlement, whose structural features are characterized by large size, high density and social heterogeneity.³ For the 'culturists' the urban form is a higher form of ecological order arising out of sheer spatial interdependencies. The human interaction and communication within this higher form of ecological order creates a shared cultural and moral-political order.⁴

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1. Louis Wirth, "Urbanism as a way of life", American Journal of Sociology, 44, July, 1938, pp.1-25.
 2. Ibid., pp.1-25.
 3. Michael Peter Smith, The City and Social theory, Oxford, 1980, p.12.
 4. Abber J. Reiss, On Cities and Social Life, Chicago, 1964, p.xix; and also Robert Park, "The Urban Community" in Ernest E. Burgess (ed.), The Urban Community, Chicago, 1964, p.166; Cited in Michael Peter Smith, op. cit., p.3.

The other major trend in non-Marxist urban sociology in the West has been the 'technological' interpretation of city which tries to define urbanisation in terms of technical-mechanical consequences of economic growth.¹ Urban life emerged in history when an ^{advanced} technology helped to create a surplus sufficient to enlarge the area of population settlement and break the self-sufficiency of Neolithic barbarism.² The 'urban revolution' transformed society by creating a cultural and economic unity among those living in the urban aggregate.³ The surplus created by this technological revolution (tools and skills) enter into exchange on a wider area. This, along with the growth of transportation, gives rise to an increase in the size and complexity of the urban network which 'contains and

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1. For Sjoberg, in the absence of a single cultural milieu, technology is the only factor that provides cities their universal form. Technology was the level of economic growth required to provide the surplus for sustaining the non-agricultural specialists. Gideon Sjoberg, "The pre-industrial city", American Journal of Sociology 60, 1955, pp.328-29. Cited in Paul Meadows and Ephraim H. Mizruchi, op. cit., p.22.
 2. Gordon Childe, What happened in history, Penguin, 1982, pp.75-77.
 3. Childe's description of civilizations of Egypt, Mesopotamia and India, ibid., chapters 6 and 7, pp.121-58.

utilizes this surplus'.¹ In the city, the tools and the skills which represent the particular stage of societal development find the most co-ordinated and rationalised expression. The city is not only functionally created by technical-economic factors but is also functionally limited by the level of a given technology.²

The three above discussed trends are similar in their approach essentially. They were ecological in content and their analysis was centred round the geo-physical study of the population aggregation.³ The ecological theory views the development of social organization in response to the changes in the utilisation of space occasioned by the technological, demographic and environmental factors.⁴

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1. For a perceptive approach on the functional relationship between urbanisation and technology, Ralph Turner, The great classical traditions, vol.I, New York, 1941, p.279. Cited in Paul Meadows and Ephraim H. Mizruchi, op. cit., p.13.
 2. Lewis Mumford, The Culture of Cities, New York, 1938, p.235. Cited in Paul Meadows and Ephraim H. Mizruchi, op. cit., p.15.
 3. Most part of these ecological studies were devoted to the establishment of the properties of various zones - natural areas, habitats and so on. The ecological theory in part reflected the demand to make science exact and independent. Don Martindale's "Introduction" in Max Weber, The City, New York, 1958, p.29.
 4. Otis Dudley Duncan and Leo F. Schnore, "Cultural, behavioral and ecological perspectives in the study of social organization", American Journal of Sociology, 65, Sept. 1959, p.144. Cited in Michael Peter Smith, op. cit., p.180.

These sociological theories treat city as an independent variable that transforms the society. This resulted in defining social structures in terms of the urban-technical order like industrial and pre-industrial. The distorted historicism can be discerned in the counterposing of categories which are not parallel: like industrialism and feudalism. All pre-industrial cities were by implication regarded as feudal.¹

The ecological theories of urban sociology in spite of their apparent variations are essentially embedded in empiricism, trying to account for the physical and external aspects of the city, i.e., in terms of physical expansion and differentiation in space. The city is regarded as an autonomous spatial unit with its own laws of development and organised externally and independent of the laws of social organisation.² Most of these works have been either mere reviews of the problems or emphasis on the institutional aspects, but all of these works have been primarily

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1. Oliver C. Cox regards industrial-pre-industrial constructs as heuristic devices. "The Pre-industrial type lumps so many disparate social systems that its value as an operational instrument seems nullified", he says in "The Pre-industrial city reconsidered," in Paul Meadows and Ephraim H. Mizruchi, op. cit., pp.23-24 and 26.
 2. Robert E. Park, Ernest W. Burgess and Roderick D. McKenzie (eds.), The City, Chicago, 1925. Cited in Don Martindale's "Introduction", op. cit., p.24.

devoted to the geology and the ecology of the city.¹

If one analyses the variables used to differentiate the city or urban from rural, the 'primitivism' of these criteria can be easily seen from their imperfect and imprecise applicability. These variables, like concentration of population, heterogeneity and differentiation, mobility, rationality and specialization etc., can be features of both urban and rural structures.²

Heterogeneity is not altogether absent in non-urban areas, and it is more marked in case of large cities than in that of small cities. There are urban areas which are not more heterogeneous than their surrounding rural areas and also there are cities which are not less homogeneous than their countryside.³ The same is true of mobility in urban and rural areas.⁴

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1. Niles Carpenter, The Sociology of City life, New York, 1932; Rose Hum Lee, New York, 1955; and Egon Ernest Bergel, Urban Sociology, New York, 1955. Cited in Don Martindale, op. cit., pp. 26-27.
 2. Don Martindale, op. cit., pp. 29-30. Martindale criticizes the basic concepts of ecological theory as insufficient to differentiate the theory of the city from any other branch of sociological theory or even political and economic theory and even some branches of botanical theory. A compound definition of the city of the ecological school is given in Egon Ernest Bergel, Urban Sociology, New York, 1955, p. 8.
 3. The first type of cities are Fort Scott, Kansas, Pendleton, Oregon etc. and the second types are cities of Spain, Norway, Ireland, Iceland, Albania and Newzealand, Egon Ernest Bergel, op. cit., p. 8.
 4. Urban places like Dakota, Missisipi and Vermont show little mobility while rural areas at times like the Reformation and industrial revolution showed a considerable mobility. Ibid., p. 8.

Similarly, stratification is not a purely urban characteristic and instead of being a constituent element of the urban area, it is a result of organisation and division of labour in both town and country. Countryside has its strata like lord, supervisor, servants, yeomen and serfs in feudal societies and the kulaks, agricultural labourers, small farmers, artisans, machine operators and agronomists, veterinary surgeons etc. in the case of capitalist societies.¹

The density of population is insufficient and arbitrary as a criterion. There are larger peasant settlements which are 'rural' though their population concentration and density are larger than places defined as 'urban'. Any attempt to classify urban areas by a certain population density has been ineffective because they vary from country to country.²

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1. At present, strata like gentle farmer, dirt farmer; the large-scale business absentee farmer, the small family farmer; the big farmer and the share-cropper; the owner and agricultural labourer, signify the class stratification in American countryside. Egon Ernest Bergel, op. cit., p.8.
 2. Ibid., p.6; A bewildering variety of criteria have been used to define "urban" settlements. A brief survey of definition of "urban" population in the censuses of 123 countries taken around 1960, reveals the enormous diversity in the definition of "urban" in terms of demographic concentration. Growth of World's Urban and Rural Population: 1920-2000, U.N. Publications, Sales No.E59.XIII.3, 1960, pp.7-10; cited in U.N. Manuals on Methods of Estimating Population, Manual VIII, New York, 1974.

Concerning specialization and rationalization, these are matters of economic and technological organisation, which are as much applicable to modern farming, which in the process of mechanization and commercialization has acquired specialization and rationalization of production.¹ The standardization of the work process has nothing to do with the density or heterogeneity of the urban area.²

Thus any study of urbanization patterns will obviously be inadequate within the framework of western empiricist analysis, which abstracts the city from its wider social context and treats it as a separate entity whose cultural-behavioral patterns are distinct from the rural entity and directly result from the quantitative elements that give rise to this population aggregate. A deeper analysis would show that the variables used to define 'urban' are not 'independent' as they are assumed, but are themselves the instances of the socio-economic process.³

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1. Egon Ernest Bergel, op. cit., pp.4, 13.
 2. Standardization of the work process, according to Smith, is a result of factory system and mass marketing. Michael Peter Smith, op. cit., p.180.
 3. Smith argues, for example, that population movements and spatial densities are induced by geographical patterns of job distribution determined by those who control the means of production. Michael Peter Smith, op. cit., p.180. Oliver C. Cox also argues that urban aggregation may be the cause in technological development rather than the other way round. The growth of cities may enhance agricultural specialization and thus agricultural efficiency. An improvement in distribution in terms of quantitative growth of transport and communication can make more food available. Thus an agricultural surplus for urban consumption can be obtained indirectly from production in cities. Oliver

With this methodology it is difficult to study urbanization as a process and the dynamic urban structures, functions and forms, not only in terms of historical diversity but also in terms of differentiation within the same historical period. With the above method all cities are either same irrespective of time and space or all societies are same depending on their industrial or non-industrial character. If individually taken, any of the above variables would result in different classification of existing urban-rural areas. If density as a yardstick is taken, than many existing rural areas will become urban and the vice-versa.¹ Similarly if occupation is taken as the criterion, meaning urban areas as places where the majority of the people are engaged in non-agricultural activities, than military settlements and "artisan villages" would be termed as urban.²

The 'city centrism' of western non-Marxist urban sociology smacks of a bias in favour of western industrial

contd...

C. Cox, "The Pre-industrial city reconsidered" in Paul Meadows and Ephraim H. Mizruchi (eds.), op. cit., p. 22.

1. F. Felix tried to quantify the 'urban' definition in terms of population density in his A redefinition of 'City' in terms of density of population, Chicago, 1926; by which he defines places above 1000 people per sq. mile as 'cities'; cited in Egon Ernest Bergel, op. cit., p.6.
2. Egon Ernest Bergel, op. cit., p.8, and for a critique of Bergel's occupational definition, Don Martindale, op. cit., p.28.

urbanism as the epitome of cultural, scientific and technological evolution of human society. By its very implication societies are good or bad depending upon the urban structure, which is the transforming force. This bias is manifest also in the way the politico-cultural preponderance of city is presented.¹ All pre-industrial societies are lumped together as food producing rural societies where cities played a very modest role. Only after the advent of the industrial revolution societies began to be different with the 'preponderance of the urban life'.² The origin of this approach can be traced to the Weberian model of historical forms of cities - oriental and occidental, patrician and plebian - as the centres of power and conflict.³ Historical forms of cities were characterised

1. Niles Carpenter, The Sociology of City Life, New York, 1938, p.19. Cited in Egon Ernest Bergel, op. cit., p.10.
2. Bergel calls it 'preponderance' and not 'dominance' since, according to him there is no clear cut correlation between urbanism and dominance of the city. In modern state the farm block exerts more political influence than their numerical strength would suggest. North Dakota, a rural state with only 13 towns with no more than 39,000 population each, has the same number of votes in the US Senate as New York. However for our purposes, the 'preponderance' or 'dominance' reflect similar 'city centrist' bias. E.E. Bergel, op. cit., pp.10-11.
3. Max Weber, The City, The Free Press, New York, 1968.

by their degree of autonomy and corporate institutions. The oriental cities were seen as legally and constitutionally indistinguishable from the rest of the country, dominated by an omnipotent ruler and lacking any corporate autonomy for its merchants and artisans who were the serving men of a monistic ruler, whereas the occidental city was seen in terms of its sharp juridical differentiation from all other forms of social organisation; an independent entity in a society where power was diffused and with corporate autonomy for the trade organisations of its merchants and artisans.¹ Not only oriental and occidental but within the western world cities were differentiated in terms of their autonomy and their dominance over the countryside. The towns of north Italy developed into city-states in the process of their dominance over the countryside; the towns of Germany and North Europe inspite of their high degree of autonomy did not rule over extensive territories; and the towns of France and England were quickly integrated by the monarchy into the developing nation-state.²

Mediæval cities, for Weber, were the centres of conflict and struggle between various claimants to power which resulted in a cyclical process of subordination (to

1. Ibid.

2. Brian Elliot and David McCrone, The City, London, 1982, p.42.

the feudal lord) - autonomy - subordination (to the patrimonial state).¹ The mediaeval towns are not seen as the product of the society, but as the product of the interest of an emergent burgher class united in their opposition to the feudal masters.² The Weberian model is equally city centred with its bias in favour of the western city as the source of transformation of society. For him the mediaeval European cities with their notions of freedom and codified laws in the interest of the burghers created the basis for the rise of capitalism.³ The bourgeoisie was the exclusive preserve of the western cities which were the source of the future liberalism and democratic pluralism.⁴ The subsequent discussions that will follow will prove the fallacy of the independent character of the urban place which will ^{also} make the distinction between Oriental and Occidental and such other distinctions based on politico-cultural characteristics superfluous.

The western non-Marxist urban sociology can be summed up in the words of Castells as "an ideology of modernity

1. Ibid., p.48.

2. Ibid., p.41.

3. R. Bendix, Max Weber: an intellectual portrait, London, 1960.

4. Vatro Murvar, "Some tentative modifications of Weber's typology: Occidental versus Oriental City" in Paul Meadows and Ephraim Mizruchi (eds.), op. cit., p.55.

ethnocentrically identified with the crystallization of the social forms of liberal capitalism."¹

Unlike the western non-Marxist sociology the focus of the study shall be to locate urbanization in the whole socio-economic system that determines the basic structure, function and forms of the process of urbanization.²

The historical typologies chosen for analysis are ancient/pre-feudal, medieval/feudal, modern/capitalist

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1. Manuel Castells, The Urban Question, London, 1977, p.70.
 2. There are Marxist urban sociologists in the west, who are yet to gain a dominant position vis-a-vis their non-Marxist counterparts, hence they have not been reviewed in the brief study of western sociologists undertaken above. But the subsequent discussions to arrive at a theoretical definition of urbanization will be based on their works. There will be reference also to the works of Soviet sociologist and economic geographers. The pioneering Marxist urban sociological works are, Henry Lefebvre, La revolution Urbaine, Paris, 1970; Manuel Castells, The Urban Question and City, Class and Power, London, 1978; J. Lojkin, "Contribution to a Marxist theory of capitalist urbanization" in C. Pickvance (ed.), Urban Sociology: Critical essays, London, 1976; L. Althusser, For Marx, New York, 1970; L. Althusser and E. Balibar, Reading Capital, London, 1970; Manuel Castells, "Theory and Ideology in Urban Sociology" in C. Pickvance (ed.), Urban Sociology; Massimo Quaini, Geography and Marxism, Oxford, 1982; and for the works of Soviet sociologists and economic geographers, Nekrasov N., The territorial organization of Soviet economy, Moscow, 1974; Yu G. Saushkin, Economic Geography, Moscow, 1980; Yuri Pivovarov, "Modern urbanization: Specific features and tendencies" in Soviet Geographical Studies, Moscow, 1976, etc.

and modern/socialist urban forms. This is because the basic hypothesis is the correspondence between socio-economic systems and urban forms.

This method begins with the assumption that urbanization is not in itself a content: neither cultural, since cities under or with the same socio-economic system can have different 'cultural content', nor as a "productive force" transcending socio-economic forms, since mere spatial concentration does not create new relation. Urbanization is a form of organization of space, determined by and corresponding to the dominant socio-economic structure. It is the "urban relations", with their broad social content, which can be taken as the real substance of urbanization.¹ Urbanization is the relation between society and space, which arises in the process of the organisation specific to the particular mode of production. Space achieves its specific form, function and significance in relation with the broad social relations and not the vice-versa. It is not a result of the unilinear cultural growth of mankind nor is it an independent entity outside the socio-economic structure. At every historical juncture the space articulates the dominant mode of production in all its aspects. In the course of the following

1. Yuri Pivovarov, op. cit., p.182.

discussions on concrete historical typologies, this articulation will be demonstrated (in the way historical urban forms of spatial organization crystallize in accordance with the concrete socio-economic formation). Urban spatial form is an aspect of the overall spatial organization of production, consumption and exchange that expresses the social relations within a particular structure of property relation (appropriation of product) and the relations of real appropriation (technological labour process).¹

While urbanization articulates a particular mode of production, it is also capable of affecting and influencing the various aspects of the mode of production because of the specificity of their spatial expressions, or because of their particular relations with the space.² Different effects can be produced, also, by the actions of groups and individuals, who are not simply concrete embodiments of total social relations but also are historical actors who consciously try to change the environment of their living.³ Various urban forms have their historical specificities depending on the nature of the conjuncture where

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1. Manuel Castells, The urban question, op. cit., p.126.
 2. Ibid., p.430.
 3. The effects of urban social movements on urban structure have been analysed in Manuel Castells, The City and the grass roots, London, 1983, pp.311-13.

earlier spatial forms persist and co-exist with emerging and new spatial forms. Even within each mode of production every stage gives new shape to spatial forms, which however does not mean the disappearance of the spatial forms of the earlier stage or stages of the same mode of production.¹

A theory of urban social change must account for both the spatial effects of socio-economic change and social effects resulting from urban spatial form. Like every other historically produced social reality, structures and functions are historically defined but at the same time it gives social meaning to the social activities spatially expressed and in this sense any attempt to simply project a city as a blueprint of the mode of production must be denounced as mechanistic and equally deterministic perception, like the 'technological' theories of western non-Marxist sociology.²

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1. M. Castells, The urban question, op. cit., p.443.
 2. While the towns of the mediaeval period were the outcome of the feudal society, they also contained elements that helped, along with other factors, the dissolution of the feudal economy & society. Though it does not seem acceptable that the towns were the only dissolvent of the feudal mode, some role of the towns cannot be denied. Henry Pirenne, Mediaeval Cities, New Jersey, 1974; also Rodney Hilton (ed.), Transition from feudalism to capitalism, London, 1980, in which the debate between M. Dobb and P. Sweezy is nicely summed up by John Merrington, "Town and Country in the transition to Capitalism", p.174; also John Walton, "The new urban sociology" in International Social Sciences Journal 33(2), 1981 and Social theory and the urban question, London, 1979. Cited in M. Castells, The city and the grass roots, op. cit., p.297.

The definition of urbanization, in other words, is the social meaning of a material process expressed spatially. The material process is the articulation of the historically evolved mode of production in economic, political, technological, ideological and cultural aspects.¹ The functions of the urban form varied from administrative residential (and of consumption) concentration to places of exchange or manufacture depending on the historical process of urbanization or the specific social meaning assigned to spatial forms.

To establish the above assertions review of the various spatial forms under different social systems is undertaken in the following part of this chapter.

Ancient/pre-feudal patterns of urbanization

Separation of town and country, according to Marx, was the spatial expression of the division of the society based on division of labour, within the framework of private property and of the development of capital independent of landed property, as property began to be based on labour

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1. According to Castells the role of the city is structurally determined by the historically defined society, whatever might be the mental representation of a spatial form. Like the merchant may define the city as a market for meaning street fair and intense socialization, but it also means the commodification of economic activity, monetarisation of work process and the widening of the transport network to all potential sources of goods and markets. M. Castells, The city and the grass roots, op. cit., p.302.

and exchange.¹

However, the separation of the town and country was a late phenomenon, more specifically appearing with early capitalism. Sjoberg has tried to explain the emergence of cities in the early periods of civilization as the result of a favourable ecological base, a relatively advanced agriculture and non-agriculture technology and growth of a complex social organization with a well-developed power structure.²

The shift from hunting and food gathering to agriculture permitted the production and storage of food surpluses. The limited period required for productive labour made it possible for agricultural production to devote time for such communal activities as the building of temples and other public buildings.³ What differentiated cities from villages was the presence of religio-governmental buildings, of writing, and of artisans, merchants, officials, priests, who were not directly involved in food producing activities.⁴

Urban forms appeared historically in the slave societies as residential concentrations, living off an

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1. Karl Marx and Frederick Engels, "The German ideology", Collected Works, vol.V, Moscow, 1976, p.64.
 2. Richard Basham, Urban Anthropology, California, 1978, p.39.
 3. Ibid., pp.38-39.
 4. Ibid., p.37.

agricultural product directly and locally obtained by working the land; and with the emergence of social contradictions between direct producers and the appropriators of the agricultural surplus, who administered the products and whose existence ^{was} based on the appropriation of this surplus.¹ At different stages of production in the slave mode of production, property, predominantly consisting of land and slaves, appeared in various concrete forms: communal, temple, state and individual private property. The citizens held the slaves under subjugation and exploitation only through their community and thus were bound to the communal form for the reproduction of the slave mode of production.² Landed property was of substantial importance, as land worked by slaves created a surplus.³

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1. Cities first appeared about 5000-6000 years ago and were scarcely larger than the farming villages that preceded them. The population of first Sumerian cities ranged from about 7,000-12,000 people and Ur had a population of no more than 25,000.

Cities appeared in society when both the potential for production of food surpluses that could support a non-productive urban population and annual blocks of time for collective labour were available.

Richard Basham, Urban Anthropology, California, 1978, pp. 37-41.

2. K. Marx and F. Engels, "The German Ideology", op. cit. pp. 32-34, 63-65, 89.
3. Political economy, Moscow, 1983, p.45.

The surplus in slave societies was not surplus value, but simple surplus work and production of more 'use value' i.e. surplus labour was required to obtain other products (surplus products) in exchange.¹

In this epoch, the cities, together with the surrounding countryside, made up the city-state (like the ancient Greek Polis) which were in fact isolated slave-owning states.² This formed the economic whole in classical antiquity. The urban form appeared, as the labour of the slaves created surplus product, a part of which was used by the slave-owner to obtain luxuries or money. But the role and the structure of the urban form varied depending on the various forms of this mode of production.³ However in all the forms of the slave mode, inspite of the variations in the relationship between town and country, fundamentally the town was embedded in the countryside, whether it were the oriental cities (where the large cities were the Royal camps and the works of artifice (superfetation) erected over the economic construction proper) or the cities of classical antiquity (Graeco-Roman) founded on landed

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1. K. Marx, Grundrisse, Harmondsworth, 1973, pp.471-72.
 2. Political economy, op. cit., pp.47-48.
 3. The purpose is not to go into the debates whether such distinct modes as Asiatic mode existed or not. What is important here is to see the different forms of economic organisation in Ancient Slave mode of production and the corresponding spatial forms. For a detailed analysis of the three forms, K. Marx, Grundrisse, op. cit., pp.472-79.

property and agriculture or the Germanic period where the land was the seat of all economic activity.¹

Thus, the earliest towns appear to have been agricultural aggregations for the benefit of mutual aid and defence, for administration and for exchanges based on surplus products (not for the purposes of creating capital

1. Massimo Quaini, op. cit., p.96. In the oriental form (discernible in the Slavonic communities, among the Rumanians, in Mexico, Peru and India) the self-sufficient commune combined manufacture and agriculture and contained within itself all the conditions of its reproduction and surplus production. Cities formed at the most selected points where the head of the State and his vassals exchange revenue or tribute (surplus product) for labour and spend it as labour fund. Under this system cities proper form alongside the village since the potential for enlarged reproduction is employed mainly outside the basic economic unit, i.e., the village. In the Graeco-Roman classical form the town along with the surrounding countryside formed a single economic entity. This is because the towns were the seats of administration where the land-owners and the aristocracy of wealth (whose slaves and latifundia was based in the surrounding countryside) took up residence. The predatory nature of the slave society also created urban forms as centres of military and civil administration (to keep slaves under control). The social division of labour into handicraft and agriculture appears in this society which gives the towns some distinction from the countryside. Towns, though not separated from the countryside, are not simple outgrowths of the villages. The third form, i.e., Germanic form, was the conjuncture when the slave system was producing less surplus and the parcelling out of land was not able to sustain the growth of the town. The decay of towns that had set in at the fall of Roman empire continued in Germanic society. K. Marx, Grundrisse, op. cit., pp.474-84; and also Frederick Engels, Origin of family, private property and state, op. cit., pp.426-27, 433, 449. This decay of towns in the early middle ages is asserted by Jacques Le Goff, "The town as an agent of civilization, 1200-1500" in C.M. Cipolla (ed.), The Fontana economic history of Europe, Glasgow, 1981, p.73.

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but for obtaining luxuries).¹ Since most of the residents were landed proprietors whose material requirements did not require trade and exchange among themselves, the market place was located usually outside the town proper, mainly along river harbours or sea-bays for inter-city or inter-regional trade.² A governing elite superimposed itself on the agricultural based subsistence economy and it was then that full time specialists - administrators, priests, roadkeepers, soldiers and craftsmen - appeared. Wealth was drained out of the surrounding area without anything being given in exchange. The non-agricultural residents of the towns lived off by providing luxury goods to the urban based land-owning aristocrats. The limited growth of urban areas was mainly due to the low productivity of land and labour. Division of labour was not advanced; agriculture, cattle-breeding and handicrafts were the chief branches of material production in slave-owning

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1. According to Vaughan, Rome and Sparta have their place at the head of the military cities of the world, whereas Tyre and Carthage were great commercial cities of the antiquity. Robert Vaughan, The age of great cities, London, 1969, p.12.
 2. Amos H. Hawley, Urban Society, New York, 1971, pp.21-22. Athens was the entreport of the Mediterranean world. It was the centre of merchandise imported to Piraeus (timber, fur, leather, wax etc.) from Black Sea and the Mediterranean, from Egean islands (gold, copper, iron and wine), from Phrygia and Miletus (carpets and fine wool). Robert Vaughan, op. cit., p.29.

societies.¹ So surplus could not be made available for the continuous growth of towns. Limitations of transportation was also another factor for making impossible any concentration at any particular point in space of a large quantity of food which could sustain the growing population of the urban areas. This led to the disappearance of many ancient cities.²

The cities of antiquity were the spatial expression of a social structure where the growth of a religious and administrative elite had become critical to the existence of the society. It was an outcome of the settled agricultural life that permitted a surplus, and it also simultaneously reflected the need of society for administration and for ecological stability, when agriculture and land were acquiring utmost importance.

The ecological instability in both Mesopotamia and Mesoamerica necessitated cult activity towards assuring crop and animal fertility and the regularity of seasons, made the temples the centre of city growth. In the earliest

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1. Political Economy, op. cit., p.44.
According to J.M. Roberts, the economic life of the classical antiquity was overwhelmingly agrarian inspite of all its elaboration and organization around a network of cities. Its bedrock was the estate of the countryside which was the basic unit of production and of society and provided subsistence for almost all the population. J.M. Roberts, The Pelican history of the world, Harmondsworth, 1983, p.274.
 2. Amos H. Hawley, op. cit., p.36.

cities religion provided the focal point for the collection and redistribution of peasant tribute. Thus early temples had large granaries within their premises and the earliest writings of temple scribes had little to do with philosophical questions, as they were more concerned with keeping the temple accounts. The redistribution of the peasant product through the channels of religious institutions in cities, created an advanced social structure in the cities. The urban artisans maintained by the temples, the merchants who were active as a result of a steady flow of peasant surplus to the cities represented a more progressive division of labour in society.¹

The religious-centred cities gave way to military-centred cities as a result of periodic peasant resistance and continual threat from seminomadic groups at the edge of city's hinterlands. More important later was the population growth encouraged by increased production and sedentary life, and the shift from up-lands to low-lying valleys that could be irrigated. This shift restricted the area of arable land since land suited to irrigation was limited to low land river areas. In the circumscribed

1. Richard Basham, *op. cit.*, pp.39-40. Incidentally, even in the later period, i.e., of classical antiquity, cities were the centres of religious movements. In the Roman empire, the orthodoxy of Christianity spread first between towns and among towns people. The word pagans was attributed to countrymen. Keith Hopkins, "Economic growth and towns in Classical antiquity" in Philip Abrams and E.A. Wrigley (eds.), Towns in Societies, London, 1978, p.39.

valley regions in which the earliest cities had emerged, the gradual exhaustion of the best agricultural land extended the hinterlands of riverine cities to the point where competition between neighbouring peoples for land led to warfare among cities. The cities came to perform more and more military functions and with it the power of the priestly elite was replaced by that of the military elite. With the rise of this elite the urban stratification underwent change. The rulers and the warrior class were served by a large retinue of servants which included gatekeepers, cooks, cupbearers, male and female slaves, harem officials and so on. Along with the earlier existing urban strata, the new strata made the urban structure more stratified. The dialectical development of the urban form and function resulted in the fusion of religious and military functions in the institution of the divine kingship.¹

In short, the urban areas of this period, i.e. during the slave mode of production, were spatial forms of the social organization, expressing both the 'administrative-

1. The inevitability of the transition of power from priest to warrior to divine king was not common only to the Near Eastern States - the Pharaohs of Egypt providing a prototype to divine kingship - or to the ancient societies of India, Southeast Asia, China and Japan. It was also conspicuous in the case of Mesoamerica, where the Maya priests first lost prominence to their own warriors and then were supplanted altogether by an Aztec empire whose later rulers enjoyed a "divinity" and position above that ever accorded to European kings. Ibid., pp.40-41.

domination' and the place of 'residence-consumption' of the appropriating class.¹ The emergence of large empires in classical antiquity helped in the resurgence of cities. The Greeks, followed by the carthaginians, followed later by the Romans created larger and larger states. One of the most striking changes in the Mediterranean basin during this period (from 1000 B.C. to 400 A.D.)^{was} the growth in the size of the political units. The flow of taxes and the monetary unification under the large empires were complemented by the growth of large towns.² Towns in the network of trade and taxes acted as intermediate markets for collecting staple food (grain, wine, oil) and as processors of primary products (wool, flax, hides) which could be transformed in towns into goods of higher value but lower volume (cloth, leather, dyes, ropes etc.) for sale in the chief markets of ^{the} empire. Thus the primary stimulus to long distance trade in the Roman empire was the tax demand of the central government and the distance between where most producers (tax payers) worked and where most of the government's dependents (soldiers and officials) were

1. Manuel Castells, op. cit., p.447.

2. The city of Rome in the first century A.D. was as large as London in 1800, with a population of about 1 million. Other cities like Alexandria, Antioch, and Carthage were as large as any European town except London before the 19th century. Keith Hopkins, op. cit., pp. 37-38.

stationed.¹ Taxation increased productivity, threw extra produce into the market and helped the growth of towns, as this produce was transformed by urban artisans into export goods in order to acquire money to pay their taxes.²

The growth of towns in this period was also a function of conquest. The import of booty, and a massive number of slaves, the extrusion of free peasants and the growth of large estates, the creation of a large surplus, helped in the creation and growth of towns.³ Slavery secured the long-distance mobility of labour in a society where there was no effective labour market. The increasing labour demands could be met by influx of slaves, which also ensured the prosperity of the parasitic elite that characterized the ancient cities. Slavery was an important agent of migration.⁴ The existence of slavery precluded the use of wage labour as an alternative means of exploitation and finally by allowing the aggravation of several

1. Ibid., p.41.

2. Ibid., p.59.

3. The number of Roman towns is assumed to have been very large - 900 in Eastern Provinces, over 300 along north African Littoral, excluding Egypt and a similar number in Iberian peninsula and Italy. Ibid., p.70.

4. Military movements and colonization leading to settlements in conquered territories by peasant soldiers constituted another important agent of migration in antiquity. Ibid., pp.64-65.

workers under a single owner, slavery allowed a greater degree of exploitation in comparison to free men.¹ The greater exploitation of slave labour increased agricultural productivity in the Roman Empire and thus an expansion of towns, but it also brought the downfall of the empire and cities for the same reasons. The lack of growth of more productive free labour told upon the empire when the slave source dried up and the use of free labour could not rescue the empire from declining productivity.

Functionally, the ancient towns were centres of consumption in which landowners spent profits derived from rural property worked by slaves. The considerable number of petty-commodity producers who lived in these towns were playing a subsidiary role to the more powerful consumers, since the existence of the former was determined by the share of the consumption fund allowed to them by the latter. One prime characteristic of the ancient city was that it coalesced the rural and urban population into a single autarchic autonomous unit, in which agricultural land-owners set the tone. Though the importance of agriculture to the growth of towns in the ancient period is undeniably considerable, at the same time the aggregate importance of small manufacturers cannot be underestimated. It is these small units of

1. Ibid., pp.65-66.

non-agricultural production which elevated the average living standard in the empire, albeit only slightly.¹

The decline of the slave society gave rise to the manorial organisation that reached its culmination in the monasticism of the 8th and 9th centuries. The clergy and the war lords ruled society and appropriated the wealth of the small peasants who were part-time craftsmen also. Though trade did not cease altogether in early mediaeval period, both long and short distance trade remained irregular.² The clusters of population were usually around a castle or an abbey and in some existing old urban areas of Roman period.³ They were known as the episcopal towns or monastic towns. Instead of being the centres of exchange reflecting the separation of urban handicraft from agriculture, they became self-sufficient units.⁴ Towns remained 'treasure hoards, places where riches of building and ornaments piled up reflecting the wealth amassed by the rulers and the church-heads'.⁵

1. Ibid., pp.72-75.

2. C.M. Cipolla, "The Origin" in The Fontana Economic history of Europe, op. cit., pp.11-14.

3. Ibid., p.15.

4. Jacques Le Goff, op. cit., p.76.

5. Ibid., p.73.

To sum up, the ancient/slave societies or the pre-feudal society was not capable of going over to manufacturing or industrial stage as the process of accumulation of capital had not started in these societies.¹

Capital formation does not emerge from landed property, but rather from merchant's and usurer's wealth. So, Marx said, "The mere presence of monetary wealth and even its achievement of a kind of supremacy is in no way sufficient for this dissolution into capital to happen. Or else ancient Rome, Byzantium etc. would have ended their history with free labour and capital, or rather begun a new history. There, too, the dissolution of the old property relations was bound up with the development of monetary wealth - of trade etc. But instead of leading to industry, this dissolution led in fact to the supremacy of the countryside over the city."²

For this reason, towns were not manufacturing or industrial in character, as classical antiquity did never go beyond urban artisan stage.³ In a social system where production was not oriented towards the creation of exchange value, the towns were the spatial expression of the simple exchange of surplus products to provide for the luxuries

1. The original accumulation that had begun in these societies 'does not present itself as an accumulation of capital, nor as the function of a capitalist'. The capitalist accumulation occurs when the means of production is separated from the labourer and along with the product and the means of subsistence confronts him as something alien in the shape of capital. K. Marx, Capital, vol.I, op. cit., p.560.
2. K. Marx, Grundrisse, op. cit., p.506.
3. Ibid., p.511.

of the propertied class. The towns were the spatial form that was created, as the pattern of individual and collective consumption of the propertied class, under conditions of general slavery, developed into concentrations in space.

The contradiction between town and country identified completely with that between manual and mental labour, expressing the bipolarity of the principal contradiction between the exploiter and the exploited classes in the middle ages or the feudal period, when agrarian economy dominated and when under different forms of social relations the labour of the peasants was exploited.

Medieval/Feudal patterns of urbanization

Feudalism represents an advanced mode of production compared to the earlier mode of production because the productive forces are more developed and the total social surplus over the subsistence increased. This meant more and more available surplus for exchange and the beginning of commodity production.¹ With the appearance of commodity

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1. Feudalism is characterised as a socio-economic system which is predominantly agrarian. Land is the basic means of production and large landed estates are the basic units of production. It is a corporate system in which the mass of serf-peasants are bound to the estate, paying the lord rent (either in money, kind or labour) and various other services and submit to his administrative-judicial authority.

W. Kula, An economic theory of the feudal system: Towards a model of the Polish economy, 1500-1800, London, 1976.

production local markets began to expand into towns.¹ Towns expanded further as the markets expanded. Big commercial centres appeared on the basis of large-scale overland and maritime commerce. Within the feudal mode the cities appear as nodes of mass-scale production for export.²

The extension of the division of labour into production and exchange gave rise to a wealthy merchant class, which after having amassed sufficient capital and autonomy started investing in manufacture.³ Property relations

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1. The beginning of commodity production around 10th century led to the resurgence and expansion of towns in Europe. Jacques Le Goff, op. cit., pp.77-78, 80-83.
 2. Hibbert refutes Pirenne's thesis of incompatibility between feudal state and trade or exchange. According to Hibbert in early middle ages, commerce being a natural product of the feudal society was favoured up to a point in its development by the feudal rulers. A.B. Hibbert, "The origin of the medieval town patri-
ciate" in Past and Present, Feb. 1953, pp. 15-27. Cited in R. Hilton, op. cit., pp.109-10, 131.
 3. In the Mediterranean, Venice, Genoa, Pisa were the main centres of West Europe's trade with Byzantium, Syria, Egypt and the East. In the North Sea the commercial centres were Bruges, London and other English and Flemish towns. In the Baltic were the Hanseatic towns. The land link between the two zones (North & South Europe) created fairs like Champagne in Eastern France where merchants met and exchanged their goods. This was between 11th to 13th century, at the end of which cloth manufacturing as the main industry feeding long distance commerce had developed in low countries and Tuscany. The other major commodities were connected to cloth manufacture (like dyes, alum etc.). Daniel Waley, Later medieval Europe from St. Louis to Luther, Longmans, Green and Co. Ltd., London, 1964, p.97.

changed as the mass of movable capital increased and the natural capital (naturally derived 'estate capital' of the guilds) decreased.¹

The towns developed within the feudal context as distinct economic and social units, as centres for exchange and production.² This evolved out of the feudal pattern of organization of production, where in the absence of commercialization of agriculture, production for exchange centred in the urban areas. This created a monopoly for the towns in the sphere of exchange and craft production in guilds vis-a-vis their countryside as well as other towns.³

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1. K. Marx & F. Engels, "The German ideology", Collected Works, vol.V, Moscow, 1976, p.67.
Manuel Castells, The urban question, op. cit., p.13.
 2. The big cities in the mediaeval period were concentrations in a few 'emporiums like the Italian cities, constantinople, Flemish and Dutch cities, a few Spanish ones, such as Barcelona etc.' where production was oriented towards exchange value by the very nature of these cities (for example manufacture directly connected with shipping and ship-building etc.). K. Marx, Grundrisse, op. cit., p.511.
 3. The monopoly position of the towns is discussed in A.B. Hibbert, "The economic policies of towns", Ch.4 in the Cambridge economic history of Europe, vol.III, pp.197-98.

An account of the inadequate commercialization of agriculture even as late as 18th century is given in F. Braudel, Capitalism and material life, 1400-1800, London, 1973, p.355.

Both cited in John Merrington, op. cit., pp.180-81.

The feudal mode with its decentralized system of economic and political organization was spatially expressed in the development of autonomous urban centres, which were themselves a kind of "collective seigneur", within the structure of hierarchical sovereignty.¹ The absence of centralism in feudal period created an autonomous merchant capital which was confined within the urban centres. wherever the central authority was strong the towns were the walled military-administrative centres. The social structure in such towns was not dominated by new stratifications based on the division of labour into agriculture and exchange, but on clan, religious or royal lineages.²

The towns in the medieval period represented both the vertical structure of feudal power and the horizontal growth of merchant capital. With the rise of rent as the principal mode of appropriation of surplus, merchant capital flew into land. The symbiotic relationship between the new rentier aristocracy of merchants and the absentee land-lords gave medieval cities their

1. John Merrington, op. cit., p.178.

2. Max Weber, The city, op. cit., pp.65-68, 105-07, 186-95.

exploitative character.¹

According to Hibbert, the first stages in the urban history in Italy in the middle ages were associated with the formation of a ruling group of largely aristocratic and feudal origin which controlled town life and trading conditions. The later history of the Italian towns shows that in some cases the old aristocratic patriciate would adapt itself to the changing requirements of trade and incorporate the big merchants into its fold. In other cases, where the aristocracy was unadaptable, new groups were built outside its ranks and the great traders either took control of the towns or forced the former rulers to share their powers.

The rentier form of appropriation characterized the medieval towns even though trade and commerce came to play^a more and more significant role as the middle ages progressed. Examples galore from the history of Italian

1. In England the lay and the ecclesiastical lords took a share of the profits of the towns and gave their own stamp to many of these towns. R. Hilton, A Medieval Society, London, 1966, p.177. In Italy the rise of dynasties over the cities was because of the dependence of the cities on feudal powers for supply and defence. The lordship of Romagna, the Estensi over Ferrara, and the Visconti over Milan were the general types. D. Dawley, The Italian City republics, London, 1969, pp.110-23, 221-30. Similarly at the Summit of the Hanseatic towns their rise depended on the protection by the Teutonic kings. M. Malowist, "The problem of inequality of economic development in Europe in the latter middle ages", Economic History Review, 2nd series, vol.19, pp.25-26. All cited in J. Merrington, op. cit., p.183.

cities. In Genoa, for example, where the first trading partnerships are found in the documents of the early 11th century, the typical partner of the merchant was a land owner having surplus capital derived from land rents and other forms of feudal exploitation.

Even later during the 12th century, the greatest leaders of trade expansion were men who had received large revenues from rents or customs or market dues. Even in Northern Europe, as the study by J.W.F. Hill shows, the towns were dominated by large land holders, and rentiers in the 12th and early 13th centuries.¹ In Poland, in Eastern Europe, similar characteristics were discernible. Rutkowski's study shows that the trading patriciates of the Polish towns were derived from the feudal nobles who settled in the towns while retaining their interest as great landholders. In Norway, in Scandinavia, the chief merchants of 12th and 13th centuries were great ecclesiastics and great land owners. J. Lestocquoy's study of the cities of Flanders shows that the top ranking families were originally landed proprietors and mill owners in the 11th and 12th centuries.² The studies clearly show that the

1. Hill studied the families which dominated the town of Lincoln immediately after it achieved some degree of self-government. The case of three most prominent families studied by Hill has been cited by Hibbert, op. cit., pp. 97-98.

2. Ibid., pp. 98-101.

urban patriciates of feudal Europe were either large land holders or lesser feudatories who owed their wealth to lands, rents and the farming of feudal revenues. Another conclusion that can be drawn is that rent formed one of the most important elements of trading capital in the medieval towns.

The rentier form of appropriation led to urban domination over the countryside in terms of economic exploitation of the countryside. The appropriation of surplus in the form of rent strengthened feudal exploitation on a commercial basis (except in England where it led to capitalist farming).¹

The rentier form of exploitation left the rural areas starved of liquid capital. Public taxes, private rents and commercial profits constantly drained money from the cultivators to the land lords, and from the countryside to the city. The liquidity crisis in the rural areas followed by poverty and destitution did not help in strengthening the agricultural demand for urban manufactures. In fact the rural market was squeezing further. Inside the towns, the highly uneven distribution of wealth left the plebian masses greatly impoverished.²

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1. P. Goubert, The Ancient regime, London, 1973, Ch.6. Cited in J. Merrington, op. cit., p.184.
 2. David Herlihy, "The distribution of Wealth in a Renaissance Community: Florence 1427" in Abrams and Wrigley (eds.), op. cit., pp.150-54.

The uneven distribution of wealth weakened the initiative in both city and the countryside, thus hindering the development of a strong local market for inexpensive manufactures. This apart from introducing elements of instability into the political and social life, also made cities vulnerable to the fluctuations of external trade. For example, the obstacle to continuing economic growth of Florence in the 15th century was the lack of a strong market for inexpensive products outside.¹

The fortunes of the urban centres fluctuated corresponding to the fluctuations in the fortunes of the merchant capital. The merchant capital in feudal period played a redistributive role by way of carrying trade with economically backward and geographically remote areas. It was not based on the growth of a home market or the exchange of equivalents between agriculture and urban industrial goods. The merchant capital was speculative in nature and in periods of crisis it tried to find outlets in usurious investments and tax farming. This resulted in the decline of urban commodity production and the weakening of the urban centres. In periods of boom the towns assumed an important role and ⁱⁿ periods of reversal of the boom many of the feudal mercantile towns relapsed into a subordinate position. Because the feudal towns did not base themselves

1. Ibid., p.155.

on advanced commodity production, they had no stability as centres of economic activity.¹

In England, the mid-15th century saw the economic stagnation of a number of more important towns - Canterbury, Gloucester, Bridgnorth, Ripon, Scarborough, Beverley, Hull, Grimsley, Stamford, Boston, Lynn, Great Yarmouth, Bridgwater etc. - leading to urban contraction. The number of prosperous towns dwindled and the few successful English towns in early 16th century - London, Newcastle, Colchester, Ipswich, Exeter and Chester etc. - were the ones with successful external trade.² While those with

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1. Towns in Spain, Italy and Netherlands lost their significance because of a crisis in external trade. Similarly the towns of East Europe which enjoyed less autonomy in the feudal structure and occupied an intermediate position among the centres of international trade, lost their significance altogether as the seigneurial economy of the lords assumed a leading position in export trade by intensifying the exploitation of the serfs through corvee labour. Similarly in the central Europe (Bohemia, Saxony and Austria) the "free towns" (autonomous urban centres) were undercut by the cheaper production in the "domain townships" (seigneurial estate), which were based on feudal relations and without guild restrictions. The exception, however, was the growth of British towns whose ascendance was because of the speculation based on colonial trade. J. Merrington, op. cit., pp.184-87.
 2. Adams ascribes the decline of urban growth in the late 15th and early 16th centuries to two major elements, the threatening growth of rural competition in industry and trade, and the costly disincentive to urban residence (medieval urban society and culture in the well-established towns had become too elaborate and too costly to be sustained). However, the fact remains that towns that survived the crisis and prospered were the ones that succeeded in sustaining external trade. Charles Phythian Adams, "Urban decay in Late Medieval England" in Abrams and Wrigley (eds.), op. cit., pp.159-85.

successful external trade survived the crisis, it is also true that the major centres often recovered at the expense of their weaker neighbours. Competition and instability characterised the late medieval towns.

The instability was not simply due to the trading character of the towns. Low level or even lack of manufacturing also exposed urban growth to a great degree of instability. The classic case is England, where by the 16th century the rural areas were taking the lead in industrial production and challenging the existence of cities. Adams cites the cases of Worcester where the statute of 1554-55 talked of the towns being exploited by linen drapers, woolen drapers and grocers of the countryside who merely used the towns to sell their wares. The statute was designed to protect the urban textile industry from rural competition. Adams also cites the example of Leicester where the cities feared the competition from their own rural hinterland.¹

However, with the consolidation of capitalism, manufacturing came to be concentrated in the towns. With the rise in internal demand and migration of rural surplus, labour, the towns rediscovered their economic role. In England, particularly after 1570 when inland trade witness a resurgence, the urban monopoly over marketing was strengthened corresponding to the failure of the mediaeval rural markets to resurrect themselves. The same period was characterised

1. Charles Phythian Adams, op. cit., pp.178-79.

by the recovery of urban industry.¹

The elevation of the town to a politically and economically dominant position reaches its peak under capitalist commodity production. The town exploits the countryside everywhere and without exception by means of its monopoly prices, its system of taxation, by usurious and commercial fraudulence, when production for exchange predominates.

Modern/capitalist urbanization

Capitalism is characterized by the development of universal commodity production, the wage labour and the social domination of the bourgeoisie. It represents a higher stage in the technical-social division of labour and creates a territorial organisation in which the market determines and co-ordinates various spheres of production.²

The capitalist mode of production presupposes the disintegration of the agrarian social relations and the flow of rural population to the urban areas as the potential labour force for the industrial production. The growth of large scale manufacturing creates a wider market, manpower concentration and an industrial milieu. The towns as markets and manpower concentrations attract industrial location and the building up of industries create more

1. Cited in Charles Phythian Adams, ibid., p.184.

2. Political economy, op. cit., p.65.

and more employment of new kinds. This brings more and more people into the industrial towns. Urbanization also takes place where industry colonizes areas with existing raw material and transport facilities. Although industry is the main motive force behind capitalist urbanization process, it has its base not in technological factor, but in the logic of capital.¹

The logic of capital is the process of accumulation of capital. Capital creates its landscape. To understand the process of capitalist urbanization it is necessary to see the relationship between organization of capital and organization of space. The necessary conditions for the reproduction of the capitalist mode are - reproduction of capital (social and material circulation of capital), reproduction of means of production, and reproduction of the labour power (individual and collective consumption).²

The capitalist mode of production requires a spatial organization that facilitates the circulation of capital as well as commodities and information etc. Capital

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1. Manuel Castells, op. cit., p.13.
 2. The production & reproduction of each of these conditions take spatial shape specific to each of them or to the administration of each of these processes. Jean Lojkine, "Contribution to a Marxist theory of Capitalist urbanization" in C.G. Pickvance (ed.), Urban Sociology, London, 1976, p.120.

engaged in production is capable of expanded reproduction through productive labour process. The capitalist tries to minimize the time-space friction for the capital engaged in circulation, since that part of capital which is engaged in circulation is engaged outside the productive labour process and thus does not add to the immediate process of accumulation. But this capital is also necessary for the production process. So a division of labour occurs in which different fractions of capital - industrial capital (production), commercial capital (exchange of commodity and money) and finance capital (concentration of money capital, not engaged in above two functions) - emerge and specialize in various activities.¹

A part of the capital (property capital) engaged in circulation is used to develop space and to make it efficient for commercial, financial and administrative operations by reducing the "indirect cost of these operations".² As a

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1. Francois Lamarche, "Property development and the economic foundations of the urban question" in C.G. Pickvance (ed.), op. cit., p.88.
 2. Ibid., p.99. According to Harvey capital used to develop urban land has various fractions - fraction seeking rent appropriation (property companies & land lords as direct appropriators and financial intermediaries as indirect appropriators), fraction seeking interest and profit by building new elements (construction interests) and capital "in general" which looks upon the built environment as an outlet for surplus capital and a bundle of use values for enhancing the production and accumulation of capital. David Harvey, "Labour, Capital and Class Struggle around the built environment in advanced capitalist countries" in Kevin Cox (ed.), Urbanization and Conflict in market societies, London, 1978, p.9.

result of the priorities given to offices, commercial and luxury residential developments (as these are more profitable from the point of view of investment of property capital) the low and middle-income housing gets less priority. The workers are pushed out of the areas undergoing development ('urban renewal') according to the above priority. The serviced urban space enters into exchange in the private market transactions which determines the geographic pattern and intensity of its use value through a system of differential locational advantages.¹ With the intensification of the use of such polarized locations, these locations over time become congested and loaded. This process also discourages the growth of 'new poles of aggregate urban activity with beneficial agglomeration effects'.² The profit-maximizing logic induces location in urban areas where agglomeration effects already exist.

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1. The concentration of shops in a very restricted area increases their turnover; shopping centres are more successful if they are close to official and residential locations with a large and varied range of customers. Management sector or administrative sector is more efficient if it is close to certain service establishments like banks and credit institutions and to information network for the smooth operation of capital. Most typical examples are Wall Street in USA and Rue Saint-Jacques in France etc., Francois Lamarche, op. cit., p.90.
 2. Shoukry T. Roweis and Allen J. Scott, "The Urban land question" in Kevin Cox (ed.), op. cit., pp.64-65.

Insalubrious housing conditions result from the speculating activities of the property capital.¹ Housing on reasonable rents are in shortage as public investment creates differential situational advantages in the interest of the property capital.²

Under capitalism the spatial organization of the means of production in the interest of capital takes shape in unequal development of the productive forces, unequal development of economic sectors, unequal value placed on natural resources, the concentration of the means of production in the most favourable conditions, and the creation of complex units of production.

Capitalist production is characterized by drive for profit by private owners of capital, unbridled competition among individual capitalists and monopolies, and anarchy of production. The development of the productive forces under capitalism widens the gulf between industry and agriculture as capitalist industrialization isolates itself from farming. The development of industry in large cities

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1. Insalubrious housing conditions appear, as the houses of the land owners become less valuable than the land on which they are built. Jean Lojkine, op. cit., p.115.
 2. The state provides, either directly or indirectly by subsidization, major infrastructural and other public facilities, which constitute the first stage of the 'spatial configuration of differential locational advantage', for a reference to North America, Shoukry T. Roweis & Allen J. Scott, op. cit., p.59.

is accompanied by the ruination of the peasantry and binds agriculture to the capitalist market which determines the cost and utility of the farm products.¹ Farming is subjugated to the changing requirements of the city and in the process of subjugation not only individual regions but even sometimes the whole country adopts monoculture prescribed for them by the industries of large urban centres.

Industrial location under capitalism is decided by the profit maximizing factor. Industrial urban forms accordingly developed while at the same time demonstrating the tendency of capital in terms of spatial concentration of production and circulation.²

At the petty-commodity stage of capitalism, the centralization of capital and employment was based on

1. Richard A. Walker, "The transformation of urban structure in the Nineteenth century and the begging of suburbanization" in Kevin Cox (ed.), Urbanization and Conflict in Market Societies, London, 1978, pp.186, 189.

2. The tendency of capital to concentrate and then to move globally to the least expensive points of production is clear from the history of U.S. corporate capitalism. In 1941, 1000 manufacturing firms controlled approximately 2/3rd of all manufacturing assets, whereas by 1980, 200 largest firms do so. Michael Peter Smith, op. cit., p.236.

in exchange-mercantile cities. The mill towns (where manufacturing was done) were generally clustered round the mercantile cities. The large mercantile cities were the port cities.

The most typical form in the stage of industrial capitalism is the one-industry dominated industrial cities, in which the majority of the population depend on a single industry and the market and export situation of this particular industry.¹ The result of the narrow specialization of capitalist industrialization was the disparity between manufacturing and extracting centres, old and new industrial centres etc.

With the growth of state monopoly capitalism, the trend of locating productive forces within the framework of the national economy started, which resulted in the growth of multi-industry centres with interrelated branches of production that gave rise to territorial-production complexes.²

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1. For example, in Wolfsburg in West Germany 72% of the employment in late 1950s was in automobile industry. N.T. Agafonov and S.B. Lavrov, "On the fundamental differences between Capitalist and Socialist regional territorial-production complexes" in Soviet Geography: Review and translation, vol.VII, No.7, New York, 1965, p.58.
 2. Central region of the northern USA, the Ruhr region of West Germany and some larger agglomerations in the South-west of West Germany, Italian South and Parisian agglomerations in France are a few examples. Ibid., pp.58-59.

Profit being the main motive of capitalist industrialization, the location of industries are determined by market forces. Consequently the anarchy of capitalist production is also reflected in the uneven development of the urban spatial forms. The location choice is based on the cost minimizing and profit maximizing considerations of the private industrialists. This being the rationality, the location is determined by the existing market demand and the existing level of development of a region. As a result, the already developed urban centres attract the location of new industries.¹ In the stage of industrial capitalism, when the social division of labour is far advanced not only between various branches or sectors of production, but between production and circulation, "access to market meant access to sellers and purchasers of specialized intermediate goods, to wholesale intermediaries capable of organizing the large scale movement of commodities, to major capital markets for financing and to a growing variety of personalized services such as law, architecture, insurance and real estate brokerage."²

1. Richard A. Walker, op. cit., pp.187-88.

2. Ibid., p.187.

However, the true objective argues Alonso is not the reduction of the costs to a minimum but the maximization of profit. If the product is sold at different prices in different markets because of the differences in transportation or other costs, the profitability of the enterprise depends on price variations. A large market that has an unvarying rate of sales will exert a lesser force of attraction than a smaller market in which slight reductions in delivered price result in large variations in the quantity sold. Thus the
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In case of industrial location linked to natural resources, the differential costs involved determine the industrial development of a region and not the mere existence of natural resources in a region. Choice of alternative areas and the use of alternative products, on the basis of comparative costs associated with them, are the key factors in the choice of industrial location between various regions with natural resources.¹ As McKee puts it, "assuming that sufficient demand exists to make a region's natural assets attractive for capitalist stimulus, the extent of development can be predicted from the productive functions and location activities. The number of workers required, their spatial concentration and the income received are considerations of major importance."²

Location is also made on the basis of the social value placed on the space as such, that results in some kind of a 'free location' - climate, leisure activities, atmosphere, proximity to decision making centres etc.³

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factors like cost of transportation etc. have limited role when the firms will normally spend more to earn more profit. W. Alonso, Location and landuse, Cambridge: Harvard Press, 1964.

1. David L. McKee, Robert D. Dean and William H. Leahy, Regional economics, New York, 1970, p.54.
2. Ibid., p.60.
3. M. Castells, op. cit., p.134.

In many capitalist countries, both developing and developed, there are entire regions or cities where industries have developed as a result of "spontaneous" location either as the place of residence of the owner or where the founder had been 'able to create or take advantage of some opportunity'.

But most of the choices under capitalism are for either larger markets or for induced location in the already existing industrial and urban centres. Industries producing finished products depend heavily on regional population distribution and market potential which will provide them the labour force, the infrastructure as well as skill (in terms of inputs) and the profit (in terms of a large consuming population).¹ This means the application of the economies of scale and, in the process, the exclusion of all but large markets for industrial location. The material and social infrastructure of the existing urban centres (social and cultural amenities, schools, parks, health centres, meeting places, offices and comforts of daily living) and the facilities they have for training manpower (existing educational and vocational-technical institutions) add to the choice the cities, and that too

1. Ibid., p.134.

large cities, offer for industrial location in capitalist societies.¹

Under advanced capitalism the forces of concentration are spatially expressed in the agglomerative urban form. Capital, in the process of creating absolute surplus value, attempts to remove every spatial barrier to exchange and to market.² This means increasing freedom of industrial location from geographical constraints. Development in transportation and communication technology and homogenization of space (in terms of means of production) has loosened further the link between the location of industries and the natural resources or that between location and population concentration only. These changes in technology have made possible the management of the movement of commodities from greater distances and over greater distances.³ Location of industries now depend on a network of distribution of goods, services and information over a vast geographic area and the relative concentration of labour and consumer market.

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1. Richard A. Walker, op. cit., p.191; According to Isard one of the most important factors in industrial location is the relation between the need of space, cost of land and man-power. Location and space-economy: A general theory relating to industrial location, market areas, land use, trade and urban structure, Cambridge, 1967. Also, M. Castells, op. cit., p.134.
 2. K. Marx, Grundrisse, op. cit., p.408.
 3. M. Castells, op. cit., pp.131-32.

With the concentration of market and population at points, growth poles (spatially expressed through the 'metropolis') have appeared in capitalist societies. The polarized growth patterns of urban system within the framework of an already existing regional imbalance, further accentuates this imbalance.¹ This imbalance is reflected not only in the excessive growth of largest cities, but also in the urban agglomerations which characterize the advanced capitalist production. In the process of concentration, the developed regions develop into advanced complexes, whereas in the underdeveloped regions at best small and simple agglomerations take shape. The territorial production complexes in corporate capitalist societies are the result of spontaneous and quantitative growth of virtually independent industries which become subsequently interrelated with the progress of technology.² Where there is some disturbance in the existing balance or relationship these complexes face crisis. Factors such as cheap labour, cheap energy costs, cheap money and land costs and state or local tax incentives, are important in deciding the industrial growth of cities or

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1. According to Albert Hirschmann, the growth poles or metropolis are not only inevitable in the course of development process, but a condition of growth itself. Albert Hirschmann, The strategy of economic development, New Haven, 1958, pp.183-84.
 2. N.T. Agafonov, op. cit., pp.61-62.

complexes. It has resulted in deindustrialization of many urban areas or regions and the faster growth of other regions at the cost of the former. This is in conformity with the uneven character of capitalist development.¹

The spatial formation under capitalism is an outcome of the capitalist process of accumulation. The capitalists not only accumulate surplus by virtue of their ownership of the means of production, but they recirculate the surplus within largest urban areas. The spatial effect of such a process of accumulation and circulation of capital is to increase the regional disparity and unevenness.

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1. Since 1970, there have been major interregional shifts in employment, particularly in manufacturing in the USA. The older industrial cities of the Northeast and Midwest have suffered substantial decline in industrial jobs. Between 1970-73 the nine Northeastern metropolises with more than 750,000 population experienced job decline in manufacturing equal to their aggregate loss in previous 20 years period. In the South Atlantic States total employment increased between 1967-72 at a rate that was five times faster than middle Atlantic States. Hardest hit were major cities like New York, which suffered a net loss of 380,000 jobs between 1970-1975. Since 1970 the growth of whitecollar jobs in the Northeast has practically ceased. Michael Peter Smith, op. cit., pp.237-39. According to the Fainsteins, this shift of capital investment and employment resulted in a fiscal crisis in Midwest and Northeast. The permanent loss of high quality manufacturing jobs and their replacement by low-paid, low-quality service jobs created the inequality between a small high-paid corporate elite and a large pool of marginal service population. Norman I. Fainstein and Susan S. Fainstein, "Restoration and Struggle: Urban Policy and Social forces" in Urban Policy under Capitalism, edited by the same authors, Beverly Hills, 1982, pp.26-28.

In its drive for absolute surplus, capital colonizes space. Peripheral or less developed regions are further impoverished by a high rate of surplus extraction. Even they lose their existing potential in terms of resources and manpower potentials (out-migration) which means making the prospects for the development of these regions still remote.¹ The urbanization of productive forces under capitalism and their consequent unevenness can be summed up, in the words of Lenin, "agriculture hopelessly lagging behind the development of industry and within industry itself, the heavy industry takes precedence over other branches of industry."² Not only contradiction between old and new urban industrial centres but also between the metropolis and the nation-state appears as large economic units (firms, industries and poles) depend on their growth for imports, exports, supply centres and markets outside the politically organized area of the national states.³ The unevenness of industrial location not only exists in terms of distribution within a country's various regions but is also manifest in terms of location

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1. P. Scholler, "Problems and Consequences of urbanization" in Ronald Jones (ed.), Essays on World Urbanization, London, 1975, p.39.
 2. V.I. Lenin, "Imperialism, the highest stage of Capitalism", Collected Works, vol.22, Moscow, 1964, p.217.
 3. David L. McKee, Robert D. Dean and William H. Leahy, op. cit., p.103.

by countries and major regions within the capitalist world.¹

The spatial organization of the reproduction of labour power is expressed in terms of the everyday space required for the individual and collective consumption activities of the working class. With the objective socialization of production there is a concentration and interdependence of the means of consumption. Collective means of consumption is the total material requirements for the reproduction of social labour power. This is different from day-to-day perishable individual consumption of the worker. The collective means of consumption expresses the socially determined needs of the individual which he consumes collectively with others because of the very nature of these means of consumption.² Concretely these

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1. In the former case, for example USA, ~~there~~ two-thirds of manufacturing concentration was in industrial East in 1965 which accounted for less than 15% of the national territory. Within that region also several points had high proportion of concentration.

On a global scale, US alone in 1965 accounted for 40% of the manufacturing output of the capitalist world and together with Canada, the leading capitalist powers of West Europe and Japan accounted for 90% of the capitalist world manufacturing output. G.D. Kulagin and V.M. Gokhman, "Geographic Study of the principal industrial regions of the capitalist world" in Soviet Geography: Review & Translation, vol.VI, No.1, 1965, p.4.

2. K. Marx, Grundrisse, cp. cit., p.532.

are the totality of parks, housing, transport, medical, sports, educational, cultural facilities etc. Increase in productivity is more and more through the socialization of consumption because the extended reproduction of complex labour power requires the whole set of preconditions like concentration of means of training and education and research.¹

But the capitalist search for profit and surplus value puts certain limitations to the development of the collective means of consumption. The slow circulation of capital invested in many collective means of consumption (public transport, research centres, parks etc.) offers less imperatives for investment. But at the same time they are vital for the overall reproduction of the capitalist mode of production.² Collectivization of consumption also ensures the 'rational' and 'correct' consumption on the part of the workers. The unprofitable investments for creating the means of collective consumption are left to public agencies. The profitable areas for private investment are restricted to highly expensive luxurious

1. J. Lojkine, op. cit., p.133.

2. Private production of "social housing" because of the limited production of construction material. The rotation of capital invested in the production of construction material is less profitable and has a longer rotation period. J. Lojkine, op. cit., pp.133 and 152-53.

apartments for a few, or to speculations in land by big financial investors.¹ The state intervenes when the process of reproduction of labour power is threatened by lack of capital investment in housing and other means of collective consumption. The state expenditure creates conditions for the flow of private capital.² The already existing shortage in housing attracts speculators. State also attracts hesitant capital by creating solvent demand. Property development becomes a very lucrative enterprise. Supported by banks and other government or local bodies, these enterprises try to create a construction market by fabricating demand in advance.

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1. Historically housing question appeared where industry appeared within an existing urban area to profit from the already existing manpower. The sudden increase in urban concentration went beyond the accommodating capacity of the city that belonged to an earlier mode of production. Therefore housing question appeared. J. Lojkine, op. cit., p.155.
 2. The state by concentrating and rationalizing the manufacture of building material, and by creating a solvent demand on the basis of profit, attracts new capital.

The new entrepreneurs, builder-developers, large land-owners, real-estate brokers and the finance capital (banks, insurance and trust companies, saving and loan associations) formed a coalition to rationalize the commodification of the means of reproduction of labour power within the logic of market and profit.¹

The state in capitalist countries intervenes in times of severe crisis or under threats of mass social protest. But the state intervention in the form of public sector investment is usually for assuming direct responsibility of non-profitable investments and to create conditions of profitability so that private capital can again resume its profitable activities. This is done, for example, by way of supplying cheaper land to private builders.²

In developed capitalist countries public policies and programmes are uncoordinated, spontaneous and piecemeal

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1. The instrument by which this coalition effects this state of affairs are red lining, blockbusting, fixed mortgage rates, excessive profit mark ups, political influence and from time to time, simple corruption and swindling. Shoukry T. Roweis and Allen J. Scott, op. cit., pp.47-48.
 2. State intervention in land speculation and in the supply of building-land has almost amounted to the discarding of land nationalization policy. By freezing of land prices in certain zones and by creating advantageous conditions for the profit of the developer, the state has acted as an intermediary between the land-owner and the builder. M. Castells, op. cit., pp.162-63.

in nature and arise out of immediate response to crisis situations when strong economic forces threatened the 'smooth' functioning of the system.¹ In free-enterprise, decentralized market economies, the decisions are primarily taken by private individuals or groups and the instrument of collective (government) actions are placed under the service of the market forces and private competition.²

Thus under capitalism 'urban' plays an important role for industrial location and population concentration with concomitant concentration of services and employment, transport and communication, information and distribution and most important, production and exchange or circulation of commodities. Yet urbanization in the ultimate analysis is shaped and moulded by the needs of capital accumulation. The contradiction between individual capitalist and the plurality of commodity producers result in capitalist co-operation whose spatial expression is the urban agglomeration - a spatial combination of the various elements

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1. According to Brian J.L. Berry, there is no development and execution of an urban policy in either Canada or USA. B.J.L. Berry, The human consequences of urbanization, London, 1973, p.73.
 2. After the 2nd World War Japan like the USA followed the decentralized model of power structure containing competing interest groups, with accelerated centralization of population and economic activity, which sacrificed both public and private consumption to further capital formation and accumulation. Ibid., pp.169-70.

of production and reproduction. Marx analysed the relationship between the use value of social space and the concept of capitalist co-operation. Co-operation allows the work being carried on over an extended space... on the other hand, while extending the scale of production, it renders possible a relative contraction of ^{the} arena. This contraction of arena simultaneous with, and arising from, extension of scale, whereby a number of useless expenses are cut down, is owing to the conglomeration of labourers, to the aggregation of various process, and to the concentration of the means of production.¹ But the need to reduce the indirect costs of production, circulation and consumption in terms of agglomeration as a technical necessity operates within the law of capitalist competition. This contradiction between the socialization of productive forces and the private property relations gives rise to unequal development, imbalance in the population-consumption ratio and finally the urban crisis.²

1. K. Marx, The German Ideology, op. cit., pp.67-75.

2. The rapid growth of American cities has been accompanied by a substantial increase in the number and size of slums and blighted areas, as a result of inadequate housing, impaired economic values and tax revenues. The consequent flight of population and commerce from the central city, increasing cost of provisions of public services and poverty has led to severe urban crises in American cities. S. Sogg and Warren Wertheimore, "Legal and governmental issues in urban renewal" in Jame Q. Wilson (ed.), Urban renewal: the record and controversy, Massachusetts, 1970, p.126.

The law of capitalist combined and uneven development is also globally expressed with the integration of the capitalist world. The territorial shape of the international division of labour was expressed in terms of the unevenness in the development of the developed and underdeveloped capitalist countries. The urbanization of the latter spatially expressed the unevenness of this relationship while at the same time it also reflected the imbalances within the country. Like agricultural regions within the advanced capitalist countries, the underdeveloped countries specialize predominantly in a single commodity-agrarian raw material.¹

As exporters of primary products, the development of the economy is linked with export industries. Ports are the major cities as transshipment points and as distribution points for exports and imports respectively.² A few regions and their centres where the economic activity based on export industries are concentrated, urban settlements also develop

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1. This results in weak economic integration of national territories, of inter-industry and inter-regional links. Yakov Mashbits, "The economic-geographical features of developing countries" in Soviet Geographical Studies, No.39, Moscow, 1976, p.213.
 2. World population concentration pattern shows a ring of coastal cities round the developing countries whose heartlands are virtually empty. W. Alonso, op. cit., p.10.

and concentrate there.¹ In these countries the urban agglomeration reflects the unequal regional development of capitalist world. They are generally foreign trade outlets. These points of concentration grow very fast and create an abnormal disparity between the urban agglomerations and the country at large. The urbanization process in the underdeveloped capitalist world is characterised by the absence of relationship between industrial employment and urbanization; high rates of urbanization with a low urban development; a strong imbalance in the urban network leading to the predominance of one or a few areas; a faster rate of urbanization which within the context of a slower rate of economic development leads to population explosion in the largest urban centres; growth of service industries at the cost of manufacturing industries and the frequent hypertrophy of the capital-cities and the largest cities because of their export orientation and relatively weak link internally.²

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1. In Latin America, approximately one-third of the value of manufacturing industry output is produced in three conurbations - Sao Paulo, Buenos Aires & Mexico city. In Venezuela, 40 per cent of the manufacturing industry output and internal trade is located in the capital city. In Uruguay, the share of Montevideo, the most urbanized area in output of manufacturing industry is 75%. Yakov Mashbits, op. cit., p.221.
 2. The lack of jobs and services for the ever growing urban masses in the underdeveloped capitalist world reinforces the ecological segregation of the social classes and leads to polarized stratification in terms of consumption. Alan Gilbert and Josef Gugler, Cities, poverty and development, Oxford, 1982, p.23; and also Georgy Lappo, "Geographical aspects of urbanization studies" in Soviet geographical studies, Op.cit., p.198.

In short, capital organizes space in its own image. Urbanization in a capitalist society is integrally related to the laws of capital accumulation - reproduction of capital and labour power. This process leads to uneven development of space. As capital expands its sphere, this unevenness also reproduces itself locally, nationally and internationally. The development and underdevelopment of space are the two aspects of the same process, i.e., capitalist urbanization.

The urban process under capitalism, according to David Harvey, implies the creation of a material physical infrastructure for production, circulation, exchange and consumption. The built environment with its composite commodity comprising a large number of elements such as roads, canals, docks, hospitals, houses, offices and shops etc., function in relation to the aggregate processes of production, exchange and consumption. Investment in the built environment follows the capitalist tendency to overaccumulate and underinvest in a cyclical pattern. Overaccumulation is siphoned off via state and financial institutions and the creation of fictional capital within the credit system and put to work to take up slack investment in the built environment. At some point, when investment in this sphere becomes unproductive, the exchange value being put into it has to be written down,

diminished or even totally lost.¹ However, the devaluation of capital in the built environment does not destroy its use value. The physical resources created are treated as devalued capital and as such function as a free good which can form the basis for renewed accumulation.² The history of this process shows that investment in the built environment in the 18th century Britain was characterized by capital surplus and thus took place primarily for financial rather than use-value reasons.³ Another example cited by Harvey is U.S.A. where the whole land development process came to a halt when Andrew Jackson curbed land deals in paper currency and insisted on specie payment in 1836. The role of fictional capital and the credit and money supply system, according to Harvey, has always been fundamental in relationship to the various waves of speculative investment in the built environment.⁴ Another historical

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1. David Harvey, "The urban process under capitalism: a framework for analysis" in Michael Dear and Allen J. Scott (eds.), Urbanization and Urban planning in capitalist society, London, 1981, pp.103-6.
 2. Ibid., p.106.
 3. Investment in Britain during this period was mainly in property (much of it for conspicuous consumption by the bourgeoisie) in turn pikes, canals and rents (agricultural improvement) as well as in state obligation. Ibid., p.111.
 4. Ibid., p.111.

evidence is the 'Atlantic economy' of the 19th century, where long waves of investment in built environment moved inversely between Britain and U.S.A. within the framework of the world economy of the time. The movement of British capital overseas or vice-versa due to the commercial crisis of the 19th century characterized the global process of geographical expansion of capital that created uneven spatial development of the built environment.¹ The failure of capital to utilize the mechanism of uneven spatial development leads to global crisis like in the 1930s and 1970s. Each global crisis, according to Harvey, was preceded by massive movement of capital into long-term investment in built environment as a last desperate attempt to find productive use for rapidly overaccumulating capital.² The collapse of the extraordinary property boom in many advanced capitalist countries between 1969-73 triggered (though not caused) the global crisis.³

Capitalist development, in short, is a perpetual struggle to create a landscape appropriate to its own conditions at a particular time and at the same time to have to destroy it in times of crisis to open up fresh

1. Ibid., pp.106-8.

2. Ibid., p.108.

3. Ibid., p.108.

avenues for accumulation.¹ At the same time, capitalist urbanization is not simply a modification of the landscape that might leave some territories stagnant and others prosperous, it is also an exploitative relation between urban and rural space. The exploitative relationship is symbolized by the migration process where the disappropriation from land is the major basis of rural-urban migration. Capitalism creates a vast army of landless labour in the villages so that the flow of cheap labour to the cities is ensured. The creation of working class under capitalism is a painful process and the spatial organization under this system perpetuates the exploitation of the working class.

Modern/Socialist Urbanization

Subsequent chapters will discuss in detail the urbanization process in Central Asia under a socialist system. Here certain ideological and theoretical aspects of socialist urbanization are outlined. Unless the motive forces are known the implications of a socialist planned economy cannot be correctly comprehended.

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1. In order to overcome spatial barriers and to annihilate space with time, spatial structures are created which in turn become future barriers for further accumulation. The spatial barriers are expressed in terms of immobile transport facilities and ancillary facilities implanted in the landscape. The geographical landscape which was the crowing glory of past capitalist development at the same time expresses the power of dead labour over living labour and as such imprisons and inhibits the accumulation process within a set of specific physical constraints. Ibid., p.113.

Urbanization in the socialist mode of production expresses the socio-territorial division of labour, aimed at over-coming the rural-urban contradiction through rapid and balanced development of the productive forces and their rational regional and sectoral organization. Socialism is characterized by the absence of private property, and consequently, the mechanism of market and profit in the interest of private property does not play any role in the organization of economic and social activities. The state is the regulator of economic and social life and planning is the basic instrument for the conscious use of the economic laws.

In a socialist society, social considerations like full employment of man-power; territorial changes in the settlement and migration patterns of population; growth of new urban centres and other population centres; the availability of manpower in one economic region or another, their skill levels, sex and age composition and the national peculiarities of regions; are considerations that become decisive in the planned territorial division of labour.¹ "Socialism", as Lenin pointed out, "would

In USSR,

1. /on 11th October, 1930, People's Commissar of Labour declared the liquidation of unemployment and stopped the payment of dole. Alexander Baykov, The development of the Soviet economic system, Cambridge, 1970, pp.213-14.

Migration process in the socialist system is not related to unemployment or overpopulation, but is
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bring about a redistribution of the human population, thus putting an end both to rural backwardness, isolation and barbarism, and to unnatural concentration of vast masses of people in big cities."¹

Socialist urbanization spatially expresses the steady growth of labour productivity by even distribution of productive forces (in terms of instruments of production and the labour force). Population settlement and distribution of industry is seen as a single problem of organization of territory; planning is intended to bring about a conformity between the structure of social labour

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commensurate with the growing economic potential of cities. Migration from rural to urban areas accounted for 63% urban population growth of cities between 1927-1938 in USSR. V. Larmin, V.M. Moissenko and B.S. Khorev, "Social-demographic aspects of urbanization" in Soviet Geography, vol.13, No.2, New York, 1972, p.104. The migration to the Eastern region of USSR, which was neglected during the Czarist period, was very fast. Out of a total of 5.1 million migrants from West to East in the USSR, 4.7 million people settled in the East (excluding Urals) between 1926-1939. The urban population share of Union republics (excluding RSFSR) increased from 18% in 1926 to 30% in 1939-40, their share in urban population of cities (over 100,000 population) rose from 41 to 46 per cent and that of cities (over 500,000) from 16 to 21 per cent in the same period. V.G. Davidovich, "On patterns and tendencies of urban settlement" in Soviet Geography, vol.7, No.1, New York, 1966, pp.13-15.

According to Scholler, socialism, while taking economic forces as the leading agents of history and urbanization as social symptoms of industrialization, does not have the aim of concentrated agglomeration. Whereas socialism strives to overcome rural-urban contradiction by overall urbanization of the countryside, capitalism assumes the forces of concentration and agglomerative urbanization as natural. P. Scholler, op. cit., p.38.

1. V.I. Lenin, Collected Works, vol.I, Moscow, 1964, p.453.

expenditure and the structure of social needs, a definite correlation between industry and agriculture, between various branches of industry and between various sectors of the economy etc.¹

Since labour constitutes not only the object of social reproduction, but also the subject for whose sake the reproduction is effected, the reproduction of the socialist mode is associated with the full and rational employment of the population. Under capitalism mobility of the population is due mainly to the ruin of the peasantry and the search for jobs under conditions of chronic unemployment. Under socialism, territorial redistribution of population and manpower are determined in the final analysis by the planned territorial distribution of productive forces.²

The socialist accumulation is characterised by the beginning of industrialization drive on the basis of heavy industry which has to depend on domestic sources of accumulation. The sources are state control over the economy, the financial and banking system and the natural resources

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1. S.P. Trapeznikov, Leninism and the agrarian and peasant Question, Moscow, 1981, p.25.
 2. Under capitalism the "expellant factor" plays a predominant role in migration and not the principle of equilibrium between "push and pull" factor. V.V. Pokshishevskiy, V.V. Vorobyev, Ye.N. Gladysheva and V.I. Perevedentsev, "On basic migration patterns" in Soviet Geography: Review and translation, vol.V, No.10, 1964, p.4.

of the country. Public ownership over the means of productions helps to channelize the income from industry, agriculture, trade and commerce into proper investment and further accumulation. The planned character of socialist industrialization rules out crises, competition and unemployment. Absence of anarchy in production, co-operation between regions and sectors ensure a continuous growth of production and productivity and characterise socialist accumulation process.¹

The division of labour in the socialist society is spatially expressed through territorial-production complexes (concentration of industries, the growing scale of production and the planned formation of the economy of all the regions).

Location of industries in a socialist economy is characterized by its proximity to raw materials and lowest consumption of labour power in all stages of production. The location of the interlocking stages of production (industry) territorially, from extraction to finishing stage, is intended to ensure maximum productivity of social labour and minimum labour expenditure.² The spatial structure of productive forces in the socialist society is shaped on the basis of rational location of industry, territorial division of labour, specialization and the

1. S.P. Trapeznikov, op. cit., pp.42-43.

2. V.I. Lenin, Collected Works, vol.27, Moscow, 1964, p.320.

need for an integrated approach to regional economic development and the concentration of production and the organization of large-scale industrial enterprises.¹ Special attention is paid to a comprehensive approach of the economic relations within each area and on the basis of which territorial-production complexes are built.² The future basis of the spatial organization of the productive forces under socialism was laid with the GOELRO Plan for the electrification of Soviet Union in 1920.³ The system of forming territorial production

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1. Lenin pointed out that within the system of territorial division of labour, certain districts would specialize in the production of some one product, of one sort of product and even of a certain part of a product. V.I. Lenin, Collected Works, vol.31, Moscow, 1970, p.431.
 2. Lenin emphasized the need to start with territorial 'complex', "even if on a small scale, meaning not just one form, one industry or one factory, but a totality of economic relations, a totality of economic exchanges, even if on a small locality". V.I. Lenin, Collected Works, vol.32, Moscow, 1970, p.355.
 3. The GOELRO Plan was the beginning of the concept of economic zoning or regionalisation in the USSR. This plan embodied in itself elements of territorial planning - long term forecasting, economic zoning, complex development of regions and specialization of their economy etc. The plan ranged over about 10 years and gave an indication of the number of workers and capacities and also gave site of the first 20 steam and 10 water power district electric stations with a detailed description of the economic importance of each. This was followed by a list of works for each area - Northern, Central industrial, Southern, Volga, Urals, Caucasian, Western Siberia and Turkestan. For the details of GOELRO, V.I. Lenin, On development of heavy industry and electrification, Moscow, 1979, pp.72, 80, 95.

complexes have gone a long way in the USSR which spatially expresses the creation of ever better forms of the organization and location of productive forces.¹ The spatial forms symbolize the connection between concentration of industry, the growing scale of production and planned formation of areas through a system of group location of enterprises, enhancing efficiency of social production, saving on material inputs, best use of man-power resources, solution of social problems and balanced growth of regions.

The process of urbanization under socialism was not simply a concentration of productive forces at the industrial stage of their development, nor was it simply a concentration of population in urban settlements. It was also not a process of concentration of complex functions within the network of settlements. The process of urbanization under socialism is the balanced development of the territorial organization of the settlement network as a single whole across the whole national territory, formed in accordance with the principles of the socialist location

1. The economic zoning of USSR as a system of regional production complexes really began with the drafting of the Dnieper Dam project (1921-27) which provided for the comprehensive development of the natural resources and the manpower of a major thickly settled economic region (southern mining & industrial region) as big as a European country. Yu. G. Saushkin, Economic Geography, Moscow, 1980, p.84. In the 1930s, the Ural-Kuzbas complex was built as a major regional production complex. N. Nekrasov, The territorial organization of Soviet economy, Moscow, 1974, p.120.

of productive forces.¹ The spatial and hierarchical structure of the network of settlement would enable the state to intervene in the objective processes to fulfil the tasks of its economic development and the overall goals. This would develop ultimately an improved spatial system of settlement that would even out the living conditions and the standards of living of the urban and the rural population.² The urban settlement pattern refers to the 'network of urban settlements and their functional territorial interrelations; i.e., it could refer to a particular complex of territorial system of urban settlements'. The network of urban settlements or towns is a territorial (district, region, country etc.) complex of

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1. B.S. Khorev, "Problems of modern urbanization" in D.I. Valenty (ed.), The theory of population, Moscow, 1978, p.339.
 2. For a definition of the system of unified settlement, whose objective is to remove the fundamental distinction between urban and rural settlements (in terms of organization of labour & technical equipment, level of productivity, working conditions, living standards and everyday services etc.). Enrid Alayev and Boris Khorev, "Formation of a unified settlement system in the USSR" in Soviet Geographical Studies, op. cit., pp.170-71.

This system while being capable of absorbing the territorial shifts in industrial location would also leave scope for objective processes like concentration of population (even territorial), the growing size of urban population and the territorial mobility of the population.

— urban settlement or towns. The functional territorial interrelations between urban settlements (towns) and that between town and its surrounding area within a territorial unit (i.e., the relationship between the network of urban settlement and the territorial unit to which it is tied) constitutes the system of urban settlement pattern.¹

Urbanization, based on the principle of an "expanding geography of productive forces", results in the expansion of the network of large cities with previously backward regions becoming economically activated. The share of the largest and oldest cities in the total population of large cities steadily declines. Urbanization and the numerical growth of large cities indicate at a certain stage of development a more uniform distribution of productive forces and not a deepening of the inherited unevenness of distribution.² Socialist agglomerative urbanization

1. In 1920's special laws were passed specifying the categories of urban settlements in the RSFSR, the Ukrainian, the Byelorussian and the Georgian Socialist republics, which played a major role in regulating the allocation of population settlements to definite categories. G. Goldstein and D.F. Sly (eds.), Patterns of Urbanization: comparative country studies, vol.2, Ordina, 1977, pp.649-653.

2. The share of seven largest cities of USSR (Moscow, Leningrad, Kiev, Tashkent, Baku, Kharkov and Gorkiy) in the total population of large cities dropped from 60% in 1926 to 40.7% in 1939. D.G. Khodzhaev and B.S. Khorev, "The conception of a unified system of settlement and the planned regulation of city-growth in the USSR" in Soviet Sociology, vol.13, No.2, New York, 1972, p.92.

The distribution of large cities in USSR showed more evenness. In 1926, the eastern part of the USSR had no large city (with 400,000-1,100,000 population) at all, but in 1939, the east had 1/5th of such large cities. Figures from V.G. Davidovich, "On patterns and tendencies of urban settlement", op. cit., p.20.

is characterized by the location of industry and other city forming objects in groups of decentralized enterprises distributed in a dense pattern over large areas.¹

Thus a historical analysis of the qualitative growth of urban spatial forms proves the correctness of the assertion, that, in the ultimate analysis every socio-economic formation creates its own spatial form. The structure and function of the urban spatial form develops in accordance with the widening of the social and territorial division of labour. The division of society into antagonistic classes based on private property and the development of the commodity production, are spatially expressed in the antithetical movement of urban-rural dichotomy. From simple differentiation between town and country based on simple exchange in ancient period (which Marx characterizes as the stage of 'ruralization of the city') to the economic domination of the countryside by the urban areas during feudal period and finally to the wholesale or general exploitation of the rural areas by the city under capitalism, underlines a complex process, the essential kernel of which is the division of labour

1. For a detailed analysis of the process of growth of urban agglomerations in USSR before the 2nd World War, V.G. Davidovich, "Urban agglomerations in the USSR" in Soviet Geography, vol.5, No.9, New York, 1964, pp.40-41.

brought about and developed by commodity production.¹

The abolition of private property, the non-existence of the antagonistic classes and the declining role of commodity production and market under socialism radically alters the relationship between urban and rural areas. The contradiction between town/^{and}country is sought to be resolved by the urbanization of the countryside.

The process of urbanization and the development of the working class is related. The industrial working class under capitalism is formed by the impoverishment of the countryside. Under socialism the improvement of the countryside provides the necessary labour force. Under capitalism existing labour force in an urban area creates further industrial location in the urban area. This process of concentration of production results in the concentration of the labour force in an urban area. The contradiction between the capacity to absorb and the unlimited concentration of the labour force is characteristic of capitalism, which exploits the employed labour force by maintaining a reserve army of labour in the industrial-urban centres. In contrast to this, under socialism, the more the surplus labour the more is the dispersal of urban centres. Every region strives to utilize its surplus manpower, which is brought about by improving agriculture, in

1. K. Marx, Capital, vol.I, op. cit., p.333; and also K. Marx, Grundrisse, op. cit., p.479.

furthering urban-industrial transformation of the region. While capitalist urbanization process accentuates differences between the workers in production and in non-production sphere; between workers in material production and in non-material production; between workers in industry and in agriculture; and finally between workers in the cities and in the countryside, socialist urbanization strives to resolve these contradictions. The vertical mobility within the working class under capitalism is limited, whereas the process of urbanization in the socialist system creates ever wider conditions for the upward mobility within the working class. Under capitalist system of production, technological substitution throws workers out of employment, the worst sufferers being the unskilled workers. Under socialism every introduction of technology creates more free time for the workers and increases their productivity.

Central Asia, which was a colony of Czarist Russia, presented peculiar problems for the Soviet State. It lacked an industrial base and had no indigenous urban industrial working class. The next chapter will be a focus on the Czarist period of urbanization and working class growth and that in the pre-1950 Soviet period in Central Asia. Both these parts of the same chapter will serve as a background for discussing the actual problem, which is undertaken, i.e., patterns of urbanization and growth of working class in Soviet Central Asia between 1950-1975.

Two republics of Central Asia have been chosen for intensive study. This has a particular relevance for studying the process of socialist urbanization process. Within the general backwardness of Central Asia at the time of revolution, these two republics of Uzbekistan and Tajikistan had a relatively more advanced socio-economic structure than the rest of Central Asia. These two republics also gave Central Asia its characteristic cotton specialization. Since the expansion of cotton cultivation was the key to the urbanization process in Tsarist Central Asia and also because Central Asian industrialization in the Soviet period was mainly based on cotton, these two republics possessed relatively better conditions for rapid socialist transformation than the rest of Central Asia. Hence, these two republics are fairly representative of the general pattern of urbanization and working class growth in Central Asia.

Chapter II

CENTRAL ASIAN URBANIZATION AND
WORKING CLASS GROWTH IN HISTORICAL
PERSPECTIVE, 1850-1950

Since the advent of Civilization, the outgrowth of property has been so immense, its forms so diversified, its uses so expanding and its management so intelligent in the interests of its owners that it has become, on the part of the people an unmanageable power. The human mind stands bewildered in the presence of its own creation. The time will come, nevertheless, when human intelligence will rise to the mastery over property, and define the relations of state to the property it protects, as well as the obligations and limits of the rights of its owners.

(Lewis H. Morgan)

Part I: The Tsarist Period

Central Asia entered into modern industrial era with the advent of capitalism that followed in the wake of Russian imperialist expansion into Central Asia in the last quarter of the nineteenth century. However, the growth of capitalism was stunted and distorted within the Tsarist Russian colonial framework, which integrated Central Asia with all its archaic relations in a centre-periphery relationship with Russia. The Russian colonists preferred not to meddle with the existing social and economic relations and left them fundamentally unaltered, while ruling through the feudal aristocracy.¹

Agriculture in Tsarist Central Asia:

(Cotton attracted the Tsarist colonizers as most of the Russian trade and industrial capital was drawing towards cotton and Central Asia was gradually turned into a predominantly single commercial crop economy.) Central Asia became a raw material supplying source for Russian industries. Under Tsarist government's encouragement the cultivation of cotton began to expand rapidly in Central Asia. The impetus was provided by better marketing facilities, finance and credit facilities, transportation facilities etc. Cotton shipment to Russia grew by leaps with the creation of the

1. Azizur Rahaman and Dharam Ghal, Collective agriculture and rural development in Soviet Central Asia, London, 1979, p.2.

first rail connection, i.e., the Transcaspiian railroad.¹

Other methods of converting Central Asian agriculture into single-crop cash farming included seizure of land by the colonizers. The Russian colonizers seized the best land and rented it out to local peasants. Huge tracts of land were also grabbed by the Tsarist government and the Tsar himself. On these types of lands cotton cultivation supplanted grain farming. For example, the 104,000 dessyatsins of irrigated land belonging to the Tsar's personal estate in Bairam Ali was rented out to the local peasants. The tenants were not only obliged to grow cotton on these lands, but were also to sell that cotton to the cotton-ginning and cotton-oil enterprises at low prices.²

Under these circumstances, the area under cotton increased dramatically. The acreage under cotton cultivation increased from 41.4 thousand dessyatsins in 1885 to

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1. Due to tax privileges and protective tariff, cotton became 3 to 4 times as valuable as grain crop in a given area. R.A. Pierce, Russian Central Asia, 1867-1917: A study in colonial rule, p.166.

By 1902, American cotton was grown on an area of nearly 200,000 dessyatsins. As compared to 2,573,000 poods of cotton exports in 1890 from Central Asia, the amount rose to 7,000,000 poods in 1901 and 13,181,000 poods in 1911. Ibid., p.166; Also Hugh Seton-Watson, The Russian empire (1801-1917), Oxford, 1967, p.504.

2. V. Solodnikov and V. Bogosolovsky, Non-Capitalist development, Moscow, 1975, p.40.

541.9 thousand dessyatins in 1915, i.e., an increase by thirteen times.¹ Especially distinctive was the development of cotton cultivation in Uzbekistan and Tajikistan, the two areas of Central Asia where sedentary farming was predominant at the time of Tsarist expansion. Most of the cotton cultivation in the country came to be concentrated in Uzbekistan. In 1913, out of the total area under cotton in the Russian empire as a whole, 61.8% was in what is today Uzbekistan.²

The importance of cotton to Central Asian economy was not simply in terms of the increase in the area of cultivation.³ But more important was the role of cotton in transforming the whole nature of Central Asian agriculture into a commercial one with all its corresponding social consequences. By the early twentieth century, more than half of the total income from Turkestan's agricultural production came from cotton.⁴ Cotton cultivation became 'the most viable economic pursuit for the small rural peasant

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1. R.R. Sharma, A Marxist model of social change Soviet Central Asia: 1917-1940, Delhi, 1979, p.9.
 2. In 1913, the area under cotton cultivation in the Russian empire totalled 688,000 hectares, out of which present day Uzbekistan accounted for 425,000 hectares. 40 years of Soviet power in facts and figures, Moscow, 1958, p.164.
 3. By 1911, about half of Russia's cotton need was fulfilled by Turkestan cotton. R.A. Pierce, op. cit., p.166.
 4. Ibid., p.166.

households'. In some areas like Samarkand, Syr-Darya and the Transcaspia, as much as 75 to 80% of the cultivated area was under cotton cultivation. The share of Turkestan cotton in the cotton textile industry of Russia came to constitute 70% by 1914-15, and 73% in 1915-16.¹

Class relations in Tsarist Central Asia:

Cotton cultivation sharpened class differentiation in the Central Asian agriculture: at the lowest extreme were the poorest peasants, the landless and the tenant farmers and at the upper most extreme were the rich landlords, usurers and the Kulak class.) The rapid impoverishment of the mass of the peasant population in the process of transition from primitive natural economy to commercial farming was manifested by the growth of the landless section and the increasing indebtedness of the poorest peasantry. In the cotton districts of Turkestan, for example, 30 per cent of the population was landless, 40% had one head of cattle per family or none at all, 30% was entirely propertyless and homeless. Similarly, the indebtedness of the poorest section of the peasantry increased by about 100 per cent within two years between 1909-1911. Conditions were similar in the Khanates of Bukhara and Khiva.²

1. R.R. Sharma, op. cit., pp.9-14.

2. Joshua Kunitz, Dawn over Samarkand, Calcutta, 1943, p.25.

The Russian capitalists, while seeking to convert Central Asia into a single one-crop economy, converting all suitable land to cotton culture and commercialized agriculture, retained feudal relations in agriculture. (The Russian agricultural policy in Central Asia resulted in a partial redistribution of waqf land (because of taxation) and in the break-up of the mulk estates of greater landlords.) This left the cultivators faced with the responsibility of managing the land themselves and also of adjusting to a new crop that was more expensive and time-consuming than grain. The small farmers, thus, were exposed to the insecurities of a money economy. In the process a new differentiation arose and there came to the agrarian scene the new entrepreneur-landlords, i.e., entrepreneurs who advanced seeds and other necessities to the farmer and obtained title to the land in case of failure of repayment. The Russian rule only partially replaced the traditional landlords by new entrepreneur landlords and employers.¹

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1. For example, in 1914, in Ferghana oblast 25% of all farms were cultivated by and worked by peasants who did not own the land.

Elizabeth E. Bacon, Central Asia under Russian rule, A study in cultural change, New York, 1966, p.108.

In 1916, over 60% of the settled agriculture consisted of poor peasant farms, 24.4% were the middle peasant farms, 13% bai households and 0.1% belonged to the large landowner type.¹

Central Asian agriculture was characterised by the small size of holdings and the primitive techniques of farming, which kept productivity of labour at a low level. The average size of holding in Central Asia was 1.5 to 2 dessyatins of land.² The system of land relation and the chronic shortage of labour gave rise to the Chairikari system, under which the share-cropper received as little as one-fourth or even one-fifth of the produce.³

Cotton cultivation was based on small-scale farming. In Turkestan, holdings with sizes between 0.5 to 13.5 acres accounted for 90% of all the marketed cotton. Though large masses of the peasantry were becoming landless, it did not give rise to large plantations. The policy of

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1. Bais were the Kulak class. While the bais were the main exploiting class in areas where commercial farming had developed, the other exploiting classes were khans and beks (among the Turkmens) and the manaps and bees (among the Kirghiz). Devendra Kaushik, Central Asia in modern times, Moscow, 1970, p.69.
 2. R.R. Sharma, op. cit., p.12.
 3. Ibid., pp.12-13.

least investment in agriculture by both the Russian colonisers and the local feudal lords encouraged the existence of small holdings by the use of chairikari (share-cropping) system of farming.) The share-croppers paid upto 80% of their harvest to the landowner and this provided the incentive for landlords to continue with the old system and not go for large-scale plantation farming.}

Within the existing production relations the growth of cotton was extremely limited and uneven. The bulk of the cotton came from the Ferghana region. It had just started on a substantial scale in Syr-Darya, and its production in Samarkand was hindered. The chairikari system of share-cropping meant the continuation of old methods of farming by poorer farmers. For example, the system of terraced field was not introduced. The farmers followed their own familiar method and the draining off of the surplus water after irrigation into low-lying ground formed a swamp that was customary in Central Asia, and laid waste much land this way.² Modernization and mechanization of farming was prevented by the existing system of land holding. Cotton farming was not developed into a well regulated industry. Based on small farming, lacking in capital resources, production was easily affected

1. R.R. Sharma, op. cit., p.12.

2. Count K.K. Pahlen, Mission to Turkestan, London, 1964, p.93.

by natural calamities or other vagaries.

The other vagaries were those created by the ruinous influence of capitalism. Since investment under capitalism was based on profit maximizing consideration, cotton cultivation was affected by this tendency of capital. Investment by banks shifted to mining which was more lucrative and easier to develop. Banks were less interested in investing in cotton by the beginning of this century. Even whatever credits were granted by the banks were, under the existing class relations, cornered by the rich usurers and when through several intermediaries it reached the farmer, the interest was exorbitant.¹

The haphazard and unsystematic methods of cultivation not only affected crop productivity, but also land productivity. After the best suited lands for cotton cultivation had been exhausted, there was no corresponding expansion of irrigated lands, thus affecting the total yield.

The development of irrigation was similarly constrained by the unwillingness of the Russian administration to invest in irrigation and by the profit maximizing nature

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1. A report submitted to Count Pahlen on a tour of a specific district revealed that the terms of credit established over the years was 60% and even 100% as a fair rate of interest. In another village in Namangan the debts of the inhabitants registered by the Kadi amounted to 800,000 roubles. K.K. Pahlen, op. cit., pp.101-102.
 2. The average cotton yield per hectare in 1883 was between 0.3-0.7 tons. Soviet Uzbekistan Past, Present and Future, Tashkent, 1983, p.20. .

of private capital. The colonisers were not willing to invest money on the development and modernization of the irrigation system. They continued to rely on extensive farming and utilized the existing feudal relations in villages for development of irrigation. Since cotton acreage and yield was expanding on the basis of crop substitution, the Russian government encouraged this trend, rather than invest on modern irrigation to bring virgin land under cotton cultivation. By keeping the farmers unfree and impoverished, cheap and even unpaid labour was made available on canals and dykes. According to Count Pahlen, the ordinances requiring the population to supply an unlimited number of labourers for work on the dams, made in the days of Bukharan rule, were maintained by the Russians. Every year thousands of men were sent to catchment areas, particularly round the dams when the river Zeravshan was flooded. This situation continued till the end of the 19th century.¹ This resulted in an irrigation system that was neither developed nor modern. Another method used for maintaining the irrigation system was the use of private capital. In the later period of the Tsarist rule, private capital, as usual, shrank from investment in irrigation works and flowed into the more lucrative area of mining.²

1. K.K. Pahlen, op. cit., p.29.

2. Ibid., p.102.

Agriculture continued, thus, on a poor scale, without improved and organized irrigation, which was very vital for the prosperity of the Central Asian oasis, especially for cotton cultivation. Not only did cotton require intensive farming, but even its expansion to a large extent depended on intensive grain cultivation, since grain acreage was shrinking with the expansion of cotton. Such was the exploitative policy of the colonial administration that the expansion of cotton cultivation was always limited by the grain factor. Transport rates were made favourable for the supply of raw cotton to Russian textile industries and made unfavourable for Siberian grain to Central Asia through the high railway tariff.¹ While low prices of cotton favoured Russian industrialists, high prices of grain similarly benefitted Russian grain traders. The import of Siberian grain with all the difficulties of transportation to Central Asia and the accompanying high prices of grain had negative impacts on the expansion of cotton farming. Thus the colonial relations combined with the indigenous feudal relations came in the way of further expansion of cotton production. Irrigation by forced labour, that was highly unproductive and primitive in terms of technique, could affect only a small portion of the land area. In the colonial period, only 2% of the

1. Violet Conolly, Beyond the Urals, New York, 1967, pp. 32-33.

vast territory of Central Asia was irrigated¹

Rural and agricultural development of Central Asia was not possible within the colonial framework which was seeking for the expanding textile industry of the metropolis in Russia internal sources of supply at a time when American supply of cotton was disrupted by American civil war. This is why the Russian capitalists sought to convert the Central Asian economy into a single cash-crop economy, convert all suitable land to cotton farming and ship in grain from Russia.² This policy drew Central Asia into the commercial network of Russian capitalism, without developing the former's productive forces to any great extent or radically changing her production relations.

With the growth of Russian capitalism, Central Asia became a source of raw silk and cotton for Russian industrialists. Manufacturing in Central Asia of textile was prohibited so that the exploitative relation between the European industrial region and Central Asia continues. Whatever developments came about in the colonial period were intended to transform her into an effective colony. The beneficiaries of such development were the top sections

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1. Majorie White, "The Uzbek republic - Land of awakened people" in The American Quarterly on the Soviet Union, vol.6, No.4, 1945, p.20; R. Tuzmuhamedov, How the national question was solved in Soviet Central Asia, Moscow, 1973, p.62.
 2. Elizabeth E. Bacon, op. cit., p.107.

of Russian manufacturers and a few indigenous merchants who made huge fortunes. The vast masses of the peasantry continued to live a miserable life, more so under the colonial system which exposed the peasantry to the dual exploitation of a feudal land-tenure system as well as the capitalist cash nexus. Central Asian peasantry under Russian rule was pauperised by a host of land-lords, merchants, usurers and tax collectors, and continued to pay feudal dues and also corvee for building, dredging and repair works on canals, roads and bridges.¹

(The class structure in Central Asian society underwent change under the impact of Russian colonialism.) There arose a new and prosperous middle class in the cities of Central Asia with the economic changes brought about by colonialism. Merchant entrepreneurs from the ranks of the indigenous population profitted from advancing money to the peasant cultivator and selling his cotton to the Russian textile agents. Local enterprise also was stimulated with the growth of industries to clean the cotton, process the fibre and press its seeds into oil, as well as vodka distilleries and winneries to cater to the needs of the Europeans.² In 1913, the peasantry constituted 74.6 per

1. Majorie White, op. cit., p.20.

2. Elizabeth Bacon, op. cit., p.109.

cent of the population in Turkestan, workers and employees constituted 5%, urban bourgeoisie 6.0%, the rural bourgeoisie 13.0% and the landlords 1.4%.¹ The peasantry not only was the section that constituted the overwhelming majority of the population but it was very strongly tied to the land by the existing production relations.) Its transformation into urban working class was extremely slow. (The colonial-feudal relations limited the mobility of the population from rural to urban areas and thus restricted the process of urbanization.) Since the productive forces in agriculture developed slowly, if at all, most of the population remained attached to agriculture. Apart from the fact that cotton farming was more intensive and so required more labour power per hectare than grain, (the modernization of farming was also not undertaken.) The level of mechanization can be seen from the fact that there was only one metal plough per 700 peasant holdings in Central Asian agriculture.)² Existing production relations also severely handicapped the transformation of the Central Asian peasantry into modern urban working class. (While feudalism prevailed in agriculture, capitalist relations and a system of hired labour in

1. Donald S. Carlisle, "Uzbekistan and the Uzbeks" in Zev Katz, Rosemarie Rogers and Frederic Harned (eds.), Handbook of major Soviet nationalities, New York, 1975, p. 285.

2. Soviet Uzbekistan Past, Present and Future, op. cit., p. 9.

agriculture were only at an initial stage by the end of the colonial period.) The dependence of the peasantry on the local feudal lords was so deep that even the family members had to work on lord's farm. This system offered no incentive to the peasants to increase either the quantity of the produce or the quality of the labour input.¹ The prevalence of share-cropping meant that the impoverished and landless peasants were still confined to land and agricultural activity. (For example, in Uzbekistan, manpower used by cotton plantation owners consisted of only 35-40% day workers and farm hands and 60-65% of metayers (share-croppers)). Only a part of the land on estates was used for large-scale production based on the use of hired wage-labour. (Most of the land was leased to metayers. In the total of 481 landlord farms, 68.2% of the crop area was cultivated by metayers; 12.7% was leased for cash payment; 19.1% was cultivated by day-labourers and farm hand.)²

Industrialization and migration
in Tsarist Central Asia:

In the absence of large-scale commodity sector in agriculture, i.e., the development of large plantations or farms, using wage labour, mechanization and modernization of farming did not come about. Peasants and their families

1. R.R. Sharma, op. cit., p.12.

2. The Soviet Peasantry. An outline history (1917-1970), Moscow, 1975, p.116.

had to use most of their labour power on rented land, employing primitive and unproductive farming methods. This slowed the process of growth of the rural working class and so also a surplus labour in rural areas that could migrate to urban areas.

However, the most serious handicap was the existence of colonialism itself, which kept Central Asia perpetually backward by preventing her industrial development. While the peasantry was getting impoverished and landless, there was no corresponding industrial development to stimulate migration to the urban areas from the rural areas. Colonialism by artificially preventing the growth of Central Asian industry, a glaring example of which was the total prohibition on manufacturing of textiles in Central Asia, also slowed the process of urbanization and the growth of working class in Central Asia.

The ruling classes of the metropolis took every care to prevent the growth of industry in Central Asia since any competition from the indigenous industry would have meant depreciation of capital investments in the metropolis itself. To preserve their high profits, the colonial ruling classes had to ensure their monopoly position and that could be done by eliminating any competition from the native capital. Even extra-economic, administrative methods were used to prohibit the industrial development of Central Asia.

The extra costs incurred in the process of centralizing production in the metropolitan centres and having raw material sources and markets away from production centres were covered by non-equivalent exchange of the manufactured products of the metropolitan centre for the raw material of the colony and by favourable rail transport rates.¹

The position of Central Asia within the colonial structure as a source of agricultural raw materials determined the nature of her industrial development. Thus the only industries existing were in the primary processing of cotton so that transshipment to Russian industries could be facilitated and many unnecessary costs be avoided. Ginneries, oil mills and tanneries were the predominant branches.

The industrial pattern in Central Asia revealed the nature of colonial industrialization. It was primarily related to cotton and that too because some of the unprofitable and wasteful processes in terms of cost-benefit had to be avoided by Russian capitalists. So primary processing of cotton and food products were carried out in the places of production itself and mostly by native capital. In 1913, over 80% of the gross industrial production in Central Asia consisted of primary processing of raw cotton, approximately 15% in the production of food and vegetable oil and only

1. P. Alampiev, Where economic inequality is no more, Moscow, 1959, p.35; Also, Majorie White, op. cit., p.20.

about 5% in other branches.¹

Uneven development of industry structurally as well as spatially was characteristic of Russian capitalism both at the macro and micro level. Industry was concentrated in a few areas, mainly on the border of the old Russian areas of Poland. Only 1.8% of total industrial production was from Turkestan. Only 0.4% of the output of coal, 1.65% of the petroleum output (excluding gas), of the Russian empire came from Central Asia.² Though Uzbekistan became the largest producer of cotton under colonial rule, there was not a single textile mill in this area, or for that matter in the whole of Central Asia. Industry in Uzbekistan was primarily of handicraft or semi-handicraft in nature. Enterprises were mostly cotton-ginning factories and processing factories for a few other agricultural products. There were also some cotton-pressing plants, oil mills and coal mines. The table below gives the number of enterprises in important industries in Uzbekistan in 1913:

Table-1:

<u>Type of industry</u>	<u>No. of enterprises</u>
Cotton-ginning industry	208
Food industry	77
Tanneries	35
Oil mills	22
Brick works	20
Producing metals and metal products	14
Power plants	6
Total	382

(Compiled by R. T. Kamilov, "Growth of Working class of Uzbekistan (1953-58)", Part I, Soviet Sociology, vol. II, No. 4, 1964, p. 32.)

1. Sh. Rashidov, Soviet Uzbekistan, Moscow, 1982, p. 31.
2. The USSR in figures, Moscow, 1934, pp. 75-77.

The importance of cotton ginning industry can be assumed from the proportion of workers engaged in it. Out of a total of 18,000 workers in Uzbekistan, cotton ginning employed 8,000 in 1913.¹ Ginned cotton accounted for over 80 per cent of gross industrial output. Enterprises in power-production, machine-building, metallurgy and chemical industry were either non-existent or were negligible.² per capita industrial output in Uzbekistan was only 4% of the level achieved in the central region of Russia. Industry accounted for only 12% of the gross national product in Uzbekistan, the rest came from agriculture.³

Similar unevenness was characteristic, more so, in case of industrialization in Tajikistan. Tajikistan, compared to Uzbekistan, was very backward industrially. There were only 6 small semi-mechanised enterprises in colonial Tajikistan.⁴ Interestingly, while the flow of

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1. R.T. Kamilov, op. cit., p.32.
 2. In 1913 there were 6 thermal power plants in Uzbekistan with a combined capacity of less than 3,000 kilowatt. The oil fields of Uzbekistan were producing only 13,000 tons of crude oil by that year. Other products of some significance were cotton fibre - 179,000 tons and vegetable oil (excluding homemade) - 65,000 tons. 40 Years of Soviet Power in facts and figures, op. cit., p.117.
 3. Soviet Uzbekistan Past, Present and Future, op. cit., p.9.
 4. Soviet Union political and economic reference book, Moscow, 1977, p.135.

goods from Russia increased, the handicraft industry continued to dominate Tajik economy simultaneously. There were 6,000 small artisan workshops with a total labour force of 9,000 in Tsarist Tajikistan. In 1908, the per capita industrial output in Tajikistan was 0.8 roubles annually (while it was 82 roubles in the Central areas of Russian empire) and it had 0.2 factory workers per 1,000 population (while it was 48 per 1,000 for Russian empire as a whole).¹ Industrial structure in Tajikistan was highly dominated by food industry. Apart from this, few ginneries and oil mills were to be found in the north, and also some primitive coal pits in Shurab and a small oil field named Santo that employed about 300 workers, were all that constituted Tajikistan's industry.² Tajikistan imported literally everything, from nails to cast-iron pots for cooking food.³

Table-2:
Structure of Tajik industry, 1913 (in per cent)

Heavy industry	- 5.3
Light industry	- 30.4
Food industry	- 60.0
Other industries	0.3

(Compiled by Saidmurad op. cit., pp.4-5.)

1. Kh. M. Saidmuradov, "Industrialization of formerly backward regions of the USSR", unpublished paper presented in the international seminar on Socio-economic transformation of Soviet Central Asia, in the Centre of Soviet Studies, University of Bombay, 1985, p.1.
2. Pavel Niyazov, Tajikistan, Moscow, 1982, p.13. Also 40 Years of Soviet Power in facts and figures, op. cit., p.126.
3. Tajikistan Information Bulletin, Dushanbe, 1984, p.4.

Industrial Location:

Location of industries followed the pattern of capitalist spatial organization, which in the case of Central Asia was more conspicuous due to the extra-economic methods that were also employed in the course of colonization. Under this system, development of industry in Central Asia as well as its underdevelopment were parts of the same process of colonization of space. While exploitation of Central Asian natural resources had its economic consequences in terms of development, at the same time the extent of utilization of Central Asia's natural resource potentiality depended on the profitability of such utilization for the metropolitan capital. Thus mining developed on a very small scale in some limited areas - Uranium from Andizhan, oil from Chimion (Ferghana) and Namangan, coal from Shurab (Tajikistan). Mining concessions were given to Russian monopoly companies, who developed production to the extent it was sufficient to protect their concessionary rights, yet keeping production at a level that would still leave much of the requirements of Central Asia unfulfilled and had to be met with products from outside.¹ These products from outside would be products from the same companies mainly, since these were monopoly companies controlling specific products and their marketing. A typical example

1. K.K. Pahlen, op. cit., pp.110-14.

was the oil concession in Central Asia to Baku oil monopolies, who with their parent companies in Baku sold oil from Baku at a higher price (54 kopecks per pood) in Central Asia. The development of Ferghana oil would have meant cheaper oil in Central Asian markets (25 kopecks), which would have reduced the profits of Baku monopoly companies operating in Central Asia. As a result the annual output of the Chimion region (Ferghana) was a nominal 100 poods, that kept the Ferghana oil wells underdeveloped and at the same time was enough to safeguard the concessionary rights of the Baku companies.¹

In case of mining of other metals also, the enterprises were mostly small undertakings, undercapitalized and worked with primitive technique and equipment. Most of the mines were abandoned after good profits in the initial stage when the ore lay near the surface.²

Insufficient capital, lack of a trained workforce and lack of proper transportation prevented the development of Central Asian industry on any substantial scale. Capital being small was employed in most profitable areas of investment. Russian capitalism wanted to squeeze as much profit out of Central Asia as possible without much investment of capital in this region. Most of the capital was

1. Ibid., pp.114-16.

2. Ibid., p.118.

trading and commercial in nature. Industrial capital was formed to a large extent by native capital, which was, as it is, very insufficiently developed. Capital accumulation in Central Asia was geared to the needs of metropolitan capital. As a result, industry in Tsarist Central Asia could not go beyond the initial processing stage. Heavy industry accounted for less than 2% of the gross industrial output.¹ Not only did light industry predominate, but within the light industry most of the enterprises were very small because a large majority of them were owned by native capital.²

Urbanization and man-power mobility:

Industry, by its very nature in colonial Central Asia, could not act as a big factor in pulling the rural population to the urban areas nor to non-agricultural occupations. Not only the industries were few and were of light industry type, but these light industries were also handicraft types. These enterprises employed very limited manpower.

The urban centres of Central Asia during Tsarist period were basically, in economic terms, centres of commerce and

1. Soviet Uzbekistan Past, Present and Future, op. cit., p.14.

2. The indigenous capitalists owned 109 out of 157 cotton-ginning plants in 1911 in Turkestan and the average number of gins per plant was 3.4 for the indigenous owned and 7 for the Russian-owned enterprises. R.A. pierce, op. cit., p.197.

handicrafts. The towns were situated in the midst of rich valleys, especially cotton valleys. This was so because the towns mainly functioned as assemblage points where the agricultural produce from the surrounding countryside was gathered to be transhipped to Russia. While the town was the centre of a surrounding cotton periphery, there were many intermediary points that helped to pull the resources for supply to towns. These were mainly railway stations or urban type settlements. The town was a link between Central Asian agriculture and Russian industry, while the urban type settlement was a link between the district and its market town.¹

Industrialization played a secondary role in the process of urbanization in Tsarist Central Asia. This pattern of urbanization failed to 'draw' rural population to urban areas while at the same time rural settlements failed to 'release' population to urban areas as mechanization and other forms of intensification of labour productivity proceeded slowly, if at all, in Central Asia. As a result the process of urbanization was very slow. It would be safe to say that the process of urbanization in Central Asia during the Tsarist period was linked to agriculture. This means, urbanization depended on the extent to which agriculture was commercialized. And since the

1. K.K. Pahlen, op. cit., p. 99.

main medium of commercialization of Central Asian agriculture was cotton, urbanization process to a large extent depended on the expansion of cotton production. As R.R. Sharma puts it, "In the Tsarist period the agricultural economy of Turkestan was sucked into the vortex of the national and world market from its traditional local base. It was increasingly commercialized."¹ With this increasing commercialization came up centres which served as links between Central Asian agriculture and the market system.

However, the process of urbanization was also seriously limited by the colonial pattern of spatial organization that was determined as usual by consideration of profit and the nature of metropolitan capital accumulation. Areas were developed as far as they were profitable, and areas were kept underdeveloped for the same purposes of profit. While the metropolitan government induced the expansion of cotton production in Central Asia, it was not willing to expand a wide network of railways for facilitating the flow of agricultural products from the countryside.

Profit being the main concern of the colonisers, investment in transport was very limited and rail links were developed in those areas where it was absolutely necessary for commercial and administrative-military purposes. A glaring example of this policy was Tajikistan,

1. R.R. Sharma, op. cit., p.47.

which was completely roadless during the Tsarist period.¹ All the major points of cotton production were connected by rail. Two major railway lines were laid during this period, one from Krasnovodsk via Ashkabad, Merv, Chardzhou, Bukhara, Samarkand to Tashkent and Andizhan; the other from Orenburg to Tashkent.² An explanation for the limited development of railways could be sought in the commercialization of agriculture itself. After having introduced commercial crop farming and a money economy, the colonial administration was sure of the movement of products from the countryside to the market centres whether there existed rail network or not. By its very nature cotton could not but move to the export points. This attitude hampered the development of the rail network and consequently the growth of urban areas. This policy was clear from the non-participation of Russian capital in the narrow-gauge railway, which was left for the native capital to invest. The native capital was mainly attracted to the narrow-gauge railway because of lack of competition from Russian and other outside capital. This also meant restricted and uneven development of the railways in Central Asia. Native capital being very small compared to foreign capital could not reach over a large area and had to be selective. They moved to areas

1. W.P. and Zeldia K. Coates, Soviet Central Asia, London, 1951, p.178; Also James S. Gregory, Land of the Soviets, Penguin, 1946.

2. K.K. Pahlen, op. cit., p.97.

where the harvest was very large and the population very dense and which required rapid means of removal of cotton from the area. Thus, for example, narrow-gauge railway construction was undertaken on a large-scale in Ferghana region.¹ In short, colonial transport policy resulted in the development of only those railways which connected the metropolis with the colonies and no railway that linked the regions within the colonies themselves was built.²

In the urbanization process, the larger centres became more important and developed faster. The larger centres in Central Asia like Tashkent, Andizhan, Samarkand, Kokand etc. grew very rapidly.³ The reason for the growth of large centres was mainly because of their centrality to a surrounding spatial zone and their role as links between Russian metropolis and Central Asian hinterland. This underlies their primacy in the colonial structure and thus their rapid growth.

The more the Russian penetration into Central Asia intensified in military and economic aspects, the more intensive was the growth of large urban centres in Central

1. Ibid., p.99.

2. N.N. Baransky, Economic geography of the USSR, Moscow, 1956, p.11.

3. Robert A. Lewis and J. William Leasure, "Regional Population changes in Russia and the USSR since 1851", Slavic Review, vol.25, No.4, 1966, Baltimore, p.667.

Asia, consequently more intense was the in-migration into Central Asia from Russia. Thus intensive urban growth rather than intensive urbanization was characteristic of Central Asia. The former meant intensive growth of urban centres, without corresponding urbanization of the local population. The latter, on the contrary, would have meant intensive rural-urban migration, on the basis of the push-pull mechanism within Central Asia itself. The non-industrial character of urbanization process in Central Asia meant that the pull factor was extremely limited and operated externally due to the peripheral relation of integration with the metropolitan centres. Simultaneously, the backward agriculture and feudal relation continued to keep enough manpower occupied in agriculture. The rural-urban mobility was limited, even though the rural masses were getting pauperized. Since a reserve of impoverished surplus population in rural areas ensured cheap labour for agriculture and for the maintenance of the rural infrastructure, the old relations of exploitation were preserved by the colonial administration, in the form of feudal land-tenure system. Typical of this was cash crop farming on the share-cropping basis and not on the basis of large-scale plantation farming with hired wage-labour.

Within the general pattern of non-industrial urbanization stimulating external in-migration, spatial differences could be discerned that were due to the uneven spatial

location of industries. Bukhara region, for example, without any industrial manufacturing, had cities that had no industrial workers. At the time of the revolution in 1917, its 10,000 city workers belonged to the categories of water-carriers, shoemakers, tailors, blacksmiths, truckmen, silver-smiths, leather workers, weavers, and craftsmen of various other kinds - who were anything but industrial workers engaged in manufacturing enterprises!¹

Working Class in Tsarist
Central Asia:

Urban growth itself had its impact on the surrounding countryside, though urban growth to a large extent depended on the expansion of cotton cultivation. By attracting some industrial development, urban growth facilitated rural-urban migration, though on a very limited scale. But the pattern of urbanization, which was dominated by urban-to-urban migration among Russians, determined the development of the Central Asian working class. The Russian migrants were generally skilled because of their urban background and almost all the skilled jobs in Central Asia were monopolized by the Russians. Their participation in the industrial labour force was much higher than their proportion in the total population of Central Asia. Russian factory workers constituted about 23% of the total, though their share in

1. Joshua Kunitz, op. cit., p.58.

the total population was only 7%.¹ Russians were 76% of the persons operating and maintaining engines and 70.3% of those engaged in equipment repair in the railways.² The proportion of unskilled workers in the industry of Turkestan in 1914 was 13.2% Russian, 50.4% Uzbek and 36.4% from other indigenous nationalities.³

The participation of the indigenous population in the unskilled labour force was constrained by many factors. Since industrial development itself was very small, the absolute number of unskilled workers was also small. Russian participation here was also proportionately more than their share in the total population - 13.2% of the unskilled workers were Russians, compared to 7% of the Russians in the total population. The total number of indigenous unskilled workers also included a substantial proportion of those who were already dislocated from their traditional urban occupations by the penetration of Russian manufactured products. So, the scope for rural labour participating in unskilled industrial workforce was very limited, and thus rural-to-urban migration had a limited scope. Industrial working class among the indigenous Central Asians, who were from the rural areas, was mainly seasonal or non-hereditary.

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1. The ethnic composition of the working class of Turkestan was, as estimated by Lyashchenko, 22.8% Russians, 60.7% Uzbeks and 16.5% from other indigenous nationalities. Peter I. Lyashchenko, History of the national economy of Russia, New York, 1970, p.617.
 2. R.T. Kamilov, op. cit., p.32.
 3. Ibid., p.32.

The cash requirements of the peasantry to pay the taxes and other dues, forced them to turn to seasonal work in the upcoming industries, constructions or on the railroad. A few left the rural area entirely to become a permanent and hereditary urban worker.¹

The industrial labour could not grow substantially due to the low level of industrialization in Central Asia. Taken together, the indigenous and the non-indigenous workers constituted only about 0.35% of the total population.²

Another feature of the growth of Central Asian working class was the lack of participation of women in the work force. There were only 65 Uzbek women employed in industry in Turkestan. In the Tsarist period there was no Uzbek women engineer or technician in Central Asia.³ The existence of a feudal-patriarchal system and low level of urbanization, prevented the participation of women in the industrial labour force.

1. Elizabeth E. Bacon, op. cit., p.108.

2. R. Tuzmuhamedov, op. cit., p.53.
In 1897, the number of Russians was 15% in cities above 15,000, as compared to 5% of the indigenous nationalities, which shows the difference in the level of urbanization. R.A. Lewis, R.H. Rowland and R.S. Clem, "Modernization, population change and nationality in Soviet Central Asia and Kazakhstan" in Jane P. Shapiro and J. Potichnyj (eds.), Change and adaptation in Soviet and East European politics, New York, 1976, pp.226-27.

3. H. Umarov, "Development and Socio-cultural transformation", paper presented in the international seminar on Socio-economic transformation of Soviet Central Asia,
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Lastly, like in other spheres, the growth of working class in Central Asia was characterized by uneven sectoral distribution.

Sectorally, the number of workers in mining and metallurgy was very small. In 1911, the total number of mining and metallurgy workers in Transcaucasian region and Turkestan combinedly was 2,835, or 0.4% of the total for the empire in that sector.¹ Most of the workers were in the transport sector, the railway especially and in the processing industries. In 1913, there were 33,600 persons employed in the processing industries, compared to only, 5,408 in extractive industries.² Within the processing industries, cotton-ginning had the largest share of workers and employed 15,000 workers.³

In short, the foundation of modern urbanization and an industrial working class was laid during the colonial period in Central Asia. But at the same time their further growth was influenced and limited by the same conditions which brought them into existence. The social relations created by Tsarist colonialism in Central Asia fettered the further development of the urbanization process and working class growth. The urbanization pattern corresponding to

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in the Centre for Soviet Studies, University of Bombay, 1985, p.8.

1. Total mining and metallurgy workers in the Russian empire numbered 693,929 in 1911. Istoriia Rabochebo classa SSSR, Moscow, 1982, p.44.
2. V. Conolly, op. cit., p.36.
3. R. Tuzmuhamedov, op. cit., p.63.

the colonial social structure, was characterized by the growth of urban enclaves which served the interests of distant metropolitan centres. The impact of such urbanization on rural transformation was so negligible that socio-occupational and territorial mobility of the population remained extremely low. Under these circumstances the creation of an industrial labour force from the ranks of the indigenous population was progressing extremely slowly, if at all. A new element of contradiction had been introduced into the working class, that along ethnic lines. The distribution of skilled and unskilled labour force was very strongly along ethnic lines. Even the sectoral and territorial distribution of the labour force retained for a long time the ethnic divisions introduced by colonialism. The industrial labour continued to have disproportionate share of non-indigenous population as compared to agriculture. The same was the case with urban labour vis-a-vis their rural counterparts. While this dichotomy was, to a large extent, because of conscious efforts by the colonisers, it was also linked to the colonial pattern of industrialization and urbanization. The character and function of the cities, the pattern of industrial location and the cultural policy of Tsarist colonisers in Central Asia, had their bearing on the emergence and growth of Central Asian working class. The low level of urban pull and rural push characterized Central Asian urbanization process. The cities functioned as administrative-commercial centres and industrial location was concentrated in

existing urban centres. Education and training of the indigenous population was hardly given any attention. The resulting distortions, including ethnic dichotomy, of the Central Asian working class would be so entrenched that for a long period even after the revolution they would continue to affect the working class growth of Central Asia.

Part II: The Soviet Period

After the Soviets came to power through the October Socialist revolution in 1917, they were faced with the gigantic task of removing the complex socio-economic relations that had taken shape during the colonial rule, before they could establish a socialist system of production and distribution.

It was necessary for any radical reorganization of the economic and social life of Central Asia to force the dissolution of the power of the local rulers, feudal lords, the muslim clergy, the beys and the medieval guilds that controlled trade in the cities, and end the colonial exploitation of this region by developed metropolitan centres in Russia. This was brought about by the Soviet power in stages through a series of reforms - the first Land and Water reform, 1920-21; the second Land and Water reform, 1925-29, and the agricultural cooperation and collectivisation since 1929. The highest form of agricultural cooperation was collectivisation, i.e., public ownership of means of production and collective form of labour, which

was put into action on a large-scale in Central Asia towards the end of 1929.¹ Between 1930-40, all the agricultural holdings in Central Asia had been incorporated into one or the other form of collective farming.²

Mass collectivization was completed by the end of the 1st Five-Year-Plan in 1932, by which year 81.7 per cent of the agricultural households were collectivized. Collectivization was the culmination of the series of reforms undertaken in Central Asia since 1920-21.

Changes in agrarian relations:

These reforms and the changes they brought about in agrarian relations freed the peasantry from various forms of bondage and indebtedness that forced the surplus rural population to provide cheap labour to the landlords or seek seasonal employment with manufacturers who benefitted from this type of low paid employment. However, though the

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1. Within a year only, between 1928-29, the number of collective farms in Uzbekistan increased nearly three fold, from 510 to 1521. R.R. Sharma, op. cit., p.131.
 2. In grain and industrial-crop districts the basic form of collectivization was the artel, while in the cattle-breeding areas of Kirghizia and Turkmenia, the most adequate form of collectivization was the association for the joint cultivation of land and hay-making. For example, in Uzbekistan the artel accounted for 96.7% of collective farms, in Turkmenia the association accounted for more than 60% of the collective farms. Soviet Peasantry An outline history, op. cit., pp.178-79; Also R.R. Sharma, op. cit., p.133.

earlier colonial-feudal relations were removed from agriculture, the movement of manpower and the creation of an industrial proletariat was not a smooth and easy process. In fact the rapid growth of productive forces in agriculture under the new social relations further strengthened the ties of the rural population to land, though not under exploitative conditions and though with a higher and better standard of living.

As such the reforms went on till the 1930s after which socialization of agricultural means of production was undertaken. Till 1930 petty-commodity sector increased, which is by nature less productive and hinders mechanization of agriculture. From 1930s there was a quantitative expansion of agricultural sector - the area under crop increased, as did irrigated acreage and cotton cultivation. The intensive nature of crop farming, the forms of organization of agriculture and the level of mechanization in agriculture, had impacts on the urbanization process. In fact, between 1917-1950, agricultural pull on the manpower resources expanded vastly.

The crop area increased by large-scale irrigation of land. However, Central Asia continued to maintain its specialization in cotton cultivation. The expansion of irrigation and other forms of state aid served as incentives for the expansion of cotton cultivation. This period was characterized by a massive cotton campaign launched in

Central Asia to enable the country to achieve "cotton independence".

Fresh from the war and the civil war, the USSR could hardly spare gold for imports of cotton cloth. Apart from this, the dangers of setbacks in external relations with industrialized west and the eventuality of hostile confrontations with the outside capitalist world, prompted USSR to look for internal sources of uninterrupted and adequate supply of cotton. And finally, the Soviet policy of rapid industrialization through emphasis on production rather than consumption goods, while living upto the expectation of the masses for a better living, required the substitution of imports by increase in internal supply.¹ The drive for Soviet cotton self-sufficiency resulted in increased cotton cultivation in Central Asia.

As a result of this policy not only did Soviet Union become self-sufficient in cotton by 1934-35, but the structure and function of agriculture had undergone unprecedented changes. The area under cotton registered phenomenal expansion in Central Asia.² Though cotton area was only

1. Joshua Kunitz, op. cit., p.162.

2. The area under cotton in Central Asia increased from 325,000 hectares in 1924 to 1,244,000 hectares by 1934. In Uzbekistan the growth was from 589,000 hectares in 1928 to an estimated 955,000 hectares in 1950, i.e., by about 62%. In Tajikistan the growth during the above period was from 52,000 hectares to an estimated 107,000 hectares, i.e. by about 105.7%. By 1937, the output of cotton in the USSR was 750,000 tons of ginned cotton and Soviet Union became independent of foreign supplies. Maurice Edelman, How Russia prepared USSR

28.8% of the total crop area compared to 41.3% for the grain area in Uzbekistan and a still lower proportion of 11.4% for cotton acreage compared to 67.7% for grain in Tajikistan, the relative importance of cotton in the national economy as well as on the society far exceeded that of grain in Central Asia.¹

Labour Productivity in agriculture:

Cotton cultivation was mostly on the irrigated land and hence farming was intensive.² The growing importance of cotton from Uzbekistan and Tajikistan was based on the irrigation intensity in these two republics.

The manpower requirement for this type of agriculture was immense. The irrigated high-yielding cotton required higher labour input. For example, 6 advanced Kolkhozes in Central Asia investigated in 1939 with a particularly high

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beyond the Urals, London, 1942, p.75; K.S. Hirlekar, Soviet Asia: The power behind USSR, Bombay, 1945, p.52; also N.N. Baransky, op. cit., p.363.

1. Between 1929-40, the annual compound rates of growth of major agricultural products was meat 3.5% in Uzbekistan and 0.0% in Tajikistan; milk 3.5% and 1.5% respectively, grain 1.5% in Uzbekistan and cotton 12.7% in Uzbekistan and 12.5% in Tajikistan. Azizur Rahman and Dharam Ghai, op. cit., p.33; W.P. and Zelda K. Coates, op. cit., pp.169, 202; also A.A. Mints, Srednia Azia: Ekonomikogeograficheskaya charakteristika i Problemy Razbitia Khoziaistvo, (in Russian), Moscow, 1969, p.144.
2. Maurice Dobb, USSR: Her life and her people, London, 1943, p.55.

average yield of unginned cotton per hectare, showed a labour input of 240.5 days per hectares, which was nearly 3 times the amount of labour used on unirrigated cotton (81.76 days per hectare).¹ As it is, cotton requires more number of operations than other crops.

In case of irrigated cotton the labour requirement is still higher. While cotton is chopped, topped and harvested repeatedly by hand, in case of irrigated cotton the number of repetitions for each operation is more. For example, six hand choppings are prescribed for irrigated cotton. The above three operations make up practically the total labour input in cotton.² Under such conditions, according to Naum Jasny, the Kolkhozy might even use more labour per hectare than the individual peasant did.³

In spite of the impressive mechanization of agriculture in these formerly backward republics, where agricultural implements before Soviet industrialization consisted of hoes and wooden ploughs, labour by hand continued to dominate and only towards the end of 1940s changes in the quality of labour were discernible.⁴ The achievements in agricultural

1. In 1940 the average Kolkhozy used 160 man-days per hectare of cotton. Naum Jasny, The Socialized agriculture of the USSR, California, 1967, pp.429-30.

2. Ibid., p.430.

3. Ibid., p.430.

4. By 1950, there were 33,500 tractors, 5,969 (in 1938) trucks and 1,800 harvester combines in Uzbekistan. In Tajikistan, the figures were 5,200 for tractors, 1,167 (in 1938) for trucks contd...

labour productivity were considerable, no doubt, compared to the earlier period. Yet it was not enough to release the amount of manpower required by a fast developing industry in these republics of Central Asia.

Mechanization affected certain operations more than others, so that many labour-intensive operations still remained at a low level of mechanization. For example, cotton-pickers were introduced in Central Asia only in 1949. While ploughing was more mechanized, harvesting was still done mostly by hand.¹ However, towards the end of the 1940s when emphasis shifted to rapid mechanization, in Uzbekistan nearly 71% of the cotton plantation was mechanized and as much as 65% of the land was harrowed by machines in 1949.²

Agricultural Organization and Labour mobility:

The manpower factor was influenced not only by the nature of crop and the method of its farming, but also by

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and 400 for harvester combines in 1950. K.S. Hirlekar, op. cit., p.52; National economy of the USSR Statistical returns, Moscow, 1957, p.131.

1. Even by the mid-1940s, as much as 43% of the cotton sowing and 58% of the cultivation of cotton was done by hand in Central Asia. In ploughing, only 20% of the work was done by hand. George Padmore, How Russia transformed her colonial empire, London, 1946, p.122.
2. In 1940, the power capacity of tractors used in agriculture was 600,000 h.p. in Uzbekistan and 100,000 h.p. in Tajikistan. Narodnaya Khoziaistvo, SSSR, 1982, Moscow, 1983, p.204; also W.P. and Zeldia K. Coates, op. cit., p.228.

the nature of organization of farming itself. Cotton farming was made highly remunerative and was mainly organised in collectives. The cotton-based crop structure was consolidated to a great extent by a combination of monetary and material incentives. The procurement price for cotton was higher than that for other crops. In 1935, the 'premium system' was introduced to stimulate cotton production by which procurement above the planned contractual agreement was rewarded. Another important means of encouraging expansion of cotton cultivation was the 'matching sale system', introduced in 1932, which assured delivery to the cotton farms of grain and other basic items.¹ The income of the cotton-producing collective farms in Central Asia was more than that of collectives under other crops. Thus, while by 1952, the average income of cotton-producing collectives in Central Asia was between 17-36 roubles, the average income of collective farms specializing in animal products received much less per work-day unit and was as low as 4 roubles in Uzbekistan.² Even the average income of collectives under technical crops in the USSR as a whole was 18 roubles per work-day unit.³ Similarly

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1. Grey Hodnett, "Technology and social change in Soviet Central Asia: The politics of cotton growing" in Henry W. Morton and Rudolf L. Tokes (eds.), Soviet Politics and Society in the 1970s, London, 1974, pp.67-68.
 2. Soviet Peasantry, An outline history, op. cit., pp.288-89.
 3. Ibid., p.288.

conspicuous was the difference between various republics as their specialization differed. In 1952, the income of collective farm members was 1,053 roubles per capita annually in Uzbekistan and 1,087 roubles in Tajikistan. The per capita incomes of these two republics were as high as 18 times that of Belorussia (60 roubles) and Lithuania (85 roubles) in the same year. This difference was because the former two republics specialized in cotton farming which was highly remunerative whereas the latter two specialized in potato farming that received low prices.¹ Even compared to industry, state agriculture was more remunerative, in relative terms. The monthly payment of state agriculture in Uzbekistan was 104% of that of the USSR as a whole in 1940. In contrast, the monthly payment of industry in 1940 was only 81% of that for the country as a whole.² This means agriculture in Central Asia was more remunerative compared to agriculture elsewhere, while remuneration in industrial employment in the region was less than that in other regions of the country.

This high income not only induced the expansion of labour-consuming cotton cultivation, but also influenced the process of transformation of the population from agricultural to non-agricultural occupations. In the absence

1. Ibid., p.289.

2. Azizur Rahman and Dharam Ghai, op. cit., p.16.

of large-scale rural-to-urban migration and also due to the specific socio-economic circumstances in which Central Asian peasantry was incorporated into socialized farming, the collective farms assumed significant importance than state farms, more so in case of cotton farming. By 1938, 99.8% of the sown area in Uzbekistan and 99.2% of the area in Tajikistan was collectivized.¹ In the same year 60% of the collectivized land in Uzbekistan was under cotton. More than 99% of the households in Uzbekistan and more than 97% of the households in Tajikistan were collectivized by 1940.² The highest proportion of the collectivized crop area was in cotton farming. By 1954, as much as 80-90% of the income of the average collective farm in Uzbekistan came from cotton.³ All these indicate the relative importance of collectivized cotton farming in Uzbekistan and Tajikistan. The impact of this on the manpower allocation was natural.

The state farms which are more capital-intensive and hence use less manpower did not play as important a role

1. K.S.Hirlekar, op. cit., p.52.

2. R.R. Sharma, op. cit., p.135.

3. Cotton was not the only intensive crop grown in Central Asia, though it was the principal crop. Rice, poppy-seed, the castor-oil plant, beans, tobacco, and various fruits as well as sericulture (sugar-beet mainly) occupied considerable irrigated area by mid-1950s. N.N. Baransky, op. cit., p.364.

And

Report of the Indian agricultural team to USSR, Poland and Czechoslovakia, Government of India, Ministry of Food and Agriculture, New Delhi, Sept.-Oct., 1954, p.20.

in Central Asia as in other parts of the country. The predominance of collective farms limited the scope of the operation of push factor in rural-urban migration. The relative intensity of labour employment in the Central Asian Kolkhozes is observable from the relationship between land area and number of households under the Kolkhozes. The sizes of the Kolkhozes were smaller area-wise and the number of households per Kolkhoz was more in Central Asia than in the country as a whole. Thus an average Kolkhoz in Uzbekistan and Tajikistan had more households and less land area than in the USSR as a whole. Or in other words average plough land per Kolkhoz household in the former two republics was less than the USSR average.

As it is, the efficiency of machine-use in Central Asia was lower than that in the rest of the country. In case of tractors/ ^{in 1938,} the standard ploughing per 15 h.p. unit was 488 hectares in the USSR as a whole and 298 hectares in Uzbekistan. In case of harvester combines, the average for the country was 317 hectares harvested per unit, compared to 263 hectares for the Uzbek SSR.¹ This relatively low efficiency in machine-use combined with the nature of agricultural specialization and organization, retained the manpower demands of agriculture at a higher level in Central Asia

1. Naum Jasny, op. cit., p.282.

Table-3: Structure of Kolkhozes in Uzbekistan and Tajikistan according to land area and number of households, 1955 (in per cent)

Republic	Total No. of colle- ctive farms	Collective farms including					Collective farms according to crop area				
		Upto 100 house- holds	From 101- 200 house- holds	From 201- 300 house- holds	From 301- 500 house- holds	Above 500 house- holds	Upto 500 hecs.	From 501- 1,000 hecs.	From 1,001- 2,000 hecs.	From 2,001- 5,000 hecs.	More than 5,000 hecs.
USSR	100	19.6	35.0	20.8	17.1	7.5	18.8	24.9	29.5	21.6	5.2
Uzbek SSR	100	5.1	23.0	24.3	27.3	20.3	8.5	42.5	35.5	12.6	9.9
Tajik SSR	100	19.4	23.9	16.1	16.3	24.3	23.8	24.9	24.5	21.4	5.4

(National economy of the USSR, Statis (cal
returns, op. cit., p.116.)



than in the rest of the country. This is not to say that there was no mobility from agriculture to industry and other non-agricultural occupations. In fact, the gradual but steady mechanization of agriculture and the simultaneous pull of industry on the rural manpower had its impact on rural-to-urban migration process. But this was the time when physical indicators of economic development were given priority. This meant a tremendous quantitative growth in agriculture and industry. And precisely for this reason the requirements of manpower for industry could not be met by shifting manpower from agriculture, as manpower requirements in agriculture had also grown since the revolution. The impact of such diverse pulls, rather than the complimentary process of pull and push had its socio-demographic fall-out which would be discussed later.

Industrialization in Soviet Central Asia:

Socialist industrialization in Central Asia began with the primary concern of doing away with the former narrow one-sided specialization of producing food and raw materials for industrially advanced regions. In place of the colonial pattern of territorial division of labour and specialization of the economy, Soviet state began to create conditions for a new territorial division of labour that would not only do away with the existing uneven development in the territorial structure of the economy, but also would end the unequal relationship between regions.

The first condition for the elimination of the old territorial division of labour was the socialization of the principal means of production, exchange and distribution (large-scale industry and banking, the wholesale trade and the main transport network).¹ Nationalization removed the basis for non-equivalent exchange, through which surplus was extracted from Central Asia and which kept her backward. The conditions inherited from a colonial past created extreme difficulties in the way of industrialization in Central Asia and prolonged the period of transition to the socialist territorial division of labour. Between 1917-50, through various stages Central Asia was integrated into the system of socialist territorial division of labour. During this period the colonial territorial division of labour and the narrow one-sided specialization of the economy were modified and conditions were laid for the raising of productivity of social labour and for rationally and comprehensively utilizing the manpower resources of Central Asia. While new social conditions were created and efforts were made to bring the territorial division of labour in conformity with the new

1. In 1917, nationalization affected 243 enterprises in Syr-Darya, 115 in Samarkand and 313 enterprises in Ferghana. Even small-scale industry in Turkestan was nationalized. In 1918, the state took over 288 processing industries and over 370 of the major regional industrial undertakings that employed over 60% of the local workers and contributed 80% of the gross industrial production of Turkestan. R.R. Sharma, op. cit., p.144.

social conditions, the old specialization of the economy, the level of skill of the population, the traditional economic ties that had tied together different regions for many years, were problems that confronted the Soviet government seriously. The persistence of archaic patriarchal peasant farming and pre-capitalist forms of exploitation for a long time after the revolution also limited the scope for any radical solution to the economic problems. Nationalization was also equally limited in scope due to lack of large-scale industry at the time of revolution. Even a poor and primitive transport system hindered the quick development of Central Asia, as high import and export costs due to backward transport involved serious strains on the national resources, and that too at a time when resources in the country were generally marked by poor development. Cost factors made other regions more advantageous for investment, regions where modern equipment, labour skills and know-how had already accumulated over a long period in large-scale industry. The proletariat in Central Asia at the time of the revolution was small, and its technical level was very low.¹ All these handicaps necessitated a careful dismantling of the old territorial division of labour, while not disturbing seriously the national economy at the same time.

1. P. Alampiev, op. cit., pp.23-25.

Industries developed very fast in Central Asia, faster than the average for the country, especially since 1928.¹ Gross industrial production increased by 422% in Uzbekistan and by 780% in Tajikistan between 1928-1940.² The spurt in industrial production was extraordinary. In quantitative terms the volume of industrial production multiplied so rapidly that in republics like Tajikistan where the initial level at the time of the revolution was negligible, the growth was hundreds of times more than in 1913. The growth was so rapid that by the early 1940s industry's share in the economy reached the same level as in the country as a whole. In 1937, industry constituted 77 per cent of the economy of USSR and by 1942 industry was approximately at the same level in Uzbekistan (75 per cent).³ This was extraordinary in view of the fact that the disparity between the relative shares of industry in the USSR and in Uzbekistan was quite pronounced at the beginning of the Soviet period. This levelling off of the role of industry territorially was made possible by an uneven pace of industrialization that

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1. About 90% of the output in Uzbekistan and 97% in Tajikistan in 1937 was contributed by enterprises built or fully reconstructed during the first Five Year Plan period, which shows the rate at which industry developed in Central Asia since 1928. M. Gafurov, "Social and Cultural progress of the peoples of Central Asia and Kazakhstan", in G. Abramov and M. Goncharuk (eds.), The Soviet Union, a community of fraternal peoples, 1922-1972, Moscow, 1972, p.108.
 2. R.R. Sharma, op. cit., p.224.
 3. George Padmore, op.cit., p.122.

favoured the Central Asian regions.¹

By 1950 Central Asia had already come to possess a powerful and modern industry. Industrial development diversified and created conditions for the integrated development of this region, which came to acquire its own fuel, power and machine-building base. However, diversification was still largely related to the main branch of specialization, i.e., cotton. Industries could be classified as those relying directly on cotton and other agricultural commodities for raw materials; those serving the cotton-growing areas by producing raw materials, machinery, fertilizer, etc.; and finally those engaged in mining and mineral working. Central Asia, by 1950s, was transformed from an agrarian backwater of the Tsarist state to an advanced agro-industrial region in the Soviet period.

The negation of the colonial territorial division of labour did not reject everything of the past. In fact, the new division of labour developed by utilizing rationally all the potentialities contained in the former division of

1. Between 1929-40, the annual compound rates of growth of industrial production in Uzbekistan, Tajikistan and USSR were respectively, 5.9%, 8.4% and 7.9%. Between 1941-1950, the mean growth rates of gross industrial output in the above two republics and the USSR respectively was 6.2%, 4.2% and 5.5%. Azizur Rahman and Dharam Ghai, *op. cit.*, p.13; and A.I. Imshchenetskiy, "Some aspects of the development and location of industry in the Central Asian economic region", Soviet Geography: Review and Translation, vol.13, No.10, 1972, p.708.

labour territorially. The redistribution of industry geographically went along with regional specialization. Even distribution of industry was not intended to level off regions, but to make industry universal in the USSR, so that no region remained an agrarian hinterland. Great uniformity in the distribution of industrial structure and a well defined as well as well developed regional distinctiveness, were the two main features of the new division of labour. Thus territorial concentration of industries and creation of large industrial centres, continued under socialism.¹ However, one of the most important features of socialist industrialization in Central Asia was the changing role of the industrial centres. Since the development of key industries was closely related to the development of other branches, industrial centres, unlike those during the colonial period, were organically bound up with the life of the area surrounding them. Whereas in the colonial period industrial centres had little impact on the life of the surrounding agricultural population, in the Soviet period the industrial centres were so much indicately linked to the region and its population that they were key to the transformation of the region.

1. A. Alampiev, op. cit., p.59.

Urbanization in Soviet Central Asia:

The rapid development of industry not only led to the growth of industrial centres but also changed the character of the existing urban centres into industrial towns. Concentration of industry was spatially expressed in the growth of large urban centres. In the initial stages of industrialization industries could not be dispersed widely within Central Asian republics. The general backwardness of this region, lack of infrastructure and skilled manpower were reasons why industries had to be sited in the centres where some of these advantages existed to some extent.

Concentration of industry and infrastructure as well as skilled manpower in large urban centres was characteristic of urbanization in this period. The leading cities were the capital cities. Tashkent remained the prime city of the region and its population grew by 140% between 1926-1956 (from 324,000 to 778,000). Most striking was the rapid growth of Dushanbe (Tajikistan), which after receiving rail access and becoming the capital of the republic went on to become one of the biggest cities of Central Asia. Its population grew from a mere 6,000 in 1926 to 191,000 in 1956, i.e., by nearly 32 times.¹

1. N.N. Baransky, op. cit., pp.381-82; Also, "New Settlements in Central Asia and Kazakhstan", Central Asian Review, vol.II, No.3, 1963, p.240.

All the large cities of Central Asia came to acquire cultural-industrial functions mainly, unlike the earlier period before the revolution when the large cities were administrative-commercial centres. The administrative centres during the Soviet period, whether republican capital or oblast centre, raion or krai centre, were not defined as such in terms of their importance. They were the cultural centres at their respective levels and they also were the centres that more and more performed productive functions to meet the industrial and cultural needs of the surrounding population. Tashkent in the Soviet period emerged as the cultural capital of Central Asia and its most industrialized city. From a formerly administrative-religious centre, Samarkand became an important cultural and industrial centre and played an important role in training the national cadre of Central Asia for Socialist construction.¹ Dushanbe, a kishlak of 3 villages totalling about 6,000 people in 1926, became the provincial administrative and cultural centre of Tajikistan. Textile and food processing were the major branches in Dushanbe, but the city also had a big tannery, a sewing factory, a printing combine etc. All the major centres of Uzbekistan - Tashkent, Samarkand, Andizhan,

1. Samarkand by 1930s was a city of over 100,000 population. By 1933 its population was 112,000. George Padmore, op. cit., p.121; N.N. Baransky, op. cit., p.382; and also, Maurice Edelman, op. cit., pp.76-77.

Namangan, Kokand, Ferghana, Bukhara and Margelan, and those of Tajikistan - Dushanbe and Leninabad, were centres of industrial production as well as centres of science and culture.¹

Level of Urbanization:

Another distinctive feature of the pattern of urbanization was the faster urban growth especially after the 1930s and the low level of urbanization of the population. There was a mushrooming growth of urban centres and the growth of urban population was also very rapid. But the share of the urban population as compared to the rural population remained low, especially among the indigenous population.

Table Urban population growth and the level of urbanization in USSR, Uzbekistan and Tajikistan, 1926-59

	Urban population growth 1926-40 1940-59		Level of urbanization						
			Share of urban population in the total population			Percentage point growth		Average annual percentage point growth	
			1926	1940	1959	-40	-59	1926-40	1940-59
USSR	242.7	158.4	-	-	-	-	-	1.4	0.78
Uzbekistan	142.7	188.8	22.1	25	34	2.9	9	0.2	0.4
Tajikistan	237.6	256.4	10.2	19	33	6.8	14	0.5	0.73
Uzbeks	-	-	18.3	-	20.2	-	-	-	-
Tajiks	-	-	4.8	-	19.5	-	-	-	-

(Jiri Musil, Urbanization in socialist countries, New York, 1981 pp.46-49; also The American Quarterly on the Soviet Union, vol.2, Nos.2-3, 1939, p.138.)

1. These centres were above 65,000 population each. Chauncy D. Harris, "Special issue on population of cities of the Soviet Union", Soviet Geography: Review and Translation, vol.11, No.5, 1970, pp.37-39; also D. Hooson, The Soviet Union: People and regions, California, 1966, pp.280-92.

This pattern of urbanization, i.e. a faster urban growth and a slower rise in the urbanization level, was due mainly to a process whereby urban population increase did not correspond to a simultaneous decline in the rural population. Thus a high urban growth rate went hand in hand with a low level of urbanization, especially among the indigenous population (as the rural population was mostly indigenous).

Rural population in Central Asia actually registered an increase, though in the country as a whole it was declining. At the peak of Central Asian urbanization between 1940-1959, the rural population in Uzbekistan increased by 9% and that in Tajikistan by 8.3%. This was the time when the total rural population of the country declined by 17%.¹ The dependency ratio on land registered an increase in 1959 as compared to 1939 in Uzbekistan and Tajikistan. When in the USSR as a whole the number of persons per 100 hectares of sown area declined from 86.6 to 55.5 between 1939-1959, the number in Central Asia increased from 154 to 179 in the same period, apart from the fact that density in this region was already too high in 1939 itself.²

While rural areas were getting overpopulated, the urban pull went on increasing due to rapid industrialization

1. Narodnaya Khoziaistvo, SSSR, 1974, pp.10-11.

2. Karl Eugen Wadekin, "Internal migration and the flight from . . . land in the USSR, 1939-59", Soviet Studies, vol.18, No.2, 1966, pp.44-45.

of Central Asia. The urbanization process was characterized by high influx into urban centres, or urban in-migration, as it is called. And since the rural population was simultaneously increasing, this high influx could not have been possibly by intra-republic rural-urban migration alone. In fact, this high influx was more due to inter-republic migration and as a result the ethnic heterogeneity was very high in Central Asia during this period. This is reflected in the increasing share of Russian population in Central Asia and the low level of urbanization among the indigenous population as compared to the European population.

The low level of urbanization of the Central Asian population at the time of Soviet industrialization drive meant a shortage of skilled and educated indigenous population and therefore in the expanding urban areas since the 1930s more and more Russian influx took place to fill the industrial and service jobs.¹ In this period the pace of economic development was faster than the training of the indigenous population. And moreover, the requirement of self-sufficiency for the country in cotton and need for faster pace of industrialization to remove the backwardness of Central Asian republics had to be undertaken simultaneously, i.e., both agriculture and industry had to develop

1. Between 1926-59, the number of Russians in Central Asia increased from 4,80,000 to 2.2 million. R.A. Lewis, R.H. Rowland and R.S. Clem, *op. cit.*, p.223.

very fast. As a result the growth of urban centres and the increase of Russians in the urban population was characteristic of this period.

Ethnic Composition of the
Urban areas:

Though urbanization process in the Soviet period developed under new socio-economic conditions, the process in many respects also developed within the urbanization pattern inherited from the earlier colonial period. The existing ethnic composition of the cities at the beginning of the Soviet period influenced the influx into the cities by drawing people from similar ethnic groups from outside. Apart from the fact that many barriers in the nature of culture and tradition remained in the way of migration of the local rural population to the cities, the presence of a large number of Russians provided a familiar cultural atmosphere to the Russian in-migrants who were required to provide the necessary labour force in the absence of sufficient local manpower for urban-industrial occupations. The problem of mobilizing local manpower has been succinctly put by Kozlov, according to whom the time required to remove the barriers in the way of transforming the way of life of the people from rural to urban and from seasonal farm labour to industrial wage labour was much longer than construction of factories and mills.¹ In this situation it was natural

1. V.I. Kozlov, "Changes in the settlement and urbanization of the peoples of the USSR as conditions and factors of ethnic processes", Soviet Sociology, vol.17, No.1, 1978, p.14.

that the share of Russians went up in the total as well as in the urban population. However this process created further difficulties in the migration process. The cultural gap between the cities with a large European population and the rural areas predominated by the local nationalities increased further and created problems in rural-urban migration of the latter, that were not easy to handle.

Table-4: Share of different nationalities in the urban population of Uzbekistan and Tajikistan

	(in %)					
	Share of Russians in the total population of the republic		Share of Russians in the total urban population of the republic		Share of the titular nationality in the total urban population of the republic	
	1926	1959	1926	1959	1926	1959
Uzbekistan	5.4	13.5	19.2	33.4	57.0	37.2
Tajikistan	0.9	13.3	9.9	35.3	73.6	31.8

(V.I. Perevedentsev, "Population movement and labour supply in Siberia" Part I, Soviet Sociology, vol.7, No.3, 1968-69, p.53; I.A. Vinnikov, "National and ethnographic groups in Central Asia as reflected in ethnic statistics (Part I)", Soviet Sociology, vol.19, No.2, 1980, p.38; Shirin Akiner, Islamic Peoples of the Soviet Union, London, 1983, pp.277, 303.)

Urban population growth in the Central Asian republics was much faster than that among the titular nationality. As a result the share of the titular nationality in the total urban population fell drastically between 1926-59. In fact the level of urbanization among the indigenous

population was far below the USSR average. For example, in 1939, urbanization among the Russians was 18 per cent above the USSR average, whereas that among the Uzbeks remained 54% below and among Tajiks 62% below the average for the country. In 1959, though the Central Asian republics registered a much faster urban population growth than others, the urbanization level among the Uzbeks still remained 55 per cent below and among the Tajiks 57% below the USSR average, as compared to 20% more among the Russians.¹

The high growth rate of urban population was more a result of influx from outside the region than due to faster urbanization among the local population. The outside influx was more concentrated in the larger urban centres with cultural and other amenities as well as with an already existing large proportion of non-Central Asians. The manpower need of such centres also was very high since the industrial and cultural growth of the region was concentrated in large urban centres. Thus the need for skilled and technical manpower in the capital cities was maximum and as a result the ethnic structure of these cities showed highly favourable proportions for the Russians. The larger the city, faster was its development and larger was the share of Russians in the total population of the city.

1. I. Vokhounin, "Changes in the social structure of Soviet nations", Soviet Sociology, vol. 1, no. 1, 1963, p. 31.

This ethnic pattern characterized the urbanization process in Central Asia.¹

Table -5: Share of the Russians in the total population of the capital cities of Central Asia, 1959

Capital city (Republic)	Share in the total population of the republic	Share in the total population of the republican capital
Tashkent (Uzbek SSR)	13.5	43.9
Dushanbe (Tajikistan)	13.3	47.8
Frunze (Kirghizia)	30.2	68.6
Ashkabad (Turkmenia)	17.3	50.3

(Robert A. Lewis and Richard H. Rowland, "Urbanization in Russia and the USSR, 1897-1966", Annals of the Association of American Geographers, vol.59, No.4, Kansas, 1969, p.795.)

Composition, structure and growth of the working class:

The low level of urbanization among the Central Asians had its impact on the composition, structure and growth of the working class in the region. This period was characterized by the continuous numerical growth of the working class. The rates of increase in the number of workers in Uzbekistan and Tajikistan since the 1940s were considerably

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1. O.V. Larmin, V.M. Moisseynko, B.S. Khorev, "Social Demographic aspects of urbanization in the USSR", Soviet geography: Review and translation, vol.13, No.2, 1972, p.117; Also Robert A. Lewis and Richard H. Rowland, "Urbanization in Russia and the USSR, 1897-1966", Annals of the Association of American Geographers, vol.59, No.4, 1969, Kansas, p.795.

above the average for the whole country. This was because, new industrial productive capacities were being created there at a much faster pace and also due to the substantial expansion of the existing productive capacities.

The quantitative growth of the working class brought about profound qualitative changes in the social structure of the Central Asian republics. From less than a fifth in 1926, the share of workers and employees came to constitute nearly a third of the total population in Uzbekistan by 1939 and in 1959 this group constituted the majority in the social structure of the republic. In Tajikistan where till the end of the 1930s this group constituted less than one-sixth of the total population, the proportion rose to more than two-fifths within next twenty years. In fact the proportion of workers and employees in the total population changed relatively more rapidly in the Central Asian republics than in the country as a whole. Though the proportion of workers and employees in the social structure in Uzbekistan and Tajikistan remained below the USSR average, the difference had substantially narrowed by 1959, which shows the rapid changes that had come about in the socio-occupational structure of the population in the two Central Asian republics.

Table -6: Share of workers and employees in the total population of USSR, Uzbekistan and Tajikistan

Republic	(in %)					
	Workers		% Point change 1939-59	Employees		% Point change 1939-59
	1939	1959		1939	1959	
USSR	33.5	38.1	4.6			3.1
Uzbek SSR	19.3	39.8	20.5	12.9	17.3	4.4
Tajik SSR	8.7	28.2	19.7	6.1	14.5	8.4

(Source: Donald S. Carlisle, op. cit., p.289.)

Urbanization helped to draw the workers into an industrial milieu, and transformed them from seasonal, semi-proletarians into hereditary and full-time workers. In the initial years of industrialization the working class was characterized by its close and recent ties with agriculture. Peasants, artisans, handicraftsmen and housewives from villages made up the ranks of the indigenous Tajik proletariat. Predominance of building workers was the peculiar feature of the Tajik working class in these initial years. Most of the recruits from the villages joined industrial construction projects, where they could easily find employment with their existing level of skill.¹ In Uzbekistan, similarly, workers among the indigenous population were characterized by their rural origin. For example, in the Red Eastern Locomotive and Rolling Stock Repair Works, the majority of workers in the rolling stock assembly department were, by social origin, from the families of peasants

1. Kh. M. Saidmuradov, op. cit., p.8.

or craftsmen.¹ However, as has already been stated, necessary industrial labour force was more and more provided by the urban population as urbanization advanced. The above enterprise also provides another typical example of the changing nature of workers in industries. In the rolling stock assembly department of the same enterprise, as many as 50% of the oldest workers in 1952, had been in employment there since 1920-30.²

Ethnic composition of the labour force:

The impact of urbanization on the ethnic composition of the working class in Central Asia was quite significant. While industrialization resulted in the growth of an indigenous working class, the specific pattern of the urbanization process resulted in a highly heterogenous or multinational workforce in Central Asia. The working class in this period was characterized by a high degree of non-indigenous participation. In 1929 there were 56.5% Russian workers in the total workforce of Uzbekistan, as compared to 26.2% Uzbeks. The proportion remained high in 1939, though much reduced than the earlier period. By 1939 the proportion declined to 35.8%.³ But even then their share was quite higher than their share in the total population. More predominant was their participation in the skilled labour.

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1. K.L. Zadykhina, "Ethnographic data on the mode of life of the Uzbek workers of Tashkent and Andizhan", Soviet Sociology, vol.1, No.4, 1963, p.12.
 2. Ibid., p.12.
 3. George Padmore, op. cit., p.130.

As much as 50% of the workers in skilled industries of Uzbekistan were from non-indigenous ethnic groups. The Uzbeks constituted about a quarter of the engineers and technicians in their republic.¹ Similarly among the scientific workers the Europeans dominated. Thus in Tajikistan in 1954, there were 54 Europeans in the scientific research staff, whereas there were only 9 Central Asians in the staff; and of the 31 persons concerned with medicine, 21 were Europeans.²

Thus by the 1950s, though the Central Asian republics had come to have a national cadre of their own in both unskilled and skilled categories, the uneven sectoral and skill distribution of the labour force along ethnic lines which had been inherited from the past continued to characterize the working class of Central Asia. One way of removing this particular disparity would have been to delay or slow the pace of industrialization till the local cadres were trained and prepared. This would have meant retaining the economic gap between the industrialized

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1. The share of Uzbek workers in skilled industries in Uzbekistan was 42.2%, and that of all indigenous workers in such industries 50.8% in 1934. R.G. Rabich, "Changes in the structure of the working class in the Uzbek SSR during socialist industrialization", Soviet Sociology, vol.23, No.3, 1984-85, p.18; R.T. Kamilov, "Growth of the working class of Uzbekistan (1953-58), Part I", op. cit., p.36.
 2. A. Bennigsen, "The Moslem intelligentsia in the USSR", Soviet Survey, April-June 1959, No.28, p.5; and J.A. Newth, "The establishment in Tajikistan-II", Soviet Studies, vol.15, No.1, 1963-64, pp.76, 79.

European regions and the agricultural Central Asian region. In other words, the inequality between the nationalities in the European regions and Central Asia would have actually been widened. However, the Soviet planners chose first to remove the economic and social basis of inequality between regions before finally doing away with all forms of disparity. This did not mean there was no attempt to undertake the cultural upliftment of the nationalities residing in formerly backward regions. However, the lag in the economic development of the regions was so much at the time of the revolution that to bring them at par with each other, required a tremendous pace of economic progress of the formerly backward regions. In the process the lag between industrial development and preparation of the local nationalities for industrial occupations was considerable. For this reason the ethnic distribution of the labour force sectorally and skill-wise remained substantially uneven till the 1950s.

Women in the labour force:

One of the most important effects of urbanization was the participation of women in the labour force. This was inspite of the fact that with the expansion of cotton cultivation women played a specially important role in the Central Asian agriculture, where as much as 90% of the cotton harvest in most districts was gathered by women.¹ In 1922, at the

1. Fannina W. Halle, Women in the Soviet east, London, 1938, p. 250.

outset of socialist construction, women constituted a very tiny segment of the industrial labour force. While in the country as a whole their share in the total industrial and white collar workers was 25%, in Tajikistan they made up only 5% of total industrial and white collar employees.¹ The growth of industrialization and the rise in the level of urbanization had changed the situation and quite a substantial number of women began to work in industries and offices. By 1940, their share had risen to 31% and 29% in the two republics of Uzbekistan and Tajikistan respectively, as compared to 39% for the whole country, which means the gap in the participation level in the Central Asian republic and the country as a whole was narrowing, at least in republics where earlier the urbanization level was very low, Tajikistan and Kirghizia, for example.²

However women participation was not free from the constraints of the urbanization process. Migration of rural female labour to urban areas remained a great handicap. With urban centres growing fast many occupations, apart from certain industrial jobs also, came to demand female

1. Soviet Women, Moscow, 1975, p.21.

2. V. Perevedentsev, "Statistics: Almost all about women" in Current Digest of the Soviet Press, vol.27, No.23, July 2, 1975, p.9; also Narodnaya Khoziaistvo, 1982, op. cit., p.369.

labour at a much higher proportion than male labour. Without a greatly increased rural-to-urban migration of female labour, this demand had to be met by non-indigenous women labour. Thus, distribution and redistribution of women labour in Central Asia remained a serious problem at the end of the 1950s, inspite of the great strides taken to create a female industrial labour force.

The lower level of urbanization among the Central Asians, who were also culturally less urbanized, meaning thereby the strong influence of custom and tradition on even the urban Central Asians, was reflected in the lower participation of indigenous women in skilled professions, compared to their European counterparts.

The lower share of women from the Central Asian nationalities in the field of higher education was bound to affect their participation in skilled occupations.¹ In the higher and specialized secondary educational institutions indigenous women constituted less than a third (29%) of the

1. For example, the six higher schools of Samarkand awarded annually only 29 diplomas on an average to Uzbek girls between 1947-52. Similar reports were in the Tajik press, which revealed that there were only 5 Tajik girls at the Institute of Agronomy in Stalinabad and none in any of the republics veterinary or hydraulic establishments. A. Bennigsen, op. cit., p.5.

total women enrolled and about 10% of the total enrolment by 1952.¹

The lower participation of local Central Asian women as compared to their European counterparts was not confined to just skilled jobs. In many cases they were predominant in all sorts of occupations. For example, out of 3,492 women in the textile mills of the Ferghana city, only 161 were Uzbeks. Similarly, out of the 1,688 women who joined these mills in 1954, only 281 were Uzbek women.²

Thus Central Asia in the Soviet period till the 1950s, witnessed the process of a very rapid urban growth, high rate of industrial growth and a phenomenal rise of industrial labour force. However rural-urban migration remained very small, though this was the period when an indigenous labour force and also an indigenous female labour force grew substantially. The training of local manpower, collectivization of agriculture as well as its mechanization were some other important aspects of development in this period. With these, the conditions for the future development of Central Asian urbanization and working class were solidly laid.

The pattern of urbanization and working class growth underwent qualitative changes in the Soviet period as compared to the Tsarist period. In the Tsarist period, the process of urbanization was characterized by a pattern of low urban pull and low rural push. Urban growth was not accompanied

1. Ibid., p.5.

2. R.T. Kamilov, "Growth of the working class of Uzbekistan, 1953-58", Part I, op. cit., p.39.

by increased rural outmigration, since industrialization played a less important role in the process of urban growth. The growth of urban areas was highly uneven, thus resulting in the intensive growth of a few large centres. The growth of industrialization was inhibited by the colonial relation. In the rural areas feudal relations limited the development of productive forces and thus ^{inhibited} the migration of the rural population to the cities and the creation of a rural industrial labour force in the villages. In this situation industrial working class in Central Asia remained small, non-indigenous in origin and less diversified. Urban working class was not industrial in character. They were mostly engaged in service sphere, in administration, in cultural and commercial establishment and in the transport sector.

In the Soviet period, until the 1950s, urbanization was characterized by an inflated pull, simultaneously, of urban as well as rural areas. With the dismantling of colonial relation, Central Asia took to the path of rapid industrialization and the manpower requirements of industry grew manifold. In the rural sector, the disappearance of feudal lords and large land owners, resulted in a pre-dominance of small-scale commodity production. This affected the productivity of land and labour. Mechanization was late and slow. The distribution of land to the landless and the slow growth of productivity of agriculture combined with the intensive nature of farming in Central Asia to further

limit the potentiality of rural outmigration in Central Asia. Cotton specialization of the region meant more intensive use of manpower in agriculture.

Though the earlier pattern of uneven urban growth could not be dismantled in this period, the character of urban areas changed and these became predominantly industrial. A large industrial working class came into existence. Urban working class was mainly industrial and industrial working class was mainly urban.

However the faster pace of industrial development and the existing relation in agriculture (small commodity production) were in sharp contradiction, resulting in huge in-migration of industrial labour force from the European regions of the USSR. This contradiction was solved in the later years of this period by collectivization. Yet the anomaly in rural outmigration remained. The collectives were smaller in area and larger in terms of number of households. State farms were few. Apart from these, the system of incentives in terms of higher procurement prices, higher wages etc., restricted the flow of rural population to non-agricultural occupations in urban areas.

Another contradiction lay in the faster growth of urban-industrial occupations and the slower process of training of the skilled personnel from the ranks of the local ethnic population. This resulted in the heavy influx of skilled

personnel from other regions. In the latter part of this period the training of local skilled personnel improved, as also the general education among the local population.

Yet another contradiction was the faster growth of larger cities and the slower process of cultural change in the rural areas. This made the cities culturally alien to the indigenous population and further restricted the rural outflow. The slow process of cultural change could be seen in the persistence of large families, fewer interethnic marriages, fewer ^{rate} divorces, lower of participation of women in the production process etc.

This period in Soviet Central Asian history has been one of transition from colonial to socialist system. And as such the main objective was to give the republic of the region an industrial character and do away with the general unevenness that prevailed between the European regions and Central Asia. No doubt the developments were quantitative, yet compared to the colonial period these changes were also qualitative. Industry had come to dominate the economy of Central Asian republics. An industrial labour force had been created. Collectivization and mechanization had begun. Though diversification of industry and the industrial labour force was not much advanced, the conditions for the future growth of heavy industry and a predominant indigenous labour force was created in this period.

CHAPTER III

AGRICULTURE AND MANPOWER
MOBILITY, 1950-1975

The transformation of Central Asian republics to agro-industrial economies required a massive redistribution of the population spatially as well as occupationally, i.e., horizontally as well as vertically. In this respect the future development of Central Asia depended on agricultural push as much as ^{on} industrial pull. This chapter deals with the former aspect.

In economic terms Central Asian agriculture became more efficient during this period. Slowly, but steadily, agricultural diversification was undertaken since cotton specialization had reached its logical extreme. The impact of diversification on manpower was to be expected. Cotton being a highly labour-intensive crop, any change in the crop structure in favour of less labour-intensive crops was bound to reduce the manpower needs of agriculture. Another important feature of Central Asian agriculture had been the high degree of incentive provided to it till the 1950s. But since then agricultural income in Central Asia has not maintained the relative weight it had compared to industrial-urban employment or that to agriculture in other regions. The real per capita income of Central Asia further suffered due to a relatively large number of dependents on agricultural earning. Thus by the 1970s, Central Asian agriculture could no more act as a very lucrative occupation. The most important development in this period has been mechanization of agriculture that has raised labour productivity in Central Asia. This, combined

with better organisation of farming through the creation of larger collective farms and more state farms, created conditions for more rational utilization of manpower.

However, by the end of the period under study, Central Asia suffered from a very low level of mobility of the rural population to urban areas, though agriculture had been acquiring increasing potentiality to release manpower. This amply demonstrates that economic development was not just enough for rural migration. Demographic and sociocultural factors played as much an important role as any other in determining the urbanization process in Central Asia.

Cost, price, wages and income and the system of agricultural incentives in Soviet Central Asia

From 1950s onwards agricultural policy emphasized on more agricultural diversification and on linking farm income to increased productivity and output. Procurement prices fell and a large proportion of investment was to be contributed by the collective farm members themselves in the form of lower rates of income distribution to farm members and higher rates of deduction into farm indivisible funds.¹

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1. For example, in the 7th FYP, the state was scheduled to invest 150 milliard roubles in agriculture, while the Kolkhozes were to invest 345 milliard roubles of their own funds.

Grey Hodnett, "Technology and social change in Soviet Central Asia: the politics of cotton growing" in H.W. Morton and Rudolf L. Tokes (eds.), Soviet Politics and Society in the 1970s, New York, 1974, pp. 70, 112.

Geographic variation of prices is due to differences in costs because of climatic and other natural conditions that vary between various regions. This gives rise to different procurement prices for the same crop in different regions. Another type of difference is that between various crops in the same region, which results in differences in farm income levels. This price difference is mainly due to the differences in costs of production for different crops.

However, till the 1950s the considerations of regional specialization played a more important role than the adequate recognition of economic rent. Between 1930s to 1950s, ^{Central Asian} cotton continued to enjoy a favourable position vis-a-vis other regions and other crops. In 1952, the procurement prices for cotton were much higher than that of grain and highly disproportionate to the differential costs of production. Thus, a ton of cotton was 37 times higher in price than a ton of grain. The average costs of production per ton of cotton was relatively less times higher and thus the net return per ton of cotton was higher than for the same amount of grain.¹

From the 1950s, after the immediate goal of cotton self-sufficiency for the country and the developing of regional specialization had been realized, agriculture came to be

1. Azizur Rahman and Dharam Ghai, op. cit., p.22.

characterized by qualitative changes like emphasis on economic efficiency and labour productivity. There came about a leveling off prices in various regions.

The cost of production and procurement price were brought to level. Thus the ratios of procurement prices of cotton and grain in 1976 were 3.73 in Uzbekistan and 4.13 in Tajikistan and the ratios of costs of production for the two crops were 3.53 and 3.62 in the collectives of the two republics respectively.¹

The result of a more rational procurement price policy was reflected in the level of profitability of various crops. Thus in Tajikistan, for example, in 1967 the profitability of various crops in Tajik collective farms showed that cotton cultivation was not the most profitable farming in the republic where fruit with 81.4%, tobacco with 48.4%, melons with 33.0%, and grains with 31.2% had higher levels of profitability than cotton with 29.4% profitability.²

But cotton continued to remain the most important crop in the republics of Uzbekistan and Tajikistan. In Uzbekistan half of the sown area was devoted to cotton and about three-fourths of the irrigated area was under industrial crops, cotton mainly. The predominant position of cotton despite

1. Azizur Rahman and Dharam Ghai, op. cit., pp.31-32.

2. Grey Hodnett, op. cit., pp.85,110.

lower profitability has remained so because individual ownership and private profit motive are not the basis of investment. Apart from this, cotton cultivation has become for historical and cultural reasons a part of Central Asian rural life. People have not only become used to this farming but have also acquired the skills and habits of work for cotton farming. Thus in the period between 1950-75, while more emphasis on the qualitative improvement of farming in other crops was given, cotton continued to dominate Central Asian agriculture.¹

The changes, nonetheless, have been steady in Central Asian agriculture over the years. In Uzbekistan and Tajikistan the rate of growth of cotton production had been declining, while that of grain and livestock products had been increasing. Between 1965-75, the rate of growth of grain output was twice that of cotton. This was in contrast to the earlier four decades when the rate of growth of grain output was either negative or negligible. In both Tajikistan and Uzbekistan livestock products had been growing faster than the earlier period, as well as much faster than cotton.² This shift to less labour-intensive crop cultivation would mean a gradually lesser pull from agriculture on

1. Cotton cultivation occupied 50% of the sown area in 1970 and 68% of the irrigated area in 1969 in the Uzbek republic. Ibid., p.91.

2. Azizur Rahman and Dharam Ghai, op. cit., p.32.

the manpower reserve.

In terms of agricultural income as well, Central Asian collective farms lost the formerly enjoyed advantages. The total as well as personal incomes of the collective farmers in Central Asia rose less rapidly than the country as a whole and the per capita income in the former was less than the latter. At the same time, the share of the Kolkhoz labour payments in the personal income of the peasant declined in Central Asia, while that for the whole country was showing an upward movement.¹ This means, the Central Asian collective farm wages were losing many of their earlier advantages over other areas.

Table -7: Total and personal per capita income of the Collective farmer (roubles per year), 1960-70 Selected republics

	Total income			Personal income		
	1960	1965	1970	1960	1965	1970
USSR	379	551	762	329	460	659
Uzbek	377	428	555	328	374	499
Tajik	218	358	440	193	316	396

(Alastair McAuley, Economic Welfare in the Soviet Union, Wisconsin, 1979, p.128.)

1. For example, the share of Kolkhoz labour payment in the total personal income of the collective farmer increased from 33.5% to 47.1% in USSR, and from 34.4% to 51.8% in the RSFSR between 1960-70. In Uzbekistan the share declined from 52.4% to 49.4% and in Tajikistan the increase was only marginal from 42.2% to 43.2%, in the same period. Alastair McAuley, Economic Welfare in the Soviet Union, Wisconsin, 1979, pp.131-32.

Since, standard of living and real wage in Central Asia did rise constantly, the uniformity in farmer's income in various regions was not surely brought about by a stagnation in Central Asian farms incomes.¹ This was generally brought about by linking wages to productivity in this period. Thus the rise in wages in other areas was faster as labour productivity in Central Asia rose slower than others. For example, between 1971-74, the annual average level of labour productivity in the Baltic republics and Belorussia rose by 94-125% as compared to 1961-65, while it rose by 22-51% in Central Asian republics in the same period.² Similarly, other indicators exemplify the fact that Kolkhoz earnings in Central Asia and the rest of the country were becoming more or less equal. In 1958, payment per man-day in Central Asian collectives was 70% above that of the USSR as a whole. By 1970, however, payment per man-day in the collective farms of Tajikistan was only 7% higher than that of USSR and in

1. Since 1955, the real value of wages rose a good deal, which is clear from the continually increasing sales and the growing demand for high quality goods, that exceeded supply. This development was more so in case of rural areas. Trade increase between 1955-56 show that while the total sales grew by 14.3% in Gorno-Badakshan, the corresponding figure for Stalinabad was 11.6% and Leninabad 14.3%. Cited in "Consumer goods in Central Asia", Central Asian Review, vol.7, No.2, 1959, pp.145-48.

2. V. Popov, "Increasing the productivity of labour in agriculture", Soviet Review, vol.18, No.2, 1977, p.66.

1975 in Uzbekistan it was only 1% higher than the USSR average.¹

Table-8: Payment per man-day in Collective farms

	1965	1970	1972	1973	1975
USSR (in roubles)	2.68	3.90	-	-	4.54
Uzbekistan (in roubles)	3.29	4.24	-	-	4.60
Tajikistan (in roubles)	3.21	4.17	4.10	4.37	-
Uzbekistan (as % of USSR)	123	109	-	-	101
Tajikistan (as % of USSR)	120	107	-	-	-

(Azizur Rahman and Dharam Ghai, op. cit., p.15; also Gale Johnson and Karen McConnell Brooks, Prospects for Soviet agriculture in the 1980s, Bloomington, 1983, p.177.)

Like in Kolkhozes, the earnings of state farm employees also increased less rapidly in Central Asia than the rest of the country and in the 1970s state farm workers earned less in Central Asia than their counterparts in the rest of the country.² In 1975, the average monthly money earnings of the state farm employees was 136.2 roubles in Tajikistan, and 136.5 roubles in Uzbekistan, which were less than the USSR average of 145.8 roubles.³ Both absolutely and relative

1. Azizur Rahman and Dharam Ghai, op. cit., pp.15-16; And, Gale Johnson and Karen McConnell Brooks, op. cit., p.177.
2. In 1970, the per capita total income of a state farm employee in the USSR was 970 roubles annually, as compared to 798 roubles in Uzbekistan and 764 roubles in Tajikistan. Alastair McAuley, op. cit., p.139.
3. Alastair McAuley, "The Soviet muslim population: trends in living standards - 1960-75" in Yaacov Roi (ed.), The USSR and the muslim world, London, 1984, p.112.

to the gross income, earnings from state employment were larger in the rest of the USSR than in Central Asia.¹

In the period under study Central Asian farms, collective and state farms alike, were no better off than those in other parts of the country. In fact, Central Asian farms provided a negative incentive for agricultural occupation in a strictly economic sense. With large families and more number of dependents, Central Asian collectives lost whatever little edge they have had over other regions in terms of wages and earnings of the Kolkhozniki. Pressure on land was increasing as per capita land area was shrinking. Per capita income was also shrinking since natural population increase in Central Asia was much higher than in other areas. Thus left to economic forces alone, Central Asian rural population had every reason to migrate on a large scale to industrial-urban areas or other regions. As it is, the presence of a large surplus manpower in agriculture affected productivity of labour and thus farmer's income, which was linked more to productivity, was also being affected. The shifting of this

1. Ibid., p.102.

The daily wages in the state farms in the Central Asian republics, were less than the USSR average. In 1970, daily wage in the state farm was 4.43 roubles on an average in the USSR as a whole, whereas in Uzbekistan it was 4.23 roubles and in Tajikistan, 3.84 roubles. D. Gale Johnson and Karen McConnell Brooks, Prospects for Soviet agriculture in the 1980s, Bloomington, 1983, p.177.

surplus population from agriculture could have increased Kolkhozniki income. This makes the argument still stronger that left to economic forces alone, Central Asian rural out-migration should have been much more rapid than it was in this period. This argument becomes more forceful when wage rates of various sectors of the national economy are compared. Wage rates were higher in sectors such as heavy industry and construction, and lower in the light and food industries or in the non-industrial sectors of the economy. They were the highest in the heavy industrial sectors (mainly fuels and metallurgy) transport and construction, and lowest in agriculture, light industry, food industries and the service sectors.

Table-9: Average monthly wage of workers and employees by sectors of the economy, Uzbekistan (in roubles)^a

	1940	1965	1970	1975
Total for the economy	29.7	89.2	114.8	136.6
Industry (industrial production personnel)	27.6	93.7	123.5	151.9
Agriculture	22.9	69.0	97.5	121.0
Of which, state farm, subsidiary and other state agriculture	19.7	67.2	97.8	120.1
Transport	31.9	102.9	131.0	171.7
Of which, railway	33.8	93.7	116.2	148.3
automobile etc. ^b	30.5	106.0	134.8	176.9
Communications	30.8	69.8	91.7	122.3
Construction	31.4	114.1	154.1	178.9

contd....

Table....contd....

	<u>1940</u>	<u>1965</u>	<u>1970</u>	<u>1975</u>
Of which, construction				
- assembly work	28.1	115.2	159.0	185.6
Trade, public dining, material technical supply, sales & procurement	25.2	71.5	92.3	106.2
Housing - communal economy and personal services	25.6	67.7	85.6	100.5
Health services	26.8	80.9	92.6	98.7
Education	31.7	93.5	108.9	125.2
Culture	20.7	73.4	87.0	94.0
Art	37.9	73.9	90.2	96.2
Science & Scientific services	42.7	111.5	127.5	147.1
Credit and insurance	33.9	80.5	97.6	113.9
Government administration	42.1	100.2	113.9	123.6

a - Does not include additional payments & taxes from the social consumption fund.

b - Automobile urban electric, water and other transport, and trucking organisations.

(Source: TsSU Narodnoe Khoziaistvo, Uzbekistana V 1981 godu, Tashkent, 1982, p.188. Cited in Nancy Lubin, Labour & Nationality in Soviet Central Asia, London, 1984, p.176.)

A forceful argument in favour of the 'economic' viewpoint can be made out by emphasizing on the increasing incentives provided by activities in household and private subsidiary sector.

Income and employment in private subsidiary agriculture:

Though an important source of agricultural income, private subsidiary agriculture, however had never been as important in Central Asia as in the rest of the country.

Thus in 1970, per capita income from this source in a collective farm in Uzbekistan was 58% and that in Tajikistan 37% of the USSR average.¹

Personal plots in the Central Asian collectives were on the average much smaller than those in the rest of the country. The average size of the personal plots per collective farmer in Uzbekistan and Tajikistan were 0.12 and 0.13 hectares respectively, as compared to 0.33 in the country as a whole.²

However, lately private subsidiary farming assumed increasing significance. The growth in this sector was much faster in Central Asia than in the country as a whole. In 1971-75, as compared with 1966-70, the output of private auxiliary farming increased by 50% in Uzbekistan and 33% in Tajikistan, while the increase in the country as a whole during the same periods was only 3-4%.³

Since private farming is relatively less mechanized, a faster growth in this sector would have embodied an equally increasing share of social labour. This trend towards increased private agricultural activity indicates that a large share of the surplus labour in agriculture was being

1. Azizur Rahman and Dharam Ghai, op. cit., p.30.

2. Ibid., p.76.

3. G. Shmelev, "personal auxiliary farming at cross-roads of opinion: a reliable support", Current Digest of the Soviet Press, vol.32, No.5, March 5, 1980, p.9.

absorbed in the private subsidiary sector rather than migrate to the cities. Thus, inspite of agriculture becoming more and more viable and more manpower being released from it, there was no corresponding rural-to-urban migration.

Chamkin explains the prevailing orientation of the Uzbeks towards the household economy by the existence of large families and according to him, employment in the household economy allows the Uzbeks to diminish significantly their expenditures on food from the family budget.¹

However, it would be very simplistic to assume from the growth in private subsidiary activity that the labour force released from agriculture moved wholesale to private subsidiary activity or that this sector was so profitable that it prevented manpower to move to other sectors. People fully engaged in private subsidiary and household sphere may not have been as large as it may appear, because, it included persons who were already employed in other sectors of the economy. The role of private subsidiary agriculture also assumed significance as the food requirements of a rapidly growing population increased equally rapidly. Since the state and collective farm sectors were mainly engaged in cotton cultivation, the role of private sector became more significant. Another factor may be that large families kept many women confined to the household and they found it

1. N. Lubin, op. cit., p.285.

convenient to participate in production through the private subsidiary activities. It is true that such activities subsidized the family income, but by no means could this income substitute income from employment in other spheres. So, the argument that profit motivate people to join private subsidiary activities is not tenable. It is rather more due to socio-cultural reasons that people take up private subsidiary activities than due to any great economic benefits (as has been emphasized by Lubin). Economic motives come into play so far as this sphere subsidizes family income, but it is not convincing that this is highly profitable a source of income.¹

Similarly, it was not the incentives provided by private subsidiary activity that prevented people from moving to other sectors, but it was rather the other way round. With increased mechanization and productivity of labour in agriculture, manpower was being constantly released from agriculture.

1. Lubin has tried to show in the most painstaking way that private activity is highly lucrative in Central Asia both because of its legal and illegal aspects. "In certain republics," according to her, "the private economy is large and private incomes often equal or exceed official income." And in a most sweeping generalization she suggests that, "precisely by dominating the agricultural or service spheres, light industry or food industries - or by remaining in the population not working in social production - the indigenous nationalities tend to concentrate in those jobs with greater possibilities for private gain". Nancy Lubin, op. cit., ch.6, pp.171-99.

But again, due to socio-cultural reasons this manpower had not been moving correspondingly to other sectors in social production. With the accumulation of manpower in the rural areas and households, it is natural that private activity has grown. However, during the period under study, there was a decline in the share of income derived from private subsidiary agriculture. Thus in this period at least, mobility from agriculture to industry should have been faster by Lubin's logic.

The proportion of income from private subsidiary activities in the total income of a collective farmer was less than the USSR average in all the Central Asian republics except Uzbekistan, where it was only marginally higher. All the four republics registered decline in the proportion of such earning in the total income, Tajikistan registering a faster decline than the rest. By 1970, the ratio of private subsidiary income in the total income in the Central Asian republics remained lower than most of the European republics, barring RSFSR.

The growth in the private subsidiary sector and the fall in the proportion of income from this sector in the total income of the collective farmer implies that more and more people who were not employed on the collective farms were taking to this activity. Comparatively also the income from this source for Central Asian collective farmers retained more significance and hence the decline in the ratio of

Table-10 Kolkhoznik income from private subsidiary activity, selected republic (percentage of per capita personal income), 1960-1970

Republic	Income from private subsidiary activity	
	1960	1970
USSR	52.5	34.5
RSFSR	49.7	29.4
Byelorussia	-	42.9
Georgia	-	54.5
Lithuania	-	46.9
Latvia	-	40.8
Moldavia	-	42.0
Uzbekistan	37.7	35.0
Tajikistan	43.0	32.3
Kirghizia	37.9	29.4
Turkmenia	34.2	24.1

(Alastair McAuley, Economic Welfare in the Soviet Union, op. cit., pp.131-32.)

income from private sector in Central Asia had been less rapid than other areas of USSR. Thus, the growth of population and its food requirements as well as the immobility of the surplus population in rural areas resulted in the increasing significance of private subsidiary agriculture. Notwithstanding the increasing role of private subsidiary and household sector, the gap in agricultural income between Central Asia and the rest of the country narrowed down. Simultaneously the income in industry was rising faster than that in agriculture in Central Asia as compared to the rest of the country. While the ratio between industrial income and collective farm income in USSR declined from 1.56 to 1.43 between 1965-75, in Uzbekistan it rose from 1.14 to

1.32 and in Tajikistan from 1.16 to 1.19 in the same period.¹

Contrary to what appears, Central Asians did not live better off on land than people in other parts of the country. The combined Kolkhoz income in Central Asia was higher than USSR average, by 10-25.5% more. But the Kolkhoz income per family member was considerably lower than the USSR average, primarily because of large families in Central Asia.²

As has already been stated, this was the period of qualitative transformation of Central Asian agriculture, when productivity rather than incentives increased faster. Socialized production could not be based for long on artificially inflated production through incentives. The collectivization and the resultant changes had created necessary conditions for doing away with such incentives that created large differentiation among the people living in various regions. The stress came to be more and more on labour productivity and profitability linked to productivity. Correspondingly mechanization of agriculture assumed greater significance.

Mechanization of agriculture:

Mechanization of agriculture posed tricky problems for Central Asian agriculture. An already existing large man-

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1. Azizur Rahman and Dharam Ghai, op. cit., p.29.
 2. Robert A. Lewis and Richard H. Rowland, Population redistribution in the USSR, Its impact on society, 1897-1977, New York, 1979, p.390.

power reserve in agriculture and a lower rate of migration of the rural population, posed serious problems in the way of rapid mechanization that would have meant leaving a large number of the rural population unemployed. At the same time slow mechanization would mean under-utilization of manpower resources, continuing with the lower level of urbanization and finally, slower rate of growth of the indigenous working class and the resultant economic and social fallouts. Both these above aspects had their impacts on agriculture and mechanization proceeded under their diverse pulls.

The mechanization of agriculture in the Central Asian republics in this period was extremely rapid and in certain respects even overtook the level in the country as a whole. The degree of machine harvesting in Uzbekistan reached almost the same level as the country as a whole in 1970. The level reached in Tajikistan was quite impressive considering the near lack of mechanization till the 1950s.¹

In Tajikistan, where the agriculture earlier was highly labour intensive and least advanced, mechanization of work

1. Towards the end of the 1960s the harvesting of cotton by machines was 33% in the country as a whole. Uzbekistan, where only 1.7% of the total harvesting of cotton was done by machines in 1955, the level reached in 1970 was 34%. In some districts of the republic machine picking had reached 50-70% of the crop, while individual farms had even recorded 80-95%. In Tajikistan also, 21% of the total harvest was done by machines in 1969. Grey Hodnett, op. cit., p.79.

in 1969 was 74% in cotton cultivation, 50% in vegetable cultivation and 22% in cotton picking.¹ Energy use on the collective farms, state farms and mixed agricultural enterprises (serving collective and state sector both) in Central Asia amounted to 428.3 horse-power per 100 hectares of sown area, compared with 209 horse-power on an average per 100 hectares for the whole country.² Not only in terms of tractor power per unit of land, but also in terms of tractor power per worker, Central Asian agriculture showed a faster rate of mechanization in this period and by 1975 had a higher level of tractor utilization than the country as a whole. In the USSR as a whole an average collective farm had more tractors per thousand hectares of sown land as compared to those in the collective farms of Uzbekistan and Tajikistan.³ But number of tractors per person employed in agriculture was 11.1 in the USSR, whereas it was 11.5 in Uzbekistan and 13.4 in Tajikistan.⁴

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1. Teresa Rakowska-Harmstone, "Tadzhikistan and the Tadzhiks" in Zev Katz et. al. (eds.), op. cit., p.319.
 2. Ian M. Matley, "Central Asia and Kazakhstan" in I.S. Koropecyij and Gertrude E. Schroeder (eds.), Economics of Soviet regions, New York, 1981, p.430.
 3. Rahman and Ghai, op. cit., pp.63-64.
 4. The number of persons employed in agriculture is taken from Warren Eason, "Population and Labour force" in I.S. Koropecyij and Gertrude Schroeder (eds.), op. cit., pp.82, 88-89. The total number of tractors from Narodnaya Khoziaistvo, SSSR, 1982, op. cit., p.204.

The impact of mechanization on both production and productivity was very impressive. The rate of growth of gross production in the rural economy was faster in the Central Asian republics, than in the USSR as a whole, where the growth was 2.3 times as compared to 3.6 times in Uzbekistan and 3.7 times in Tajikistan between 1940-75.¹

The increase in production was not due only to increase in the sown area, nor was the production increase due to use of more manpower, like in the earlier period.² Production and productivity increase was more due to mechanization, better organization and consequently to increased labour productivity. The increase in production was more than the increase in the sown area. For example, in Uzbekistan the area under cotton less than doubled between 1940-75, whereas in the same period the gross output of cotton increased by more than three and a half times.³ That increased production was due to increased productivity of land is very conspicuous. Average cotton yield per hectare of land doubled in Uzbekistan. By 1976 yield of raw cotton per

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1. Incidentally, the rate of growth of the gross production in the rural sector between 1970-75, was slow in the USSR (3%), and much faster comparatively in Uzbekistan (17%) and still faster in Tajikistan (25%). National economy of the USSR, Statistical returns, op. cit., p.196.
 2. P. Niyazov, op. cit., p.37; A.A. Mints, op. cit., p.146. Tajik Press Bulletin, op. cit., p.4; and Narodnaya Khoziaistvo SSSR, 1982, op. cit., p.
 3. Narodnaya Khoziaistvo, SSSR, 1982, op. cit., p.82.

hectares of land in Uzbekistan and Tajikistan was more than the all-union average - 3 tons in the two Central Asian republics as compared to 2.82 tons in USSR as a whole.¹ Much of this increased productivity has been due to rise in the level of mechanization and labour productivity, though some experts attribute the increase in land productivity to the increase in the use of manpower.² Comparison of labour inputs in agriculture with the USSR as a whole, without taking into consideration geographical and natural variations, variations in the nature of farming and land use, would only give a superficial picture of the actual situation in agriculture and would not help in studying the dynamics of Central Asian agriculture. Farming in Central Asia is predominantly related to cotton and is intensive since cotton is based mainly on irrigated farming. Any general comparison of agriculture between the country as a whole, where neither cotton farming predominates nor is farming as intensive, and Central Asia, would not give a correct picture of the actual improvements of labour productivity in the latter region. Labour requirement per hectare of cotton was 6 times

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1. In Uzbekistan the average cotton yield per hectare of land went up from 1.5 tons in 1940 to 2.83 tons in 1975. Rahman and Ghai, op. cit., p.63.
 2. According to Rahman and Ghai, the greater labour-productivity in the state farms was mainly due to more and better use of machines, and in collective farms due to more employment of labour. Rahman and Ghai, op. cit., p.66.

higher than that for grain in the collective farms of Central Asia. This gives an idea of the inherent difference that lies between the labour requirements of the Central Asian agriculture and the rest of the country. In spite of this Central Asian agriculture has shown remarkable improvements in labour productivity.

R.R. Sharma has argued that emphasis on cotton cultivation has been the most important factor contributing to the lower rate of urbanization in the Central Asian republics and also the slower rate of increase in the proportion of people employed in the non-agricultural sector. This argument has been substantiated by data on man-hour of labour required per hectare of cotton and grain cultivation in both Kolkhozes and Sovkhozes. Thus, cotton required 6.02 times more man-hours per hectare than grain in the case of Kolkhozes and 11.48 times in the case of Sovkhozes.¹

However, there is no denying the fact that over the years a large number of people have become surplus in agriculture and the surplus population has mostly preferred to either remain attached to the collectives for seasonal employment or been engaged in household and private subsidiary activity rather than move to non-agricultural jobs or to

1. The man-hour of labour required per hectare in Kolkhozes was 1089 for cotton and 181 for grain; and in the case of Sovkhozes the figures were 181 and 58 respectively. R.R. Sharma, "Class and Social-agrarian transformation in Soviet Central Asia: A historical cultural context" in Man and Development, New Delhi, Sept. 1986, p.122.

urban areas. The level of manpower surplus in agriculture can be identified by indicators such as the amount of land per agricultural worker, the use of working time on collective farms and the proportion of able-bodied collective farm members working full-time. There has been a decline over the years in all the above indicators, which according to Nancy Lubin is mainly due to high rates of population growth, the tendency of rural inhabitants to enter agriculture and the rapid mechanization agriculture.¹

The number of rural inhabitants per sown hectare in Central Asia, according to one estimate, rose by 25% between 1959-70. This means a decline in the amount of arable land per collective farmer. According to Ubaidullaeva, in many collective farms in Uzbekistan the average land per able-bodied collective farmer was much below the optimal level. According to her estimates, based on the amount of land per worker, in the mid-1970s more than 57,500 able-bodied collective farmers were redundant in the collective farms of Namangan oblast alone.²

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1. Nancy Lubin, Labour & nationality in Soviet Central Asia, London, 1974, pp.102-3.
 2. Ubaidullaeva estimated the optimal level of land per able-bodied collective farmer to be an average of 3.0 hectares. However, in 1972, in the collective farms of Andizhan oblast the average was 1.32, in Ferghana oblast 1.24, in Namangan oblast 1.33. Cited in Nancy Lubin, op. cit., p.103.

The use of working-time in agriculture has also registered decline over the years indicating the growing level of surplus labour in agriculture. The number of man-days worked per able-bodied farmer has dropped significantly in the collectives. In Uzbekistan the man-days worked per able-bodied collective farmer was much below the optimal level in 1975.¹ Ubaidullaeva estimated that in 1970 the excess of unused working-time of collective farmers of Namangan oblast was the colossal figure of more than 101,000 man-days, and the general loss of working time in Namangan's collective farms was the equivalent of about 38,000 full-time personnel.²

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1. Ubaidullaeva estimated the optimal level to be 270 man-days per year and Egamberdiyev put it at 280 man-days per year in Uzbekistan's collective farms. The actual number of man-days worked in Uzbekistan's collective farms, however, was an average 213 man-days per able-bodied collective farmer. In several oblasts of the republic the average worked was as low as 180-190 man-days. Cited in Lubin, op. cit., p.103.
 2. Seasonality cannot be taken as the only nor even the main reason for surpluses in agriculture, while seasonality may have compounded the problem of agricultural labour utilization. The data for 1970 in Uzbek agriculture shows that it is essential to have labour reserves at about 8-10% of the potential labourers force in collective farms. However, a study conducted in the planning sector for the use of labour resources indicated that a significant part of collective farmers did not participate in social production even in the period of maximum stress of agricultural work. N. Lubin, op. cit., pp.104, 272-73.

Several indicators point to a large and growing man-power reserve in Central Asian agriculture. In 1958, for example, 87% of all able-bodied collective farm members participated in agricultural work in Uzbekistan. In 1970 this proportion was 80% in the Kolkhozes of Khorezm oblast, less than 75% in the Kolkhozes of Andizhan and Surkhandarya oblasts, and less than 70% in Samarkand and Tashkent oblasts.¹ According to Umurzakov, in 1973, labour reserves were more than 100,000 people in the collective farms of Ferghana valley alone, which according to him was mainly due to the fact that labour force released by the introduction of complex mechanization was not finding a use within the collective farm.² The rapid rate of mechanization in agriculture, according to Lubin, would intensify the problem of man-power use in agriculture. In the absence of a mass movement of agricultural personnel to other sectors, calculations presented at an agricultural conference in Ferghana (September 1976) suggested that with the planned level of mechanization, labour expenditures per hectare in all the cotton-growing areas of Uzbekistan would decline on average to 24-28 man days per year in the near future.³

1. Ibid., p.105.

2. Cited in ibid., p.105.

3. Ibid., pp.104-5.

Labour surplus in agriculture was particularly more pronounced among the indigenous women, who comprised a large proportion of collective farmers, especially its unskilled section. Mechanization affected them most and thus their participation in social production further weakened. Women worked fewer man days per year than men, had a smaller amount of land per capita and exhibited a high degree of seasonality. In the early 1970s in Uzbekistan, the average number of man days worked per able-bodied collective farmer was 214.3 man days per year. Among men, the number was 237.5 man days per year, while among women, the average was only 192 man days per year.¹ Since women constituted the least mobile part of the population in Central Asia, either in terms of moving to agricultural land that were newly opened or to other non-agricultural sectors, it is obvious that the declining employment and economic activity of collective farmers in Uzbekistan affected women most.²

Mechanization reflects the qualitative growth of the productive forces. The productivity of social labour is an inevitable outcome of this progressive process. However, the smooth progress of mechanization and labour productivity depends on the social context in which they are operating. In Central Asia, the immobility of the rural population has

1. Ibid., p. 273.

2. Ibid., p. 105.

seriously constrained the efficacy of mechanization. Unless and until these fetters are removed, the growth of the productive forces would be either distorted or would compound the existing social problems further. One such example is the growth^{of}/productivity of labour which has never been smooth and free of problems.

Productivity of labour
in Agriculture:

Labour productivity in agriculture increased significantly in Uzbekistan and Tajikistan during the period under study. Between 1960-75, labour productivity increased by 1.4% in Uzbekistan and 1.8% in Tajikistan, as compared to less than 1% (0.9% to be exact) in the USSR as a whole. The growth of labour productivity was accompanied by a faster rate of growth of fixed capital in agriculture since 1960. This means the relative capital intensity of agriculture in Central Asia was growing steadily.¹

Table 11: Average annual Growth rates of output, labour and fixed capital in agriculture (1960-1975)

	Output	Labour	Fixed capital
USSR	.1	-.8	8.0
Uzbekistan	2.4	1.5	10.6
Tajik	2.7	.9	10.0

(I.S. Koropecy, "Growth and productivity" in I.S. Koropecy and Gertrude E. Schroeder (eds.), Economics of Soviet regions, New York, 1981.)

1. I.S. Koropecy, "Growth and productivity" in Koropecy and Schroeder (eds.), op.cit., pp.109-10.

In terms of agricultural output the above two Central Asian republics had a much faster rate of growth than the whole country, as also in terms of rate of growth of fixed capital which was much faster than the rate of growth of labour. This means much of the increase in output was more due to increased use of machine than due to the increased use of labour. Increased mechanization of agriculture was reflected in the increase in capital and power used in agriculture. Capital per 100 hectares of arable land in 1974 was 2.7 times greater than the RSFSR and 2.2 times the country as a whole. Similarly power per 100 hectares of sown area was 2.5 times higher in Uzbekistan than in the RSFSR and 2.3 times than in the USSR. Between 1966-74 power on collective farms and state farms increased by 68% in Uzbekistan and 66% in Tajikistan, which was higher than that on the advanced European republics of the USSR.¹

This shows that Central Asian agriculture was provided with enough machinery during this period. One thing was certain, Central Asian agriculture did not suffer due to lack of machinery. This had its impact on productivity of land, crop and labour. With a high rate of mechanization, Central Asian agriculture was bound to witness a steady increase in the productivity of labour.

1. V. Popov, "Increasing the Productivity of labour in agriculture", Soviet Review, vol.18, No.2, 1977, pp.66-68.

However, mechanization and growth of labour productivity were seriously constrained by the presence of a relatively large manpower in Central Asian agriculture, due to the nature of the crop farming in Central Asia, higher birth rate and lower rate of migration. These historical, cultural and demographic factors, rather than economic factors, influenced the process of urbanization. Economically, Central Asian agriculture was in a much better position to release manpower for non-agricultural occupations. However, the strength of the economic forces were also determined by other non-economic factors that have been mentioned above. It is due to these factors that labour productivity in Uzbekistan grew at an annual average rate of 2.2% as compared to 5.5% for the USSR as a whole between 1966-74, and the man-years per 100 hectares of arable land in 1974 were more than 4 times in Uzbekistan than in the country as a whole.¹

Thus, it is not the lack of machines, but the already existing large labour surplus, which affected the efficient and rational mechanization of agriculture in Central Asia. Higher labour expenditure was a rule in most farms to which many people were attached and who had to be provided with work even if it was useless or superfluous. According to the

1. Man-years per 100 hectares of arable land was 71% in RSFSR, 212% in Belorussia, 408% in Uzbekistan and 251% in Tajikistan, of the USSR average in 1974 (USSR average = 100). V. Popov, op. cit., pp.66-67.

then Uzbek minister of agriculture, K. Khanazarov, as much as 20% of the labour force was completely redundant in some Kolkhozes of Uzbekistan in 1960.¹ The number of man-days worked in socialized agriculture increased in Central Asia (by 12%), between 1960-75, whereas that in the USSR as a whole declined over the same period (by 10%). More people joined agriculture in this period, even though mechanization and rise in material and cultural standards had effected reduction of man-days per agricultural worker.²

Table-12: Days worked in Socialized agriculture (in millions)

	1960	1965	1970	1975
USSR	6 247	6 025	5 626	5 619
Uzbekistan	330	343	379	423
Tajikistan	77	75	79	87

(D. Gale Johnson and Karen McConnell Brooks, Prospects for Soviet agriculture in the 1980s, Bloomington, 1983, p.136.)

The existence of a large share of the population in rural areas and the lack of sufficient skilled personnel limited the effective utilization of machinery in agriculture. Reports were pouring in the Soviet press about the under-utilization of the farm machinery in Central Asian republics.

1. Grey Hodnett, op. cit., pp. 83, 112.

2. Gale Johnson and Karen McConnell Brooks, op. cit., p.136.

For example, during the peak of the harvesting time in Tajikistan, one-sixth of the harvester combines were not taking part in the harvesting campaign in 1973 and hundreds of machines were not fulfilling their production plans.¹ Tractor efficiency was considerably less in all Central Asian republics. Thus the average per shift performance of DT-54 and DT-75 tractors was 10% lower in Uzbekistan in 1973 than in 1965. The same was true of harvester use. The average daily performance of cotton harvestors in Tajik farms declined by 18% during the period, 1965-73.² Another typical example was Andizhan, where inspite of the less than one hectare of agricultural land per worker in agriculture (though the norm in the newly irrigated land is 8 hectares per worker) and inspite of the other labour-intensive branches like silk cultivation etc., the province had a large labour surplus. The farm managers had to look everywhere to find any employment for their members even if they were not required.³ Similarly in Tajikistan, despite the annual increase in the amount of technical equipment, agriculture continued to have a substantial share of manual labour, largely because of the need

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1. G. Kalandarov, "Tajik Cotton" in Current Digest of the Soviet Press, vol.25, No.43, Nov. 21, 1973, p.26.
 2. F. Savitsky, "Disclose reserves, increase production efficiency" in Current Digest of the Soviet Press, vol.25, No.15, May 9, 1973, p.20.
 3. V. perevedentsev, "Urbanization problems in Central Asia" in Current Digest of the Soviet Press, vol.28, No.4, Feb. 25, 1976, p.1.

to keep people employed. Reports showed that nearly one-fourth of the able-bodied population in the villages could find jobs in other branches if manual labour were cut down, and no harm would have been done to the rural economy.¹ There are innumerable examples of the inefficient use of machinery in Central Asia. One such example that sufficiently sums up the whole situation, was the crop sowing in Uzbekistan in 1976. It took a month and half for the republic as a whole to complete the sowing, although the leading farms of the republic were able to cope with it in 10-12 days.²

Due to poor use of the machines the economic effectiveness of the machine harvesting was greatly impaired, and a shortage of working hands was created during harvest time. To cope with both these problems help from towns was sought, especially of the skilled machine operating personnel. This further deteriorated the productive use of the local manpower.

The use of a large number of urban residents and professionals to help in the agricultural work was not simply due to seasonality and the higher demand for labour during

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1. "When work is not waiting: Problems of the rational utilization of labour resources in Tajikistan", Current Digest of the Soviet Press, vol.27, No.22, June 25, 1975, p.1.
 2. "Uzbekistan's cotton production line", Current Digest of the Soviet Press, vol.18, No.16, May 19, 1976, p.35.

harvest time.¹ Speaking of the Uzbek collective farms, Ubaidullaeva says, "A general characteristics of collective farms is that all work is done by collective farmers; workers and specialists are only called in from the side when those specialists are not available on the collective farm, or when work in the collective farm cannot be finished on time by the collective farm's labour alone. Paradoxically, however, in the republic's collective farms, including in the most densely-populated oblasts, labour of people called in from the side is used not in the light of a shortage, but with a surplus of the collective farm's own labour resources and with a high level of mechanization of the production processes."²

Table-13: Use of outsiders in collective farms of Uzbekistan, 1960-1971

	1960	1965	1970	1971
Average number of outsiders in agricultural work	67,300	81,500	82,800	82,000
Number of collective farmers who did not work a single man-day	58,800	29,300	20,700	18,000

(Source: R.A. Ubaidullaeva, "Regional'nye problemy Razme shcheniia i effektivnost ispolzovaniia trudovykh resursov V Uzbekskoi SSR", doctoral dissertation, Tashkent, 1974, pp.256-57, cited in Nancy Lubin, op. cit., p.143.)

1. In 1962, 2% of the Kolkhoz money income and 4% of its wage fund was overexpended due to employment of non-rural residents in collective farms in the Uzbek republic. Grey Hodnett, op. cit., pp.84-86.
2. Cited in Lubin, op. cit., p.143.

While in the harvesting season manpower was brought in from outside and many collective farm members stayed idle, there were many collectives that maintained the surplus manpower with very little work. This compounded the problem of rational use of manpower in agriculture. Efficient use of machines was hampered and the productivity of labour had to face serious bottlenecks in the process of its growth in Central Asian agriculture.

Due to the presence of a large surplus labour force in agriculture, many collective farms were forced to use this labour by broadening the scope of manual cultivation and harvesting and by the slow introduction of agricultural machinery. As a result the collectives used more labour than the Sovkhozos. In the 22 selected Kolkhozos in Central Asia in 1964, the labour expenditure per hectare was $1\frac{1}{2}$ to 2 times of that in Sovkhozos.¹

The productivity of labour and capital both confronted serious constraints under these circumstances and their progress could not be smooth even after the strengthening of the technical-economic and organizational-institutional basis for increased productivity. Thus, it is not unnatural that the growth rates of capital and power in Central Asian agriculture were higher than their growth rates per worker. Between 1966-74, power on collective and state farms in the

1. Grey Hodnett, op. cit., p.114.

Uzbek SSR increased by 68% and in Tajik SSR by 66%, whereas the increase in power per worker was 45% and 36% in the two republics respectively.¹ This means the impact of capital and power on labour productivity was not as much as it could have been, had the agricultural population been relatively smaller. In fact republics with a smaller rural population had a faster rate of increase of productivity of labour, though the rate of growth of capital and power in these republics was slower than that in Central Asian republics. The table below gives some idea about the relative growth of labour productivity in selected republics of the USSR.

Table-14: The Impact of Capital and Power per worker on Labour productivity of agriculture, 1974 (both collective and state farms)

	Fixed agricultural capital (in % of USSR)		Power		Man - years per 100-hectares of arable land	Gross output per man-year (average for 1971-74)	Average Annual growth rate for 1966-74 (in %)		
	per 100 hectares of arable land	per worker	per 100 hectares of sown land	per worker	of arable land	per man-year (average for 1971-74)	Capital ^a per worker	Power ^a per worker	Labour ^a productivity
USSR	100	100	100	100	100	100	10.1	8.0	5.3
RSFSR	85	120	192	127	71	113	12.0	8.7	5.6
Belorussia	166	79	148	71	212	83	14.2	9.8	7.9
Uzbekistan	221	54	230	61	408	72	8.2	4.2	2.2
Kirghizia	201	80	173	69	251	84	8.9	4.9	2.8

a - Fixed productive capital, power, and gross output per man-year, respectively. The latter is calculated on the basis of annual average for 1971-74 vis-a-vis 1961-65. In the calculation of the growth rate of capital per worker, fixed productive capital per worker in 1974 was in 1977 prices.

(Source: V. Popov, op. cit., p.57.)

1. V. Popov, op. cit., p.68.

In short, while productivity of labour was steadily increasing in Central Asia, the level, however, did not correspond to the level of mechanization of agriculture. Though the man-power releasing potentiality of agriculture did increase immensely due to mechanization, the actual release of man-power from agriculture was on a much lower scale. This has created the lag between the level of mechanization and labour productivity. In fact, the main problem in Central Asian agriculture has not been the growth of labour productivity, which has been growing and which can grow on a much more rapid rate if certain other factors are taken care of. These factors are mainly demographic and cultural in nature. A high rate of population growth and a near lack of mobility from agriculture or rural sector to other sectors, have led to the retention of a large surplus population in agriculture. This has been reflected in the slow rate of growth of the labour productivity, and not the other way around. It has been already pointed out that the employment of a large share of population in agriculture is not because of the slow increase in labour productivity. All indicators, like the growth of fixed capital, etc., point to the growing capital intensity of agriculture. Yet the total man-days worked in the socialized agriculture was increasing in Central Asia, while in the rest of the country it was reducing. In other words while serious attempts were undertaken to increase manpower mobility from agriculture through faster mechanization, the objectives

fell far short of being achieved due to other factors.

One important factor which influences man-power utilization is the organization of agriculture. This forms an important aspect of agrarian relations of production and as such has great bearing on the growth of productive forces in agriculture.

Organization of production in agriculture

Efficient agriculture depends as much on organization of production as on mechanization. The efficient use of machines, like that of labour power, depends on a more effective and rational organization of agriculture. In the earlier period agriculture in Soviet Central Asia was characterized more by the predominance of collectives. It was the period when the main concern used to be turning the private petty-commodity producers into collective farmers. The efficient organization of collective farming was of less concern as was the organization and growth of state farms, which were of little importance then. But after the 1950s the efficient organization of collective farms was the main concern, especially with the disbanding of the machine tractor - Stations during the reforms of the 1950s. Now that collective farms came to have their own machine and power base, their most efficient utilization called for enlarging the average size of the collective farms. The land area and the number of households under each collective increased and Central Asian agriculture

came to be typified by the largeness of their collective farms.

Table-15: Distribution of Kolkhozes by number of households, 1971 (in per cent)

	Upto 100 house- holds	From 101- 200 house- holds	From 201- 300 house- holds	From 301- 500 house- holds	From 501- 750 house- holds	More than 750 house- holds	Total
USSR	3.0	17.8	19.8	29.0	17.8	12.6	100
Central Asia	0.6	3.6	7.3	22.4	28.3	37.8	100
RSFSR	3.6	21.2	24.4	30.0	12.9	7.3	100
Uzbekistan	0.1	1.6	4.7	19.8	31.2	42.6	100
Tajikistan	2.5	8.9	7.1	14.9	20.2	46.4	100

(Grey Hodnett, op. cit., p.83.)

As is obvious from the above table, the largest proportion in Central Asia was that of the large collectives with more than 750 households. As opposed to the country as a whole, the smaller collectives with less than 300 households had a very low share in the Central Asian republics.

Since the early 1950s large-scale amalgamation and merger of collectives was undertaken in Central Asia. As a result the average size of the Kolkhozes increased phenomenally. How important was the amalgamation movement can be seen from the fact that the average number of households per kolkhoz went up by nearly thirteen and a half times in Tajikistan between 1940-73. An average collective farm in Tajikistan and Uzbekistan was twice as large as that in the country in terms of number of households.¹

1. Rahman and Ghai, op.cit., p.42.

By the mid-1970s Central Asian collectives were characterized by the largeness of their size. These institutional changes were called for to increase the efficiency of machine and labour use on the collective farms, so that labour productivity could grow faster. Apart from these institutional changes, emphasis was laid on structural changes within the agrarian property relations and more emphasis was shifted on to the expansion of state farms.

While the process of consolidation of Kolkhozes into larger units was in progress, there was simultaneously an increase in the emphasis on state farms. Since Sovkhozes are more mechanized than Kolkhozes and also have a higher labour productivity, the increase in the number of Sovkhozes meant relatively more labour-saving agriculture. The Sovkhozes used much less labour than Kolkhozes. The labour intensity dropped faster in case of Sovkhozes than in case of Kolkhozes.¹ The power capacity of Sovkhozes was much higher than the Kolkhozes. Though the former constituted a smaller share in Central Asian agriculture than the latter, yet in average power capacity the former was more superior.

1. In 1959, for example, Kolkhozes in Tajikistan used 45.3 workers per 100 hectares of sown area as compared to 33.4 in case of Sovkhozes. And between 1953-59, the labour force used per 100 hectares of sown area dropped from 64.0 to 33.4 persons in the Sovkhozes, whereas in case of Kolkhozes the drop was only marginal, from 45.8 to 45.3 persons during the same period. Roy D. Laird, (ed.), Soviet agriculture in permanent crisis, New York, 1965, p.87.

In Uzbekistan the Sovkhozes had more power capacity in absolute term than that in the Kolkhozes. In 1974, out of the total power capacity, power used in the state farms amounted to 7,106 thousand horse power as compared to 7,025 horse powers in the collective farms.¹ The state farms had about a third more harvestors per hectare of sown area than the collective farms and in terms of harvestors and tractors per worker, the Sovkhozes had a still better advantage, as has already been shown in an earlier table.²

The growth in the number of state farms, as well as their proportion in the agriculture, thus, would have had a definite impact in making agriculture and labour more productive. The simultaneous process of the consolidation of collective farms into larger economic entities and the growth and expansion of state farms, contributed to make Central Asian agriculture more labour-efficient. The consolidation of the collective farms resulted in a slower rate of increase or even decline in the number of collective farmers in Central Asia, while the growth in the number of already capital intensive state farms resulted in a faster rate of increase of the state farm workers. For example, between 1965-70 in Uzbek SSR the rate of increase of Kolkhozniki (collective farmers) was 5.9%, but the rate declined to 1.6% between 1970-75.

1. Narodnaya Khoziaistvo, SSSR, 1974, op. cit., p.158.

2. Rahman and Ghai, op. cit., pp.65-66.

In Tajikistan the number of Kolkhozniki dropped between 1965-73.¹

Table-16: No. of collective and state farm workers (in thousands)

	Kolkhoz			Sovkhoz			Sovkhoz as % of the total		
	1965	1970	1975	1965	1970	1975	1965	1970	1975
Uzbekistan	971.7	1029.4	1046.6	343.3	392.2	572.9	26	28	35
Tajikistan	285	263	258 ^a	29.8	59.1	80.2 ^a	9	18	24 ^a

a - figures for 1973.

(Azizur Rahman and Dharam Ghai, op. cit., p.63.)

The overall impact of structural reorganization of agriculture in Central Asia was to increase the efficiency of mechanization in agriculture and further rationalize the use of manpower, and the consequent increase in labour productivity. Taken as a whole the agriculture in Central Asia since the 1950s was moving towards greater diversification, productivity related incentives and labour saving methods. All these changes activated the agricultural push factor so far as the migration process was concerned.

Agriculture and the migration process:

In this period the push factor had become functionally operative in Central Asian agriculture. However, the actual mobility of the existing as well as potentially surplus

1. Rahman and Ghai, op. cit., p.63.

manpower depended upon a host of other factors. Thus urbanization process between 1950-75 was characterized by ever increasing number of people migrating from rural areas to the urban areas, while at the same the countryside continued to have a very large share of the population and the urbanization level of the indigenous population was rising but slowly. One very vivid example of this process was the simultaneous decrease in the number of collective farm workers and the increase in the number of collective farm households and the number of their dependents. Thus while collective farms absorbed less and less manpower due to increased mechanization and capital intensity, the population depending on agriculture went on increasing. This rise in the dependency ratio was due mainly to demographic and other socio-cultural factors that require some elaborate investigation. However, the rural-urban migration has been constrained by these factors. Under capitalist production the separation of the rural population from land and employment is the basis of rural out-migration, which is effected with merciless simplicity that is ruinous to the working people. But under conditions of socialism, where security of employment is universal, labour mobility cannot be effected simply on the basis of economic forces or on the basis of exploitative social relations. Even the traditions of work style and experience binds people to a particular territory. As

argued by Bromlei and Shkaratan, the predetermined rhythms of work cycle created by the natural conditions influence the specific feature of rural labour in a region. Similarly, the socio-economic and political history of the peoples, that influences organization and management in the process of labour and also the interrelationship of workers, is an independent factor. The structure of the people's economy is distinguished by its stability, continuity and the capacity for accumulating the experience of production and social life. The integration of the people's economies into the national economy requires consideration of specific economic systems that accumulated the historic experience of developing natural resources of concrete territories on the basis of utilizing the prolonged experience of peoples. Therefore a change in the socio-economic structure of a region may by no means entail a change in the traditional way of life of the ethnic group.¹

Demography as a factor
in migration:

The major factor that neutralizes agricultural push factor to a large extent is the demographic factor. The natural increase of population in the Central Asian republics has been very high as compared to the rest of the

1. Iu. Bromlei and O. Shkaratan, "National traditions in a socialist economy", Soviet Review, vol.25, No.1, Moscow, 1984, pp.68-69.

country. The relatively smaller manpower loss during the World War II, ethno-cultural and climatic factors can be ascribed as the most important causes for this higher growth rate of the population.¹ The Central Asian republics had a higher share of rural population in 1959, and it continued to grow in the following years. While in the European republics (except Moldavia) the rural population was falling between 1959-70 both relatively and absolutely, especially rapidly in RSFSR, including most of its Asian provinces, Central Asia recorded highest growth rates for rural population in the country.² Population growth and urbanization mutually influence each other. While the higher rate of population growth affects the level of urbanization of the population by

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1. In Uzbekistan, the population increase between 1939-59 was by 28% and between 1959-70, was by 45%. In Tajikistan, the increase was by 21% in the first period and 46% in the next period. In comparison the figures for the USSR as a whole were 9.5% and 16% respectively. V. Boldyrev, "Population development in the USSR", Social Sciences, vol.5, No.3(17), Moscow, 1974, p.68; Roman Szporluk, "The nations of the USSR in 1970", Survey, vol.17, No.4(81), 1971, Oxford, p.97.
S.I. Bruk, "Ethnodemographic processes in the USSR", Soviet Sociology, vol.10, No.4, 1972, pp.335-36.
 2. Between 1959-70, in Uzbekistan, the rural population grew by 41.3% and in Tajikistan by 36.6%, whereas in RSFSR it declined in the same period by 36.6%. Similarly between 1970-75, the rural population of Central Asia rose by 13%, while that in the Central region of the country decreased by 15% in the same period. R. Szporluk, op. cit., pp.78-79; and V. perevedentsev, "Urbanization problems in Central Asia", op. cit., p.1.

reinforcing the ranks of the rural population who already possess a larger share, the low level of urbanization in turn also keeps the rate of population reproduction at a higher level. In fact, as Helen Desfosses Cohn argues, correlation between urbanization and birth rate cuts across ethnic and nationality lines. Thus while birth rate tends to be higher in Central Asian republics where the share of the urban population in the total population is lower than the USSR average, the Russians who migrate to Central Asia tend to have more children on the average than their counterparts in the RSFSR.¹

Between 1950-75, the difference in the rate of natural increase of the population between Central Asia and the USSR further widened. In 1974 the level of growth was 3 times more in Central Asian republics than in the country as a whole.²

The higher rate of natural increase inflated the rural population in Central Asia, while in the rest of the country

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1. Helen Desfosses Cohn, "Population policy in the USSR", Problems of Communism, vol.22, No.4, 1973, p.47.
 2. In 1950, the net natural increase per 1,000 population was 17.0 in USSR, 22.1 in Uzbekistan and 22.2 in Tajikistan. By 1974, the respective figures were 9.3 for USSR, 27.8 for Uzbekistan and 27.1 for Tajikistan. IA. R. Vinnikov, op. cit., p.30; Helen Desfosses Cohn, "Population policy in the USSR", Problems of Communism, vol.22, No.4, 1973, p.43; Narodnaya Khoziaistvo, USSR, 1974, op. cit., pp.46-47.)

it declined. The rural population constituted more than 60% of the total population in Uzbekistan and Tajikistan, whereas RSFSR had only 38% of its population in the rural areas.¹ The higher rate of natural increase created serious strain on the agriculture of Central Asia. The number of collective farm households and their dependents grew, affecting the productivity of labour and standard of living of the population in the countryside as a whole. The existence of a large surplus population in the countryside, held back rapid mechanization. At every stage of mechanization the impact it would have was taken into account, lest it gives rise to socio-psychological tension among the rural population. Similarly, the surplus and immobile population of the rural areas were provided with work in agriculture, even though unnecessary, to keep the standard of living of the collective farmers with high number of dependents, from falling down. Those experts who simply emphasize on the economic aspects of population mobility, and ascribe lower rural mobility in Central Asia to higher income and incentive in agriculture, are either arguing for a reduced standard of living to increase mobility, or are only over simplifying the role of economic forces, which is not actually so.² In fact

1. R. Szporluk, op. cit., pp.78-79.

2. Dadashev argues for wage differentials to encourage a greater outflow of manpower from labour-surplus Central Asia. Similarly, Lewis and Rowland attribute low outmigration from rural areas in Central Asia chiefly to high agricultural wages and small rural-

these arguments are relevant for capitalist economic mechanisms where economic forces play the most decisive role, since commodity production is the basis of social organization. Apart from its theoretical incongruity in the context of Soviet Union, the reality in Central Asia is the opposite of what has been presented by many observers. Central Asia with a high dependency ratio and relatively lower development of productive forces, has a lower income and standard of living level for its population. If this is the reality then Central Asia should have had a higher migration rate than most of the other parts, but this is not so, as has been already said, because forces other than economic also play very significant roles at different times. Thus people released from agriculture continued to remain mostly in rural areas and only a few migrated to urban areas. In 1969, in Uzbekistan for example, about 90% of those released

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urban wage differentials. Michael Rywkin is also of the opinion that living standards in Central Asia are equal to or higher than those in the labour-short industrial areas and so the outmigration to other areas from Central Asia is small. Rahman and Ghai also seem to suggest the narrow wage differential between agriculture and urban industry and a steady rise in the real income in case of the farmers were the reason for lack of powerful push out of the rural areas apart from a lack of pull from industrial and urban centres. A. Dadashev, "On increasing the effectiveness of the utilization of labour resources", Current Digest of the Soviet Press, vol.26, No.34, Sept. 18, 1974, p.4.

Michael Rywkin, "Religion, modern nationalism and political power in Soviet Central Asia", Canadian Slavonic papers, vol.17, nos.2-3, 1975, p.278; Robert A. Lewis and Richard H. Rowland, "Population redistribution in the USSR, its impacts on society, 1897-1977", op. cit., p.414; also, Rahman and Ghai, op. cit., p.12, 29 and 35.

from agriculture did not move out and continued to work on their private plots. This pattern was characteristic of other Central Asian republics also.¹ Out of the released labour force, a part remained in villages by switching over to non-agricultural occupations. This group increased both absolutely and relatively. Since agricultural policy in Central Asia was moving towards promoting service industries, building and non-agricultural subsidiary production in the rural areas, this group of rural non-agricultural labour force rose sharply.² The unequal concentration of the population from region to region gives rise to differences in labour productivity. In Central Asian republics, with adequate labour supply, labour productivity in agriculture and the pace at which it increased, were substantially lower than those where labour was in short supply. For example, in 1970, a successful year for agriculture in the entire country, the average gross output per collective farm member was less in areas with adequate labour supply and favourable natural conditions (the North Caucasus, the Transcaucasus, Moldavia, Central Asia and South Western Ukraine) than in areas with short labour supply and with relatively poor natural conditions for agriculture (the Northwest, the

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1. R.A. Lewis and R.H. Rowland, Population redistribution in the USSR, its impacts on society, 1897-1977, op. cit., p.415.
 2. Karl-Eugen Wadekin, "Manpower in Soviet agriculture - some post-Khrushchev developments and problems", Soviet Studies, vol.20, No.3, 1969, Glasgow, pp.287-88.

Central region, the Urals, Western and Eastern Siberia, the Far East and Kazakhstan). The value of average gross output per collective farm member was 1599 roubles in the former areas and 2471 roubles in the latter areas, i.e., 55% more than the former. In fact the lowest index was in Central Asia, 1126 roubles, and the highest in the Far East, 3182 roubles.¹

The optimization of the use of labour resources, is not simply a question of intensive forms of economic management. The character of labour experience, occupational skills and the system of values and norms depend to a large extent on traditions in general, and on traditions of labour in particular. As noted by V. Kostakov and E. Manevich, the life style of the indigenous inhabitants of many rural regions of Central Asia still was "perceptibly affected by the unique historical avenues of development of the republics."² Thus the use of female labour in agriculture in this region, for example, was influenced greatly by such factors as the nature of jobs done by women as different from men, the persistence of national traditions, the nature of rural families in Central Asia and the amount of time spent by women on housework and private plots. As

1. V.I. Perevedentsev, "Population migration and growth in agricultural production", Soviet Sociology, vol.22, No.3, 1983-84, p.96.

2. Iu. Bromlei and O. Shkaratan, op. cit., pp.63-64.

a result women worked fewer days annually in social production. In Tajikistan they worked 151 days on average in 1974, whereas in the country as a whole women worked 204 days. Women labour in agriculture was mainly seasonal. In 1974, half the women who worked in July did not work in December in Tajikistan.¹ The labour tradition that exists in close interaction with the social tradition has a decisive influence on manpower use in Central Asia.

Women participation in agriculture:

Women, largely unskilled, constitute the bulk of the people engaged in the private subsidiary sector. A higher concentration of women was in the younger age-groups and the primary working ages in this sector. In 1975, out of an estimated 12-15% of the able-bodied population of Uzbekistan working in the household and private subsidiary work about 95% were women, among whom the vast majority were indigenous women.²

Lubin ascribes this large participation of women in private subsidiary and household work to economic as well as socio-demographic factors. The shortage of goods and services in Central Asia has kept women tied to their homes, especially where families are large and number of children

1. M. Fedorova, "The use of women's labour in agriculture", Current Digest of the Soviet Press, vol.28, No.18, June, 1976, p.15.

2. Nancy Lubin, op. cit., p.64.

more. Childcare facilities are insufficient and household technology (washing machines, dish washers, modern plumbing, vacuum cleaners etc.) are at a very low level. These have placed great constraints in the way of women participation in social production. In view of large family size in Central Asia expanded services are necessary to free local women from household work.¹

These apart, there are factors like large family and other cultural factors which have resulted in the low level of part-time work, high female turn-over rates, and low levels of education and skill among indigenous women, which have kept women away from social production.²

Social traditions and attitudes continue to play a major role in influencing the demographic behaviours of the Central Asian population and its mobility outside its traditional

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1. The level of child care facility is only about 40% of the average level for the country as a whole at present. In the early 1970s only about 13% of Uzbekistan's children aged between 1-7 years could be accommodated in kindergartens and nurseries, or only about 300,000 out of a total of more than 2.3 million children in that age group. The level was much lower in the countryside than in the cities - 5.2% in the rural areas of the republic as compared to 34.4% in the urban areas. Lubin, op. cit., p.68.
 2. Over and above the lack of sufficient household technological amenities in rural areas, Lubin points out, that the Asian way of life, with its emphasis on large families and on an eternal abundance of food and hospitality, make home life particularly demanding and time consuming for an indigenous woman. Ibid., p.68.

spatial environment. Such things as early marriages, fewer divorces and abortions and a strong ethnic propensity for large families are causes for higher birth-rate among Central Asians than, say, Europeans among whom the above factors are either absent or play a negligible role.

The role of family:

Family still retains many of its traditional characteristics and still restricts the mobility of women, both for education and for jobs. This has its implications on the rural migration process. Women formed a high proportion of the rural labour force.¹ But women were mainly employed seasonally on unskilled and manual jobs, primarily cotton-picking. Thus they were most vulnerable to the process of mechanization of agriculture. Many of those released from agriculture by mechanization were women, who formed the basis of the rural unskilled workforce. Their lack of education or low level of education, and their status in the family prepared them least for migration. Not only were fewer girls trained, but even after being trained fewer were allowed to operate machines in the collectives.² Though,

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1. For example, in the Kolkhozes of the Uzbek republic 52% of those who worked in the public sector were women. The corresponding share of women in the country as a whole was 55% in 1964. "Women in Uzbekistan" in Central Asian Review, vol.16, No.1, 1968, London, pp.44-45.
 2. For example, in 1961, the plans to train girls for operating agricultural machinery were lagging in many provinces of Uzbekistan. Thus, 2,136 women were trained as against 2,500 planned in the Tashkent oblast and in Bukhara oblast only 206 women did short tractor-driver courses instead of the planned 500. Ibid., p.45.

through the years the number of women machine operators have greatly increased, the failure to meet plan targets may indicate the persistence of the attitude against sending women to technical work. Even girls who had completed courses were not in some cases being allowed to operate harvestors. Thus women were mainly engaged in manual work and were affected by mechanization, resulting in a decline in the number of able-bodied women Kolkhozniki.¹

The released women labour force from agriculture join the ranks of those who under the influence of the existing tradition and family relations are bound to their homes. Thus a large number of local women in the rural areas devote themselves entirely to household work and their personal plots. Studies have revealed that both the needs of a large family and the traditional nature of patriarchal family has forced women to remain at home either to look after a fairly large number of children or to submit to their husband's objections regarding working outside the house.²

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1. In two raions of Bukhara oblast, the Kolkhozes had sent no girls to tekhnikums for training for 3 years, and in the same period only 4 Kolkhoz women had graduated from Bukhara agricultural tekhnikum.

The level of participation of women in the public sector of Tashkent oblast declined from 90% of the able-bodied to 75.5% between 1953-63. In Bukhara province in 1966, only 63 women out of 193 trained in recent years were operating cotton harvestors.

Ibid., pp.45-46.

2. According to a study undertaken in Bukhara in 1965-66, out of the 50 housewives questioned, who were between 20-54 years age, with 1-10 children, and on the whole
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In the context of a discussion on the family, it is absolutely necessary to study the institution of marriage which even today is not free from the influences of customs and tradition that are reminiscent of mediaeval feudal era.

The Institution of Marriage
In Central Asia:

Marriage in many cases is not the result of free choice by a girl as regards time, convenience and even partner. In Central Asia, marriage still is a compulsion which hardly any girl can avoid. In such a traditional society it is natural that marriage at an early age is preferred to that at a delayed age. Since women's work outside the family is still not regarded by many as a social necessity, delayed marriages are not very many. In Central Asia where many women do not seek employment outside their homes, early marriages are naturally quite numerous. Thus, not only the proportion of married women in the total women population was considerably higher in Central Asia during the period under study, but the mean age of marriage was also lower

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limited education, as much as 28% cited the need to look after children as the reason for not working while husband's objection was cited by another 14%. In contrast, a similar study in Leningrad showed that only 4% of those questioned did not work due to husband's objections. Ibid., p.44.

in these republics than in the European parts of the country.¹

Table-17: Percentage of married women in the 16-19 age group (selected nationalities)

Nationality	1959	1970	Percentage figure for Russia, 1970
Russians	9.3	9.1	100
Ukrainians	10.1	11.2	123
Tajiks	36.6	24.9	274
Uzbeks	31.8	21.7	275

(S.I. Bruk and M.N. Guboglo, "The development and interaction of ethnodemographic and ethno-linguistic processes in Soviet society at the present stage", Current Digest of the Soviet Press, No.43, November 20, 1974, p.11.)

As is clear from the above table, the share of young married girls in the total married was between two and a half and three times more in Uzbekistan and Tajikistan than in the Russian federation, in terms of girls belonging to titular nationalities of these republics. The figures were higher still in the rural areas of Central Asian republics, where

1. For example, over 90% of all females between 25-39 years of age were married in Uzbekistan in 1970 (95% in the rural areas), as compared to 83% of the same age group in the Russian federation. Similarly, in the same year, out of every thousand girls between the age of 16-17 years, 47 were married in Uzbekistan, compared to 20 among the Russians in the same age group. For girls between 18-19 years of age, the corresponding figures were 343 and 159 respectively. Gail W. Lapidus, "The female industrial labour force: Dilemmas, reassessments and options" in Arcadius Kahan and Blair A. Ruble (eds.), Industrial labour in the USSR, New York, 1979, p.252.

the family and other traditions exerted a stronger influence and women were accorded a relatively less equal status.

Survey conducted by ethnosociologists like Iu. Arutian, L. Drobizheva and others regarding the superfluity of labour resources in Central Asia show the inverse dependence between population migration and its productive behaviour (the tendency to continue working at the same enterprise etc.) on the one hand and family size on the other. Thus the relatively stable orientation of Uzbeks, for example, toward living and working in the countryside is associated with family and other national traditions.¹ The average family size in rural areas of Central Asia are bigger and therefore the rural population have complex family obligations that limit the possibility of rural to urban migration. The family factor also influences the employment of women in social production. According to Perevedentsev, when textile enterprises in a rural or a small town are converted from three to two-shifts operation by eliminating the night shift, the participation of Uzbek female population occurs more smoothly, since such a work routine allows the women to remain in the family without disrupting their characteristic traditional way of life in the family.²

1. Iu. Bromlei and O. Shkaratan, op. cit., p.66.

2. Ibid., p.66.

Family and the conditions surrounding its existence play a significant role in the reproductive behaviour of the population. The higher the qualitative changes in marital and family relationships, the lower is the birth rate among the population of a region. Such qualitative changes include the transition, from patriarchal family relationships to one of equality between the spouses, from a large extended to a nuclear family, from a clear differentiation of roles between the husband and the wife to less defined functions, from natural child bearing to planned child bearing etc. Since these qualitative changes have been relatively slower in Central Asia, especially in the rural areas, the reproduction rate in Central Asia continues to be much higher than the rest of the country.¹

Soviet demographers, like V. Guseinov and V. Korchagin etc., have argued that increased birth rate has a negative impact on the quality of labour because it affects the education and skill levels of the women. Raising of children from an early age and a large number later, inhibits the rise in the cultural levels of women, especially mothers. Long interruptions in work due to child-bearing also limit their potential for participation in social production.²

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1. V.I. Perevedentsev, "The family and the reproduction of the population", Soviet Review, vol.25, No.2, 1984, p.13.
 2. Helen Desfosses Cohn, op. cit., pp.48-49.

These assertions have been confirmed by the reports that have appeared from time to time in the press about the non-participation of women in Kolkhozes.¹

Traditions and customs influenced the horizontal and vertical mobility of women, whose participation in work and education remained relatively low in Central Asia compared to other regions of the country. The force of tradition and custom also influenced the demographic character of this region and thereby seriously influenced urbanization process in Central Asia. Central Asian families were characterized by large number of children.²

The attitude towards child-bearing had its influence in creating a large surplus rural population, mostly dependent and unable to work, since a large share of the rural population always remained under working age. Large families also reflect the hold of custom that influences women's status, work and mobility in Central Asia.

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1. "The peoples of Central Asia: social customs", Central Asian Review, vol.7, No.3, 1959, p.215.
 2. The number of women with a very large number children far exceed other regions. For example, out of 1,682 'Heroine mother' award upon the birth of a 10th child in 1962, the number in Tajikistan was 34 per million. In the western regions the number of such mothers was very small, 2.4 per million in Ukraine, 2.7 per million in Belorussia and 4.1 per million in Estonia. That having large number of children was a trait among the Central Asian, customarily, is proved by the fact that none of the 38 awards in the same year in Turkmenia went to Russian mothers. J.A. Newth, "A note on medals for mothers", Soviet Studies, vol.14, No.3, 1963, p.314.

The size of the family in its
class-cultural dimensions:

As large undivided families were still to be found in Central Asia and the influences of patriarchal family relations from the past were quite strong in this region, the average size of the family was quite large, especially in the rural areas, as compared to the rest of the country.

Table-18: Average size of the family

	1959			1970		
	Total	Urban	Rural	Total	Urban	Rural
USSR	3.7	3.5	3.9	3.7	3.5	4.0
Uzbekistan	4.6	4.1	4.8	5.3	4.5	5.8
Tajikistan	4.7	4.1	5.1	5.4	4.5	6.0

(Murray Feshbach, "Trends in the Soviet Muslim Population: demographic aspects" in Yaacov Roi (ed.), The USSR and the Muslim World, op. cit., p.87.)

It is obvious from the difference as regards the size of the family in urban and rural areas that tradition and the nature of family and marriage plays an important role in the size of the family. Apart from these factors, there is a direct relationship between the social stratification and the family.

Table-19: Breakdown of workers' and employees' families
by number of children (in %) in 1973

	Urban areas				Rural areas			
	One Child	Two Child- dren	Three Child- dren	Four or more Child- dren	One Child	Two Child- dren	Three Child- dren	Four or more Child- dren
USSR	54.7	34.7	7.3	3.3	34.3	34.1	16.9	14.7
RSFSR	57.3	34.5	6.3	1.9	36.5	36.2	16.4	10.9
Central Asia	39.2	32.2	12.9	15.7	19.8	22.1	19.9	38.8

(Helen Desfosses Cohn, op. cit., p.47.)

There is a distinct class-cultural dimension to the family size. The white collar workers had smaller families than the workers and farmers. The collective farmers had the largest families. However, in all three categories, the size of the family was bigger in rural areas than in the urban areas. And again, the families in all the categories, urban as well as rural, were smaller in the country as a whole than in Central Asia. The following table illustrates this point.

Table-20: Number of children per 1,000 of corresponding social groups, 1970 (by selected republics)

Republic	Worker		White collar		Kolkhozniki	
	Urban	Rural	Urban	Rural	Urban	Rural
USSR	1,774	2,377	1,537	1,918	-	2,437
RSFSR	1,681	2,208	1,470	1,782	-	2,281
Ukraine	1,598	1,864	1,447	1,623	-	1,890
Uzbekistan	2,778	3,740	2,116	3,062	-	3,942

(Gail W. Lapidus, op. cit., p.252.)

Inter-ethnic marriages and divorces in Central Asia:

Other indicators of the influence of tradition and custom on demographic factor were low rates of mixed marriages and low divorce rates etc. Mixed ethnic marriages among the local nationalities were few, fewer still in rural areas and marriages involving Central Asian girls. In Uzbekistan, for example, the percentage of mixed marriages involving Uzbeks fluctuated between 1.1% and 2.4% in 1960-65, the corresponding figures for Russians in Uzbekistan were 18.7% to 22.8%; for Belorussians in Uzbekistan the figures, respectively,

were 72.1% and 47.5%.¹

Table-21: Number of ethnically mixed marriages
(per 1,000 families)

Republic	Mixed families per 1,000 families					
	1959			1970		
	Total	Urban	Rural	Total	Urban	Rural
Uzbekistan	82	147	47	109	184	-
Tajikistan	94	167	55	119	218	-

(I.A. R. Vinnikov, op. cit., p.89; A.I. Kholmogorov, "International traits of Soviet nations", Soviet Sociology, vol.11, Nos.3-4, 1972/73, p.279.)

While mixed marriages were not popular in Central Asia, though its urban areas were quite heterogenous, another aspect, i.e., divorce was not popular either. The divorce rate in Central Asia was comparatively low, which is another indicator of the nature of family and the hold of tradition in Central Asia. Thus, for example, the rate of divorce in 1965 was 0.5 per 1,000 population in Uzbekistan, compared to 1.6 per 1,000 for USSR as a whole.²

In short, family as an institution was highly influenced by tradition and custom, which was reflected in early marriages,

1. S.I. Bruk and M.N. Guboglo, "The development and interaction of ethnodemographic and ethnolinguistic processes in Soviet society at the present stage", Current Digest of the Soviet Press, vol.26, No.43, Nov.20, 1974, p.11.
2. "Women in Uzbekistan", Central Asian Review, op. cit., p.47.

large number of children, large family size, few mixed marriages and fewer divorces. The propensity for larger families as well as the influence of tradition not only influenced the demographic factor but also the migration of the population. With employment guaranteed, the rural population would not prefer to break away from the joint family and the traditionally acquainted environment to migrate to cities with large families and settle in a culturally different environment. The lower educational and skill level of the population did neither help to overcome the traditional attitude nor enable them to seek better and different jobs in the cities. The cities of the region also had grown in a manner that presented a cultural atmosphere which was very different from the rural areas. The concentration of cities in large centres and high influx of Russians to Central Asian cities, created a vast gap in the cultural levels of rural and urban areas. There were no stronger intermediate layers to introduce rural population gradually to the urban-industrial milieu.

Education and skill in
the rural areas:

A major vehicle of cultural change is education and training, which not only breaks the hold of tradition on the population but also prepares people to take up new and non-traditional occupations. In this respect, though Central Asia had made phenomenal achievements since the

revolution, the progress in the rural areas was far behind that of the urban areas. By 1970, the rural areas did not have even a third of the population with higher education, though there were twice as many people living in the rural areas as in the urban areas.¹ Only one out of 85 persons in the rural areas of Uzbekistan and one out of 114 in that of Tajikistan had higher education. In the urban areas of the two republics, the respective figures were, one out of 22 and one out of 27.² Though in the sphere of secondary education the rural areas were not as much behind, yet the gap in the level of rural and urban residents was quite substantial.

Table-22: Level of education of the population, 1970

	Higher				Incomplete higher and secondary (complete and incomplete)			
	Urban		Rural		Urban		Rural	
	Total	in %	Total	in %	Total	in %	Total	in %
Uzbekistan	201,636	4.6	87,964	1.2	1,607,109	37.1	1,780,643	23.8
Tajikistan	40,399	3.7	16,037	0.8	370,923	34.4	382,893	21.0

("The level of education of the population of the USSR, the Union and autonomous republics, territories and regions", Soviet Education, op. cit., pp.19-22; and Narodnaya Khoziaistvo, SSSR, 1974, op. cit., pp.10-11.)

1. The share of rural residents among persons with higher education was only 30% in Uzbekistan and 28.4% in Tajikistan. "The level of education of the population of the USSR, the union and autonomous republics, territories and regions", Soviet Education, op. cit., pp.19-22.
2. Ibid., pp.19-22.

Rise in the educational level and the concomitant social and cultural changes promote rural outmigration. Thus to some extent rural migration in Central Asia was constrained by the low level of higher education among the rural population, especially women, who due to early marriage, traditional attitude and Kolkhoz work dropped out after primary or secondary education.¹ The shortage of skilled personnel also causes underutilization of the manpower resources. The use of skilled labour from outside and continuing with the manual work of the surplus rural population, costs the collective farms not only in terms of profitability, but also in terms of labour productivity. Free hands in rural areas have been growing year by year. A study conducted in the Tajik republic in 1975 showed that in the 5 districts studied, more than

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1. In higher education in 1959, the girls constituted 23.3% in rural areas as compared to 45.7% in urban areas of Uzbek SSR, and in Tajikistan the figures were 21.2% in rural areas and 45.1% in urban areas. In the country as a whole girls constituted 44.4% in higher education in rural areas and 49.7% in that in urban areas. The lower level in Central Asia in case of specialized secondary education was equally conspicuous among girls. The respective figures are given below that shows the level of girls in secondary specialized education in 1959:

	<u>Total</u>	<u>Urban</u>	<u>Rural</u>
USSR	56.6%	57.2%	55.5%
Uzbekistan	46.7%	54.9%	32.3%
Tajikistan	44.1%	55.6%	26.3%

Women in the Soviet economy, Baltimore, Figures from Norton T. Dodge, / 1966, p.289; and for school drop-out among girls in Central Asia around the end of 1960s, "Women in Uzbekistan", Central Asian Review, op. cit., p.41.

half of the young women, who were doing house work but wanted to work in social production, had no specialities.¹ This is a paradoxical problem, while low educational and skill level results in low outmigration, the low outmigration and low level of urbanization, conversely, affects the cultural level of the population. Since the higher educational and technical institutions are mainly located in the urban areas, the problem of education of the rural population in general and women in particular remains.

When migration rate is too low, the preparation of the rural population for non-agricultural occupation suffers by the concentration of higher education and training infrastructure in the large urban centres. The influence of traditional ways of life inhibits the rural Central Asians to break the ties with the village and settle in a different cultural milieu. The large cities of Central Asia, where much of the industrial and non-material production is concentrated, are so developed as compared to the rural areas and present such a different ethnic and linguistic environment that some experts have advanced these factors as reasons for slow rural-to-urban migration.

1. "When work is not waiting: problems of the rational utilization of labour resources in Tajikistan", Current Digest of the Soviet Press, vol.27, No.22, June 25, 1975, p.3.

Ethno-linguistic aspects of
the migration process:

The high level of ethnic heterogeneity of the Central Asian cities and urban areas have resulted in the emergence of the Russian language as the main language of interaction, higher education and skilled professional jobs. However, though the knowledge of Russian language among the rural population is limited to a very small section, how far has migration been affected directly by poor knowledge of Russian language is difficult to assess. Moreover, even among the urban Central Asians of the indigenous nationalities, a very sizable section did not speak Russian language at all. In 1970, only 14.5% Uzbeks and 15.4% Tajiks in their respective titular republics spoke Russian as a second language.¹ The share in ^{the} urban population from these two nationalities was much higher, which shows that any direct correlation, if at all, between Russian language and migration was very weak. At the same time, it may be argued that the linguistic and ethnic environment strongly favours the European in-migration into Central Asia, than it does for the rural Central Asians. The high level of ethnic heterogeneity and the predominance of Russian language in employment possibly made the cities of Central Asia relatively more alien for its rural residents, especially in the context of a cultural gap that was already

1. Paul B. Henze, "The significance of increasing bilingualism among Soviet Muslims" in Yaacov Roi (ed.), The USSR and the Muslims World, op. cit., p.119.

too strong between the rural and urban areas.

Language knowledge, as any other thing, is also largely influenced by cultural factors in Central Asia. Though more and more economic progress had brought more and more local Central Asians to urban areas and changed their traditional occupation, the cultural and value orientations have retained strong influences. This is indicated by the fact that Turko-Persian, (i.e., Uzbek-Tajik) bilingualism has been persisting in the cities of Central Asia to a great degree. Data from 1979 Census showed that this trend has been still in progress and more and more Central Asian minorities, Karakalpaks, for example, were acquiring Uzbek as a second language.¹ This situation did not help Central Asians in taking up highly skilled urban professions or overcome traditional hangovers.¹

In short, the combination of a high fertility rate and national-cultural traditions with lower skill levels had created huge rural labour surpluses. Calculations by Shatskikh and Khadzhibaev showed that 179 out of 310 Kolkhozes in Tajikistan had a surplus labour force in 1964, and that the overall excess was 17% even at the given level of mechanization and labour productivity. Yet the migration to towns was very small. Between 1960-65 only 10% of the number

1. Ibid., p.123.

of natural population increase in rural areas migrated to cities. The rest remained in rural places. Similarly in Uzbekistan, according to L. Bulochnikova, out of 100 able-bodied Kolkhozniki released from agriculture in 1969, only a little over 10% shifted to other branches or areas, the rest remained in villages by joining their private farming.¹

A specific feature of the demographic structure in Central Asia was the higher number of dependents who could not migrate by themselves or participate in the social production. A higher number of dependents also creates problems in transfer of residence or place of work.

Dependency factor in migration:

A fall-out of the demographic process in Central Asia has been the creation of a large number of dependents with the rural households. The age distribution of the population was such that children and persons of old age constituted a large majority of the population. Children below 15 years constituted 51.5% of the Uzbek population and 52.9% of Tajiks as compared to only 28.2% among the Russians. Together with persons of old age, incapable of working (1.3% among both Uzbeks and Tajiks, compared to only 0.1% of the Russians) dependency ratio among Uzbeks and Tajiks was quite high. Since the vast majority of this population is rural, the

1. Grey Hodnett, op. cit., p.92.

impact of such an age distribution can be considered significant for rural migration process.¹

In terms of the share of able-bodied population and the number employed, Tajikistan occupied lowest position in the USSR, followed by Uzbekistan.² The share of the able-bodied persons in the total population was much less in the two Central Asian republics than the all-Union average.³ This again goes to prove the higher dependency ratio in the Central Asian republics under study. This demographic aspect of the two Central Asian republics was reflected in growth in the number of Kolkhozniki and their dependents in Central Asia, while their number reduced in the rest of the country.

Table-23: The number of Kolkhozniki and their dependents, USSR, Uzbekistan and Tajikistan, 1960-1970 (in thousands)

Republic	1960	1965	1970
USSR	67,306	56,383	48,344
Uzbekistan	3,916	4,176	4,672
Tajikistan	1,189	1,320	1,347

(Alastair McAuley, Economic Welfare in the Soviet Union, op. cit., p.342.)

1. Ronald Wixman, "Demographic trends among Soviet Moslems, 1959-79", Soviet Geography: Review and Translation, vol. 25, No.1, 1984, pp.49-51.
2. S. Divilov, "Labour resources and the comparison of general economic indices by union republics", Problems of economics, vol.15, No.11, 1973, p.70.
3. In 1970, the share of able-bodied population in both Tajikistan and Uzbekistan was only 78.2% of the USSR average. S. Divilov, op. cit., p.70.

The higher number of dependents in the collective farm households affected the territorial and occupational mobility of the rural population in Central Asia. Shifting of the place of work or looking for employment in the cities became a difficult proposition with so many dependents. Size of the dependents definitely puts great constraints in the way of moving to new places and settling in different and distant environment. In the context of Central Asia, where tradition and custom so much influences the life of the rural population, a large number of dependents may not result in a large number of population looking for better employment opportunities else where to maintain or improve their existing standard of living. As has already been pointed out, the sphere of private subsidiary farming increased to subsidize the needs of the rural family with an increasing number of dependents. Thus migration from rural areas was rather adversely affected even though pressure on land in the rural areas continuously increased.

Rural out-migration:

As the study shows, the demographic and socio-cultural factors depressed the rate of migration and thus the rate of urbanization. But since agriculture, unlike the earlier period, had begun to release more manpower, the rural push mechanism became functional. Earlier rural out-migration had been largely due to urban pull. Till 1950s, agriculture was constantly absorbing manpower. From 1950s agriculture

was constantly requiring less manpower, albeit slowly. That labour productivity in agriculture was increasing is evident from the simple fact that while the number of dependents on collective farms increased, the number of farming population decreased and the average yield on the farms increased.

Any study of the rural migration dynamics should take into consideration, the fact that a very large proportion of the indigenous population in Tajikistan were living in rural areas by the end of 1950s. As many as 80.4% Tajiks in Tajikistan and 79.8% Uzbeks in Uzbekistan in 1959, compared to 52% of the population in USSR, lived in rural areas.¹ Since immigrants from outside mainly lived in urban areas, any discussion of rural to urban migration must necessarily concern itself with the migratory behaviour among the titular nationalities, within their demographic and sociocultural context that have been discussed earlier. Only then the increasing efficacy of the rural push factor can be properly understood. There is no doubt about the low rate of rural-to-urban migration in Central Asia, as compared to other republics. In the mid-1970s, the net outmigration of the rural population in Uzbekistan and Tajikistan was only 4 per 1,000 annually, while in RSFSR, Belorussia and Lithuania

1. Steven L. Burg, "Central Asian political participation and Soviet political development" in Yaacov Roi (ed.), The USSR and the Muslim World, op. cit., p.91.

the rate was 24-25 persons per thousand annually.¹

Very few of the urban in-migrants were from the rural areas of the Central Asian republics or from indigenous nationalities. During 1959-70, the rural natural increase in Tajikistan was 46%, out of which only 10% migrated to urban areas. Out of the total urban population increase, migration accounted for only 29.4%, a larger share of migrants being Russians from outside, as much as 55% of the total migrants to cities. Migration from rural areas accounted for 45% of the total inflow into the urban areas.²

Though the overall effects of the earlier migration process would take a longer time to be radically reversed, more due to the prevailing demographic and cultural factors, changes were nonetheless visible in the migration process. Most important was the changing trend in favour of intra-region migration rather than interregion migration that dominated the migration process. This means the migration from outside was declining, and that within the region was proportionately increasing.

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1. V.I. Perevedentsev, "Population migration and growth in agricultural production", Soviet Review, vol.25, No.3, 1984, p.38.
 2. Theodore Shabad, "Soviet migration pattern based on 1970 Census data", in Leszek A. Kosinski, op. cit., p.181.

Table-24: Share of inter-raion population migration

	(in %)		
	1963	1966	1970
Uzbekistan	45.4	54.1	44.9
Tajikistan	46.6	51.7	43.8

(B.S. Khorev and B.M. Moissenko, "Migratsionaya Podbizhnost Naseleniya b SSSR" Statistika, 1974, Moscow, p.83.)

This shows that especially from the mid-1960s inter-republic migration declined relatively faster. This was also reflected in the increasing out-migration as compared to in-migration in the late 1960s. Since in-migration process was dominated by influx from outside and out-migration was a phenomenon mostly concerned with rural out-migration in Central Asia, any change in the migration process in favour of out-migration would mean in fact increasing rural-to-urban migration within Central Asia and decreasing share of migration from outside to Central Asian cities and urban areas. In 1968-69, out-migration in Tajikistan was 18,500 more than in-migration, and in Uzbekistan the former was 82,700 more than the latter! There is no exact figure as to the break up of rural migrants to other republics or migrants from other republics to the rural areas of either Uzbekistan or Tajikistan. But one thing is clear, migration from outside was proportionately declining and since the proportion of out-migration was increasing, it may be safe to assume that the number of rural out-migration in Central Asia was also



increasing.¹

The share of rural population declined during this period from 75% in 1940 to 62% in 1975 in case of Uzbekistan and from 81% to 62% in the same period in case of Tajikistan.² The shrinking level of the rural population was mainly due to natural population increase in urban areas, influx from outside and reclassification of rural areas into urban areas. The role of migration from rural areas, however, began to play an increasing role in this process since mid-1960s.

Table-25: Dynamics of intra republic rural-urban migration (1959=100) selected republics

	1959	1964	1965	1967	1970
Uzbekistan	100	57.5	81.3	106.8	155.8
Tajikistan	100	108.4	62.1	40.1	161.4
RSFSR	100	82.4	87.9	90.6	101.7

(B.S. Khorev and B.M. Moissenko, op. cit., p.54.)

The overall increase between 1959-70 in the two Central Asian republics was highest in the USSR, barring Bylorussia, Lithuania and Moldavia.³ Though migration from rural areas went on increasing, the intensity of migration was very low, at least till the 1960s. This was quite

1. Khorev and Moissenko, op. cit., p.42.

2. Narodnaya Khoziaistvo, SSSR, 1974, op. cit., pp.10-11.

3. Ibid., p.54.

natural as the natural increase in both towns and villages of Central Asia was very high.¹

The migration process was also handicapped by the lower level of mobility among women for reason that have already been discussed. Though the rate of migration among women increased, it was still considerably lower than that among men in the 1970s.²

In short, rural migration process in Central Asia was showing positive trends. While the number of rural migrants to cities went up, the influx from outside Central Asia somewhat slowed down. However, the expected manpower mobility from the rural areas did not take place. The agricultural pull weakened sufficiently, but there was no proportionate increase in the mobility to non-agricultural occupations or to the urban areas. Undoubtedly, agriculture in Central Asia is mainly intensive in nature and so required a large share of the population than other parts of the country. But a situation was arising where agriculture was maintaining a large surplus and private subsidiary activity was growing, as also non-participation in social production. This meant that the actual manpower requirement in agriculture was

1. Ibid., p.63.

2. Per 100 males coming into urban areas in 1971, the number of females coming was 67.5 in Tajikistan, 70.3 in Uzbekistan, as compared to 79.5 in the country as a whole. Ibid., p.45.

progressively declining as mechanization and labour productivity increased. Instead of absorbing more and more manpower, agriculture since 1950s had been releasing more and more manpower. Income from agriculture, especially cotton farming, was getting depressed, both due to the pattern of incentives and large number of dependencies. Organization of agriculture, i.e., amalgamation of Kolkhozes and increase in the number of Sovkhozes made agriculture more and more capital intensive. All these factors taken together either created conditions or actually did release manpower from agriculture. However, the process could have been much faster but for the operation of other non-economic factors. Another problem was that those released from agriculture were not necessarily moving to other occupations or to the urban areas. This was largely due to demographic and socio-cultural reasons, and not due to any lack of employment in urban areas. Attempts to bring cultural changes in Central Asia have either been insufficient or have not succeeded in bringing the desired results.

Thus Central Asia by the mid-1970s remained an area where migration had begun to be based also on rural push factor, rather than on industrial pull factor alone, like in the previous period, i.e., till the 1950s. The rate of migration of the rural population was extremely low compared to other republics, for a variety of reasons. These reasons by the 1970s were less and less related to economic processes and more and more to socio-cultural and demographic processes.

This is the reason why the emphasis in recent years has shifted to raising the cultural and educational level of the population, which at present greatly influences their demographic and migratory behaviour. Looking for economic causes to the lower urbanization level is not of much help. As it is, Central Asian agriculture over the years has become economically more viable and productive to release more labour to non-agricultural occupations. The arguments about Central Asian agriculture being full of incentives compared to other areas, including industrial-urban areas of the region itself, do not stand valid any more. Viewed from this point alone, Central Asians should have had enough economic reasons to migrate to towns. Due to the growing dependency ratio, the Central Asian farm household no more had the advantages they used to have till the 1950s. Everything apart, the trend for migration to be based also on rural push had begun in this period. Agricultural employment level was going down and was nearing USSR average. By 1974, the share of gainfully employed persons working in agriculture was 16.3% in Uzbekistan, 10.5% in Tajikistan and 10.3% in the country as a whole.¹ This was the phase in which the push-pull factor was working in the urbanization process in Central Asia, unlike the

1. Iu.V. Arutivnian, "Sociocultural aspects of the development and convergence of nations in the USSR", Soviet Sociology, vol.13, Nos.1-2, 1974, p.173.

earlier period when rural pull and urban pull both were stronger. In this period industrialization took new dimensions and so did urbanization. Like the rural areas began to act more and more as source of labour mobility, the urban areas likewise sought to integrate themselves more and more with the rural areas in a manner that would be complimentary to the development of both.

CHAPTER IV

INDUSTRIAL PATTERN AND THE
URBANIZATION PROCESS, 1950-1975

Since the 1950s Central Asia entered into a new phase of economic development. The mere creation of an industrial structure was no more the primary task to be undertaken. The dialectical progress from quantity to quality was an inevitable process. A very high pace of industrialization since the end of the 1930s brought about in a short span of time such incomprehensible changes in Central Asia, that it could be possible to eradicate the backwardness and inertia accumulated over centuries. Central Asia by 1950s presented a vastly different picture to any historical mind that was aware of the gulf that separated the pre-revolutionary and post-revolutionary times. With a well spread-out industrial network, modern agriculture and developed means of transport and communication, Central Asia had acquired the material basis for realizing actual equality with other nations within the Soviet Union.

Structure of the economy:

With the number of industries going up very fast, there came about a change in the structure of the economy. At the same time the rapid quantitative growth also continued to further consolidate the leading role of industry in the economic structure. With a higher share of capital investment going to industry, the benefits accruing to the economy from this sector was also going up.¹ By the end of the

1. Between 1959-65, the share of industry and agriculture in capital investment was 34% and 25% in Uzbekistan and 34% and 22% in Tajikistan respectively. Similarly between 1966-1969, the respective shares for industry
contd...

1960s, industry's contribution to gross social production was much higher, and so also to national income, as compared to other sectors like agriculture and construction etc. Incidentally, agriculture still dominated the fixed capital structure in Tajikistan - 40%, as compared to 32% for industry, though in Uzbekistan it was the other way round - 36% for industry and 34% for agriculture.¹

Industry became dominant in the economic structure of the Central Asian republics. It dominated the structure of gross social production and its share in the national income was more than that of agriculture by the end of the 1960s.

Table-26: Structure of gross social production, 1969
(in %)

	Industry	Agriculture	Construction	Other branches
USSR	64.9	15.0	10.2	9.9
Uzbekistan	54.9	20.7	14.5	9.9
Tajikistan	56.4	19.3	14.7	9.6

(Srednie Aziiatskii ekonomicheskii Raion, op. cit., p.13.)

contd...
and agriculture were 28% and 24% in Uzbekistan and 34% and 23% in Tajikistan. Srednie Aziiatskii Ekonomicheskii Raion, Izdatelstvo "Nauka", Moscow, 1972, p.15.

1. Ibid., p.14.

Table-27: Structure of national income, 1969 (in %)

	Industry	Agriculture	Construction	Other branches
USSR	53.6	19.4	10.4	16.6
Uzbekistan	36.5	31.5	14.8	17.2
Tajikistan	43.8	31.3	12.5	12.4

(Srednie Aziatskii ekonomicheskii Raion, op. cit., p.13.)

By almost all measures of economic growth Soviet Central Asia underwent rapid economic changes during the period under study. Since the 1960s, the republics of Central Asia had benefitted from the interrepublic redistribution of national income disproportionate to their contribution. Since the mid-1960s, the total volume of used national income has exceeded produced national income, on a level well above the USSR average.¹ In terms of other budget data the Central Asian republics have consistently been assigned shares of its total turn-over tax collection, which were well above the country's average. In the two Five Year Plans in 1966-70 and 1971-75, as much as 99% and 98% respectively of total turnover tax collections in Uzbekistan were retained within the republican budget, against 30% and 39% in the RSFSR and

1. The ratio of used national income to produced national income for Uzbekistan in 1966 was 1.10, in 1969 the ratio was 1.18 and in 1974, it was 1.04. In Latvia, the ratios respectively were .90, .95 and .94. Ukraine and other Baltic republic had similar ratios as Latvia. In 1966, Uzbekistan's import surplus (the difference between produced and used national income) was about 4 times higher than the USSR average. N. Lubin, op. cit., pp.50, 263.

an average of 41% and 46% for all the republics in the USSR as a whole in the two plans respectively.¹ Though in per capita terms the level of growth suffered due to a very high rate of population growth, the growth rate of national income exceeded that of the USSR as a whole. Between 1971-75, for example, the average annual rate of growth of the national income for the USSR as a whole was 5.7%, as compared to 6.9% for Uzbekistan.²

According to Gillula, the need to divert a large share of used national income to consumption in order to keep the standard of living from declining may have contributed to the cutbacks in relative levels of capital formation in Uzbekistan. Nonetheless, the growth of fixed capital in material production has been steady, the share of industry in the structure of the economy has been rising steadily, as also capital intensity in heavy industry.

The qualitative changes, brought about in the economy by a very rapid expansion of industries, helped to sustain the pace of industrialization in Central Asia. The diversification within the industrial sector opened up great possibilities of expansion in various branches of industries.

1. Ibid., pp.50, 263.

2. In 1966, per capita national income in Uzbekistan was at a level^{of} about 63% of the all-union average; by 1970, according to some estimates it may have been as low as 54 or 58% and by 1975, as low as 51%. N. Lubin, op.cit., p.50.

Thus the pace continued to remain very fast due to the quantitative expansion of new branches of industry. In fact Central Asia's share in the USSR economy continued to rise in key indices like industrial employment, total investment and completion of new plants.¹ The growth of aggregate volume of industrial production continued to be very fast in Uzbekistan and Tajikistan. Thus between 1940-75, the growth in Uzbekistan was 13 times and in Tajikistan 14 times.² Even in terms of mean growth rates of gross industrial output, not only was the gap between the USSR average and that in Central Asia was narrowing down, but in some cases like that of Tajikistan the growth rate exceeded the USSR average.

Table-28: Mean of growth rates of gross industrial output, USSR and Central Asia, 1950-70 (in %)

Republic	1950-1960	1961-1970
USSR	12.2	8.5
Central Asia	9.2	8.1
Uzbekistan	8.7	7.3
Tajikistan	11.0	8.7

(A.I. Imshchenetskiy, op. cit., p.708.)

1. For example, between 1960-69, Central Asia's share in the USSR economy went up from 2.76% to 3.14% in industrial employment, from 4.97% to 6.47% in total investment and from 3.82% to 6.14% in completion of new plants. A.I. Imshchenetskiy, "Some aspects of the development and location of industry in the Central Asian economic region", Soviet geography: Review and translation, vol.13, No.10, 1972, p.708.
2. Narodnaya Khoziaistvo, SSSR, 1982, op. cit., p.118.

The purpose here is not to compare the rate of growth in the USSR as a whole and the Central Asian republics. The low level of industrialization in Central Asia might account for its faster rate of growth in the initial years of industrialization. The same argument can be used for the slowing down of this growth rate after 1960, when industrial base had already expanded substantially.

While the quantitative growth of industry continued unabated in the Central Asian republics, the new stage in Central Asia's industrialization was characterized by a great degree of diversification.¹ Similarly, while industrial production expanded continuously, the level of labour intensiveness of Central Asian industries also steadily declined. It is this qualitatively new framework within which Central Asia's industry and industrial production expanded that provides the period under study with a different context than that in the earlier period.

Diversification and structural changes in industry:

By the mid-1970s, Uzbekistan and Tajikistan had 100 different branches of industry, which shows the extent of diversification in the industrial sphere in Central Asia.

1. By 1975 Tajikistan had a total of 380 big industrial enterprises and Uzbekistan had about 1500 plants and factories by 1977. Tajik Press Bulletin, op. cit., p.6; and S. Rashidov, "Uzbekistan to-day", Soviet Review, vol.14, Nos.56-57, 1977, Moscow, p.75.

This diversification was reflected not only in the multiplication of light industries, but in the growth of a variety of heavy industries. The emphasis in this period shifted more and more towards production of means of production rather than on that of articles of consumption. This shift steadily brought about a change in the industrial structure. Data on the growth of gross industrial production between 1965-75 shows that there was a dramatic change in the later five years in the scale of growth within the two types of industries. While in the first five years those producing articles of consumption had a larger growth, in the next five years those producing means of production had a larger growth.

Table 29: Growth of gross industrial production: Production of means of production (Group 'A') and Production of articles of consumption (Group 'B'), 1965-70 and 1970-75

	(1965=100, 1970=100)											
	USSR				Uzbekistan				Tajikistan			
	1965	'70	'70	'75	'65	'70	'70	'75	'65	'70	'70	'75
Gross	100	150	100	143	100	136	100	151	100	150	100	139
Group 'A'	100	151	100	146	100	134	100	151	100	139	100	141
Group 'B'	100	150	100	137	100	142	100	149	100	176	100	134

(Narodnaya Khoziaistvo, SSSR, 1982, op. cit., pp.120, 178-80.)

Industrial development in Central Asia till the 1950s was characterized by the particularly rapid development of light and food industry. Also during those years the foundations of the heavy industry were laid in Central Asia.

Since the 1950s Central Asia entered a new phase in its industrial development. The emphasis shifted to a more complex industrial structure, especially since 1960s. This was a period of qualitative development of industry on the basis of the scientific and technological revolution. From the 1950s began the accelerated development of those branches of industry which held out the prospects of a qualitative transformation. By 1975, Uzbekistan had a developed mechanical engineering industry, iron and steel industry, non-ferrous metal industry, air-craft building, chemical industry, gas extraction, fuel and energy industry and gold mining. Its main items of export were cotton harvesters, textile machinery and other complex equipments.¹ This was a remarkable achievement within a short period, considering the fact that not so long ago, in the 1920s, Uzbekistan's main item of import was hoe, a primitive ploughing equipment. In Tajikistan in this period non-ferrous metallurgy became one of the most developed industries. The output of oil and gas increased remarkably in Tajikistan, and so also the output of engineering enterprises, like looms, fittings, farm machinery, cables, spare parts for tractors and transformers. Cotton, ore-processing and rare and non-ferrous metals industries made the region important in USSR's national economic structure. Though the regional specialization was still related to silk,

1. Y. Rybkin, op. cit., p.10.

textile, carpet-making, oil and fat, and canning industries, the period between 1950-75 witnessed industrial diversification within the republic. Machine-building and metal-processing, electroenergetical and non-ferrous metallurgy, and chemical industry had made considerable headway by the end of this period.¹ Though light manufacturing and food industry dominated the industrial structure, by the 1960s some of the improved branches in the above two Central Asian republics were fuel, chemical and engineering.² The non-ferrous metals industry was no more limited to mining activity only, but included refining as well. Chemical fibres and organic synthetic products began to be manufactured in Uzbekistan. The new advanced branches, mainly in the heavy industry developed at a faster pace. Electric power production, the manufacturing of machinery, the chemicals and gas industry and the non-ferrous metallurgy, grew at faster than average rates for industry in the republic. While the mean annual rate of growth of industrial production as a whole was 6.3% between 1966-70 in Uzbekistan, the rate of growth of production was ^{11.5%} in electric power, 13.1% in gas, 13.7% in petroleum refining, 12.7% in chemicals, which shows the increasing importance of these branches in the industrial production structure.³

1. Saidmuradov, op. cit., pp.11-13.

2. J.P.Cole and F.C.German, A geography of the USSR, London, 1970, p.153.

3. G.A. Shister, "The current state of development of the working class of Uzbekistan" in Soviet Sociology, vol.14, No.1, 1975, pp.86-87.

By 1967 heavy industry represented nearly half of all industrial production in Uzbekistan. This has been a tremendous feat considering the fact that in 1913, the share of heavy industry was a little over 2%. Light industry no longer remained the single most dominating branch, nor did it any more define the character of Uzbek industry. Between 1966-70, the share of light industry declined from 54% to 38%.¹

A major emphasis during the period was towards the acceleration of the scientific and technological progress. During the 8th Five-Year Plan (1966-70), there were 1500 major efforts undertaken towards the introduction of new equipment and advanced technology. These efforts included large-scale modernization of the equipment and also introduction on a vast scale of automatic and semi-automatic production lines and special automated machine tools. The effect of technological progress on industry was equally profound. Electric power available per worker rose by 77% in Uzbek industry between 1966-70, 156% in gas industry, 249% in petroleum refining and 187% in non-ferrous metals.²

In the 1960s branches such as electric energy; mechanical engineering, construction material and fuel came to have a larger share in the industrial fixed capital, than

1. G.A. Snister, "The current state of development of the working class of Uzbekistan", op. cit., p.87.

2. Ibid., p.87.

light or food industry. Branches like electric power production, fuel and construction materials production, which provide the infrastructure for any broad-based industrialization were drawing more attention in terms of capital investment.

Table-30: Distribution of industrial fixed capital according to branches of industry, 1968
(% of the total)

Republic	Production of electric and heat energy	Fuel	Cast metal	Chemical and oil	Mechanical and engg. and metal working	Construction material	Light inds.	Food inds.	Others
Uzbek SSR	20.5	11.6	0.6	9.9	13.9	12.1	10.9	6.4	14.1
Tajik SSR	29.0	3.9	-	5.4	8.9	12.7	19.4	12.2	8.5

(A. A. Mints, Srednya Azia, op. cit., p.71.)

The growth of heavy industry did not simply add to industrial growth in Central Asia. It provides the whole economic structure of Central Asian republics, particularly the industrial structure, with a new dynamism that would enable these republics to deal with many of the problems that had constrained their economic progress for a long period. A corollary of heavy industry was the higher capital intensity in industry. This was to have a great bearing on the issues of rural out-migration and socio-occupational mobility of the indigenous man-power in Central Asia. In a region where agriculture played such a significant role in

the economy and lives of the people and where the demographic process was characterized by a very high rate of population increase, there could not have been a very smooth progress of capital-intensive industries. That such a development was taking place inspite of the above constraints was in itself a remarkable achievement.

Capital intensity and man-power use in industry:

Since the 1960s heavy industry in particular had been growing very rapidly in Central Asia and ^{was} characterized by high capital intensity. This was the period when the conditions for intensive development of heavy industry had matured. For example, the development of the hydro-electric power in Central Asia was quite rapid in the 1950s and 1960s, especially in Uzbekistan and Tajikistan. By the 1970s Tajikistan had about half of all the hydropower resources in Central Asia.¹ Heavy industry by the end of 1960s came to play a leading role in the economic development of Central Asia.

Table-31: Industrial Structure in Central Asia (in %)

Branches of Industry	Gross production			No. of workers			Value of plant and equipment		
	1958	1965	1969	1958	1965	1969	1958	1965	1969
Key branches of heavy industry	18.4	27.7	30.2	32.7	38.4	39.6	63.5	61.4	62.4
Light and Food industry	72.4	61.5	59.6	47.2	44.2	41.8	22.7	19.5	18.8
Other branches	9.2	9.1	10.2	20.1	18.5	18.5	13.8	19.0	18.8

(Srednie Aziatskii ekonomicheskii Raion, op. cit., p.16.)

1. Saidmuradov, op. cit., p.10.

Central Asia had the highest investment growth in the country, after Belorussia and Moldavia, between 1960-1975; during which period this region experienced a higher rate of industrial growth than the rest of the country. In the above period Uzbekistan and Tajikistan had a faster rate of growth of output in industry than in the country as a whole. The output and fixed capital grew at a much faster rate between 1960-75 than the growth rate of labour, thus indicating the growing capital intensity of industry during this period.¹

Table - 32: Growth rates of output, labour and fixed capital in industry, 1960-75

	Output	Labour	Fixed Capital
USSR	9.0	2.8	9.6
Uzbekistan	10.0	4.3	12.0
Tajikistan	13.8	4.9	13.1

(I.S. Koropec'kyj, op. cit., p.98.)

Since Central Asian republics had a higher rate of population increase, it is natural that the per capita investment was lower than the national average. But a more

1. In terms of factor income shares in industry in 1970, the share of labour and capital respectively were: 66% and 34% in USSR, 60.2% and 39.8% in Uzbekistan, 64% and 36% in Tajikistan. In other words, the income accruing to capital has been higher in the two Central Asian republics than the USSR average. I.S. Koropec'kyj, "Growth and Productivity" in Koropec'kyj and Schroeder (eds.), op. cit., pp.98-99, 105.

proper assessment of the industrial investment would be a comparison of the rate of growth per worker, which was faster in case of the Central Asian republics than in the country as a whole. And this was inspite of the fact that the average annual rate of growth of employment was faster in Central Asia. This gives an indication of the higher rate of investment in Central Asia, especially since the 1960s.¹

Table-33: Average annual rates of growth of fixed capital and employment in material production, 1960-75 (in %)

	Fixed Capital	Employment	Fixed Capital per worker
USSR	8.9	1.8	7.0
Uzbek SSR	11.7	3.2	8.2
Tajik SSR	10.9	2.8	7.8

(James W. Gillula, "The growth and structure of fixed capital" in Koropecy and Schroeder (eds.), op. cit., p.167.)

If only industrial production is taken into consideration then the value of industrial fixed capital per worker was higher in Central Asian republics than in the USSR as a whole.²

1. In terms of annual growth rate of industrial fixed capital between 1961-74, Tajikistan occupied 3rd place in the USSR with 12.6%, and Uzbekistan 7th place with 12.0%, as compared to the USSR average of 9.5%. James W. Gillula, op. cit., p.182.
2. In terms of 1955 constant prices, the value of industrial fixed capital per worker was 3,984 roubles in the USSR as a whole, 4,010 roubles in Uzbekistan and 4,161 roubles in Tajikistan. In 1975 the figures respectively were 10,084 roubles in the country as a whole, 11,045 roubles in Uzbekistan and 11,921 roubles in Tajikistan. Leslie Dienes, "Regional economic development" in Abram Bergson and Herbert S. Levine (eds.), The Soviet economy towards the year 2000, London, 1983, p. 226.

The growth of industrial output in each five year plan since 1960 had been as high as the USSR average, except from 1965-70 in case of Uzbekistan and from 1970-75 in case of Tajikistan. Even in those years when the growth rate dropped, the growth, however, remained substantial to dispel any doubt that industrial output in these republics was not enough to indicate a faster industrial growth.¹ Productivity increase in industry, especially that of labour, had been a continuous process in the Central Asian republics between 1950-75. Yet there are a number of issues related to the question of labour productivity in Central Asian industry.

By the 1950s Central Asia had already an inherited structure of industry that was dominated by labour-intensive branches of the light industry. Even by the end of 1960s light industry retained quite a substantial share in gross output and total industrial employment. Thus by 1967, light industry's share in the gross output was 40.4% and in the total industrial employment its share was 30.8%.² The light industrial enterprises were also the ones that attracted most the local labour, especially the rural labour, since these enterprises were technically simple and also low-skill demanding. Any drastic advancement in the technological levels of these industries without corresponding improvement in the skill level of the rural population was bound to affect

1. Leslie Dienes, op. cit., p.221.

2. A.I. Imshchenetsky, op. cit., p.710.

further the expansion of the indigenous industrial labour force. Another problem was the high level of women employment in the light industry and there were bound to be serious social problems if the labour in-take of this industry was to be drastically reduced. The considerations of women participation in social production has to be kept in mind while discussing the growth of labour productivity in industry.

At the same time labour productivity could not remain low if industrial growth had to continue in a situation of lower levels of mobility and participation among the ethnic Central Asians in urban-industrial occupations. The dependence on labour mobility from outside Central Asia had, apart from ethnic-cultural dimensions, serious economic consequences as well. The high rate of labour influx from labour-deficit areas of the USSR to Central Asia, which was a highly labour-surplus region, could not continue without affecting the economic progress of other areas and Central Asia as well. The problem was how to draw more and more indigenous manpower into industry while reducing labour influx from outside the region, without, however, affecting industrial growth.

A characteristic feature of urbanization in Central Asia between 1950-75 has been the simultaneous increase in the rural push and urban pull levels, that resulted in

a rapid redistribution of manpower between agriculture and industry. These developments entirely reversed the manpower distribution pattern, so much so that by 1975 a great majority of the employed population of Uzbekistan and Tajikistan were in the non-agricultural sectors. This could be possible both because of the changes brought about in agriculture so that more and more manpower was released from farm work and also due to a rapid growth of industries and services which could absorb this released manpower. In fact, the rise in the share of non-agricultural employment in the two Central Asian republics was much faster than that in the country as a whole.¹ This could not have been possible without a very rapid rate of industrial growth.

Thus, the level of urban pull was quite high and increasing in the two Central Asian republics. As has been pointed out time and again the growth of industries would not simply solve the problem of rural over-population. If the mobility of the population do not correspond to the growing man-power demands of industry, the result may be large influx from outside or shortage of labour, even both. The Central Asian experience confirms to this possibility.

1. The average annual employment in the non-agricultural sphere increased 1.7-fold in Tajikistan, 2.8-fold in Uzbekistan and 1.9-fold in the country as a whole between 1957-1975. Warren Eason, "Population and labour force" in I.S. Koropecy and Gertrude Schroeder (eds.), op. cit., pp.63, 76-77.

Not only was there a high influx^{of} labour from other regions of USSR, but also many industrial sectors were plagued by labour shortages.

It has been argued by some authorities that Central Asian industry did not achieve the level of growth sufficient to absorb the surplus rural workers. According to Lewis and Rowland, industrial growth in Central Asia was achieved by increased labour productivity rather than by increase of the labour force.¹ Leslie Dienes, on the contrary, argues that Central Asia suffered from low labour productivity.² However, Central Asian industrial growth was neither very slow nor insufficient to absorb surplus rural labour. In fact, industrial growth was seriously hampered by the poor availability of manpower from rural areas, because of which influx from other regions remained quite high. To cut down influx from other regions, which were mostly labour-deficit areas, and to relate growth to the level of manpower availability from rural areas, the emphasis was given to increased productivity of labour. The fact that industrial employment was constantly increasing and that influx from outside was continuing on a substantial scale, makes it obvious that industry actually registered a very rapid growth during this period. Contrary to the arguments of Lewis and Rowland, many industries in

1. Ian M. Matley, "Central Asia and Kazakhstan" in Koro-peckyj and Schroeder (eds.), op. cit., p.431.

2. Ibid., p.432.

Central Asia were handicapped by the problem of manpower shortage.¹

In fact, high rate of industrialization resulted in creating a cadre shortage, mainly of indigenous cadres. The creation of new industries and the renovation and expansion of the old ones was based on advanced machinery and up-to-date technological lines. This constantly raised the demand for higher skill of the industrial workforce. The lack of sufficient indigenous cadres with necessary qualification and the slow rate of migration from rural areas left a gap between demand and supply of labour in industry, which had to be made up by recruitment from outside. Thus it was not the level of growth of industry, but the level of growth of urbanization which constrained the sectoral and territorial redistribution of man-power.

Manpower shortages characterized industrial and construction sectors. In 1976, Uzbekistan had about the lowest proportion of its labour resources employed in industry, which was 22% of all workers and employees in the republic, in contrast to the all-USSR average of 35%.² The shortage

1. Lewis and Rowland argue that even if there is no immigration into Central Asia, the non-agricultural economy has not expanded rapidly enough to absorb the surplus labour. So also argue Johnson and Brooks. Robert A. Lewis and Richard H. Rowland, Population redistribution in the USSR: impact on society, 1897-1977, New York, 1979, p.413; D. Gale Johnson and Karen McConnel Brooks, op. cit., p.183.

2. N. Lubin, op. cit., p.106.

of industrial-production personnel or of personnel employed in construction-assembly work, according to Maksakova, constituted 5-10% and in some leading enterprises was even higher.¹ The Ministry of Light industry in Uzbekistan was able to fulfill its plan for hiring new workers by 95% in 1969 and by only 86.3% in 1971. In the Ministry of Construction, the corresponding proportions were 94% and 85%. In 1975, Ubaidullaeva notes, the shortage of labour in Uzbekistan's industries was about 528,000.²

The service sector, in contrast, consumed a high degree of manpower relative to its needs between 1959-73, the proportion of labour resources in the industrial sectors as a whole in Uzbekistan rose by 64%, whereas in the service sector the growth was by 81% and that too from a high starting point. The proportion of personnel in non-production sphere rose from 26% of all personnel employed in the state sector in 1960 to about 31% in 1975. Several Soviet writers have cited large reserves in the use of working-time in the service sectors and high rates of turnover in such enterprises.³

One possible solution to the problem of absorbing the manpower surplus in agriculture would be to continually

1. Cited in Lubin, ibid., p.106.

2. Ibid., p.106.

3. Ibid., pp.106-07.

expand the high labour consuming service industries and thus draw the rural masses to urban-industrial employment. However, the point is, this may not solve the problem of labour shortages in the production sectors. It may also compound the problem of manpower surplus in the service sector, retarding the growth of labour productivity in the process.

The importance of the non-productive sphere cannot be denied in the republics of Central Asia. In terms of drawing women and unskilled indigenous workers into industrial employment, its role has been paramount and would remain so for quite sometime to come. This trend is clear from the analysis of the functional structure of the capital cities.

Table-34: Functional structure of the capitals of Central Asian republics, 1959-1979 (in percentage)

Capitals	1959			1979		
	Indus-try	Other mate-rial produ-ction	Non-Produ-ctive sphere	Indus-try	Other mate-rial produ-ction	Other non-production sphere
Tashkent	38.32	33.06	26.62	32.46	32.81	34.74
Dushanbe	28.34	41.19	30.48	30.65	35.11	34.24

(G.M. Lappo and Yu. L. Pivovarov, "Settlement in the USSR" in L.S. Bourne, R. Sinclair and K. Dziewonski (eds.), Urbanization and Settlement systems, p.351.)

The Service Sector:

The growth of the non-productive sphere has been of great importance for increasing women employment. The

indigenous women of Central Asia largely favour teaching and medical profession.¹

Among the non-productive branches the highest share was concentrated in science and science services, government, public education and health care. The redistribution of the labour resources from material production to the sphere of non-productive occupation is the general tendency of the large cities of the country. This aspect of modern urbanization was also to be found in the large cities of Central Asia, especially the republican and oblast centres.² In this sense the increasing role of the non-productive sphere reflects the progress of urbanization process in Central Asia. This is clear from an observation of the functional structure of the two capital cities of Uzbekistan and Tajikistan, demonstrated in the above table. By the end of the 1970s, the non-productive sphere had the largest share in the economy of these two cities. These two cities being the most advanced urban centres of their respective republics, the link between the progress of urbanization and that of the non-productive sphere is proved.

1. For example, in 1965, about 74% of those employed in the health field and 51% of those in the field of education were women in Uzbek republic. "Women in Uzbekistan", Central Asian Review, op. cit., p.43.

2. V. Bialkovskaia and V. Novikov, "Urbanization and the problem of restricting the growth of very large cities", Soviet Review, Vol. 25, No.1, 1984, p.84.

The service sector represents an important element of development that facilitates the process of urbanization by drawing population to large urban centres. The spatial concentration of the population in urban centres, also results in concentration of various services that are required ever increasingly along with the increasing material and cultural needs of the population. The needs are more where the concentration of the population is greater. Thus large cities have a relatively more developed service sector. The better the service, more is the attraction to migrate and live in the city. The expansion of services not only make urban areas more attractive but also increase the scope of employment in the urban areas. The decline in the industrial growth rate, the increased utilization of science and technology, continuously makes a portion of the urban workforce redundant. The service sector absorbs this manpower and the migration rate continues to grow even if industries achieve optimal level of man-power utilization. Thus service sector plays an important role in urban growth and in the rural-urban migration process.

Central Asia experienced a very rapid increase in the sphere of services in this period. During the Seven-Year Plan (1959-65) the volume of services increased nearly 4-fold in Uzbekistan and 5-fold in Tajikistan. Between 1959-64 only, as many as 3,000 new service undertakings and

workshops were opened in Tajikistan.¹ In 1966, school leavers in all part of the Tajik republic were encouraged to take a job in a service undertaking, in order to achieve the planned target of increasing the number employed in the service sector from 11,000 in 1966 to 25,000 in 1970. In Uzbekistan it was planned to increase the volume of services by nearly 7-times between 1966-70.²

In short, the role of non-productive sector in the economy of the Central Asia had been growing as an essential component of the growth in people's living standard and the increasing level of urbanization. It may be assumed that this sphere would continue to expand in future because of its ability to attract indigenous manpower and thus absorb the growing surplus in Central Asian agriculture.

However, the argument in favour of expansion of the non-productive sphere or light and consumer goods industries, does not solve the problem. As has been pointed out, the problem of manpower shortage in heavy industry and the issue of increasing labour productivity would still remain. And also, in the prevailing circumstances, in the absence or slowness of manpower mobility, even the light and consumer goods industries have a fair share of labour from outside.

1. "Personal and maintenance service in the Central Asian republics", Central Asian Review, vol.15, No.1, 1967, p.48.

2. Ibid., p.55.

The expansion of such labour intensive branches on a large scale may only lead to further influx from outside instead of attracting local manpower. The dilemma of an optimal balance between the labour-intensive and capital-intensive branches of industry has been reflected in various debates that have ensued between Central Asian experts. Thus, Ziadullaev, earlier the Chairman of the State Planning Commission of Uzbekistan and Kurbanov, former Chairman of the Council of Ministers, were advocating for the rapid expansion of light industry in the republic. Kurbanov argued for the rapid construction of new enterprises in light, food, electronic and radio-electronic industries, so that full employment of the labour-resources of the republic would be possible. Ziadullaev argued for the full capacity, primary processing of the republics cotton, expansion of the light industry to provide 80% of the republic's consumer needs, a long-term preferential rate of growth for light industry, state economic protection to promote light industry in some of the less industrialized areas like Khorezm, Surkhandarya, Kashkdarya oblasts and Karakalpak ASSR.¹

The arguments in favour of light industry were contradicted by arguments for greater regional economic self-reliance. Thus there were arguments to switch over to full-

1. Grey Hodnett, op. cit., pp.101-02, 117.

cycle production at the Uzbek steel-mill at Begovat, support for more rapid development of the chemical industry, arguments supported by the significant transformation of the economic potential of Central Asia brought about by the discovery of vast quantities of natural gas in Bukhara.¹

Similar arguments have been forwarded by non-Soviet scholars in favour of more diversification to alter the existing high degree of specialization of the light industry in Central Asian republics. For example, Gillula was arguing that a diversified development of industry would make it possible to expand the employment level of the labour-surplus Central Asian republics at a capital cost per worker that would be even lower than the light industry averages in these republics.² Central Asian industrial growth strategy sought to tackle both the problems, that of the expansion of indigenous industrial workforce and the increase of labour productivity. As a result, Central Asian light and food industries remained generally labour-intensive, while heavy industry highly capital-intensive. Since the 1960s the emphasis of growth shifted to heavy industry and at the same time toward increasing modernization of the light and food industries. But generally, as Divilov argues, new equipment was not introduced on a vast scale in light and food industries and

1. Ibid., p.100.

2. James W. Gillula, op. cit., p.188.

the equipments that were introduced were not always productive and hence did not result in the release of manpower.¹ Thus in certain sectors of the heavy industry, labour productivity in Central Asia even exceeded the index of the Soviet Union as a whole. However, in light industry which plays such an important role in the economic life of Central Asia, the labour productivity index either remained below the USSR average or showed slow increase.

Table-35: Labour productivity indices for Central Asian industries (USSR index=1)

Branch	1960	1964	1967
All industry	0.91	0.92	0.95
Iron and steel	0.61	0.55	0.66
Non-ferrous metals	-	0.99	0.95
Fuels	1.00	0.99	1.07
Power generation	0.53	0.54	0.49
Machine-building	0.96	0.99	1.07
Chemicals	0.80	0.89	1.07
Timber, pulp and paper	1.06	1.04	1.00
Building materials	1.08	1.10	1.05
Glass and pottery	1.10	0.87	1.19
Light industry	0.88	0.86	0.90
Food industry	0.91	0.91	0.90

(A.I. Imshchenetskiy, op. cit., p.712.)

The different degree of capital intensity in Central Asian industry was reflected in the difference in capital-output ratio among different industries. Thus in the electric power industry in Tajikistan the capital-output ratio was

1. S. Divilov, "Labour resources and the comparison of general economic indices by union republics", Problems of Economics, vol.15, No.11, 1973, p.66.

35-40 times higher than in apparel and food industries and about 13 times higher than in machine-building industries.¹

The overall capital intensity of industry was higher than in the country as a whole by 1960 and this situation continued to remain so in the 1970s also. In 1960, the capital-labour ratio in industry in Uzbekistan was 1% higher and in Tajikistan 5% higher than the USSR average. The lag had increased substantially by 1975, to 10% more in case of Uzbekistan and 18% more in case of Tajikistan.²

In short, strategy of industrialization between 1950-75 was to create in Central Asia a diversified industrial structure and a strong heavy industrial base. The slow movement of the local manpower from agriculture and the need to reduce influx from outside, resulted in a more rapid growth of capital-intensive branches. At the same time the need to attract the lowly-skilled local population to industry affected the technical level of the industries and consequently the productivity of labour, especially in those industries, i.e., food and light industries, which attracted most of the local manpower. However, the continuous growth of heavy industry could ^{have been} sustained by a redistribution of personnel from the traditional branches of industry, food and light

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1. "On the comparative effectiveness of the economic structure of regions", Soviet Geography: Review and Translation, vol.15, No.6, 1974, p.344.
 2. Gillula, op. cit., p.174.

industry branches mainly, since reinforcements from the rural areas was on a very small scale. This redistribution could ^{have been} possible by increasing labour productivity in the traditional sectors. But since the traditional branches attracted the indigenous manpower most, any drastic change in the level of productivity was not desirable in the existing circumstances.

This strategy of industrialization brought about certain changes in the urbanization process. Since industry was becoming more and more capital intensive, the expansion of industry did not involve the same level of man-power mobility as earlier, though expansion did necessarily mean more man-power in absolute terms. However, as expansion went along with diversification, there was a wider dispersal of industries territorially also. There was a slowing down of the process of urban concentration. The growth of large cities earlier had meant more influx from outside, both because the labour mobility within the region was slow and large cities were more conducive to European influx for the ethnic-cultural environment and material amenities they provided. Any change affecting the faster growth of large cities was more likely to help labour mobility within the titular nationalities.

It is debatable whether a higher rate of labour productivity in industry was desirable in the existing conditions in the Central Asian republics. Given the present level of

skill and man-power mobility in the region, the labour intensive light industrial enterprises have been the main means of attracting indigenous labour into industry. If the ethnic distribution of the labour force has to be changed in favour of the titular nationalities in Central Asia, then a drastic change affecting the labour-intensive branches may not be desirable. At the same time, as has already been argued, without increasing labour productivity, it may not be possible to stop influx of labour from outside the region, given the slow mobility of the population from rural to urban areas. At the same time, it is also undeniable that without an expanded base of heavy industry, it would be very difficult for the Central Asian republics to go to a higher stage of industrialization, without which this region might find itself in a position of inequality vis-a-vis other regions of the USSR.

Whether higher rate of labour productivity in industry is desirable or not, the fact remains that its growth has been affected to a large extent by the existence of fairly large number of labour-intensive industries, in which the level of modernization or the technical level was quite low. As a result, Central Asia had, by the mid-1970s, an industrial structure where the heavy industry was growing faster, its share in the industry was continuously going up and these enterprises were characterized by a high degree of capital

intensity. At the other end were the light and food industrial enterprises, which retained substantial weight in the economy and were characterized by a high degree of labour intensiveness. The result of this structural growth was that labour productivity increased, but not as fast as in the rest of the country.

Table-36: Growth of labour productivity in industry 1940-1975 (1940=100)

	1940	1965	1970	1975
USSR	100	372	492	657
Uzbekistan	100	269	314	394
Tajikistan	100	213	257	305

(Narodnaya Khoziaistvo, SSSR, 1982, op. cit., p.128.)

Pattern of urban growth:

Between 1959-75, Central Asia was characterized by a relatively faster urban growth than the rest of the country. During this period the urban population of Uzbekistan increased by 92.7%, that of Tajikistan by 98.1%, as compared to 53.1% in the country as a whole.¹

Urban growth in this period was not characterized by the growth of large cities only. The earlier pattern of concentration of the population in very large centre could not be changed so easily. However, since the 'sixties the

1. Narodnaya Khoziaistvo, SSSR, 1974, op. cit., pp.10-11.

growth of large cities had slowed down, though they still continued to have a very large share of the urban population. In Tajikistan the number of smaller urban centres grew more rapidly than the larger ones. In Uzbekistan the larger centres continued to enjoy a favourable growth. This could have been due to the larger influx of Russians into the already well developed large cities of Uzbekistan. In the absence of such a high level of influx, concentration of population in Tajikistan could not have been as much as in Uzbekistan, since the local population migration to big cities was also not high. Thus Tajikistan would have a fairly large number of small and medium sized cities, as against a large number of big cities in Uzbekistan. Even in Uzbekistan, the growth of very large cities slowed down since the 1960s. The share of cities with over 100,000 population in the total urban population in Uzbekistan and Tajikistan increased between 1959-67, but after that it declined.

The pace of urban growth continued to be faster than that in the rest of the country. But compared to the earlier rate of growth, the urban population growth of the republics of Uzbekistan and Tajikistan was slower, particularly since the 1960s. This was mainly due to the slowing down in the growth rate of very large cities in the two republics. However, the pace of growth still remained relatively much faster than the all-Union average possibly due to the faster growth of medium and small urban centres in the Central

Table - 37: Growth of cities over 100,000 population

Republic	1959	1967	1970	1974	Increase between 1959-67 (in %)	Increase between 1967-74 (in %)	Increase between 1959-74 (in %)
<u>Uzbekistan</u>							
1. Andizhan	130,083	169,000	188,000	211,000	50.6	24.8	62.2
2. Namangan	123,467	158,000	175,000	202,000	27.9	27.8	63.6
3. Tashkent	911,930	1,239,000	1,385,000	1,552,000	35.8	25.2	70.1
4. Bukhara	69,254	102,000	112,000	133,000	47.2	30.4	92.0
5. Chirchik	65,520	100,000	107,000	121,000	52.6	21.0	84.6
6. Ferghana	80,206	93,000	111,000	124,000	15.9	33.3	54.6
7. Kokand	105,082	131,000	133,000	147,000	24.5	12.2	39.8
8. Margelan	67,990	89,000	95,000	108,000	30.9	21.3	58.8
9. Samarkand	196,484	248,000	257,000	293,000	26.2	18.1	49.1
<u>Tajikistan</u>							
1. Dushanbe	224,242	333,000	374,000	422,000	48.5	26.7	88.1
2. Leninabad	77,455	100,000	103,000	116,000	29.0	16.0	42.0

(Chauncy D. Harris, "Population of Cities of the Soviet Union", Soviet geography: review and translation, vol. II, No. 5, 1970, pp. 337-39; Theodore Shabad, "Population trends of Soviet cities, 1970-84", Soviet Geography: Review and Translation, vol. 26, No. 2, 1985, pp.).

Asian republics also. As it is the growth of large cities remained faster in Central Asia than that in the rest of the country.¹ The changing pattern of urban growth further facilitated increases in the level of urbanization, i.e., the share of urban population in the total population. However, the changes in the level of urbanization was also constrained by other factors like demographic and cultural factors, which would not make the territorial redistribution of man-power in Central Asia a smooth process.

The level of urbanization and the process of migration:

The slower pace of urban growth since the 1950s as compared to the earlier period, as well as a very high growth in the number of rural population, resulted in a slower rate of growth in the level of urbanization, i.e., in the share of urban population. That urban growth slowed down has already been discussed. So far as rural population was concerned, their growth in terms of absolute numbers was higher than that of urban population between 1959-75.²

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1. For example, annual average growth rate of selected capital cities shows that the Central Asian cities had a much higher growth rate. Between 1959-70, Tashkent had an annual average growth rate of 3.65% and Dushanbe 4.54%. Between 1970-74, these cities respectively had a growth rate of 2.85% and 3.02%. As compared to this Moscow had a growth rate of 1.43% between 1959-70 and 1.54% between 1970-74. The figures for Leningrad were 0.09% and 1.64% in the respective periods. Jeff Chin, Manipulating Soviet population resources, London, 1977, p.21.
 2. In Uzbekistan, the rural population increase was 3,040,000 as compared to the urban population increase of 2,530,000 between 1959-75. In Tajikistan, in the same period, the rural population increase was 772,000 as compared to an increase of 634,000 in the urban popu-

The effect of this on the level of urbanization can be seen from the following table.

Table - 38: Share of the urban population in the total population, 1959-75 (in %)

	1940	1959	1975	Perce- tage change between 1940-59	Perce- tage change between 1959-75	Annual perce- tage change between 1940-59	Annual perce- tage change between 1959-75
USSR	33	48	60	15	12	0.78	0.75
Uzbekistan	25	34	38	9	4	0.47	0.25
Tajikistan	19	33	38	14	5	0.73	0.31

(Narodnaya Khoziaistvo, SSSR, 1974, op. cit.,
pp.10-11.)

The level of urbanization among the indigenous nationalities also went up, though the rate could have been much faster but for a very high rate of natural increase in the rural areas. The share of Uzbeks in the urban population of Uzbekistan increased from 37.2% to 41.2% between 1959-70. Similarly in Tajikistan the share of Tajiks in the urban population between 1959-70 went up from 31.8% to 38.6%.¹ Though the titular nationalities in the above two republics dominated the ethnic composition of the urban population, the level of urbanization remained low within the Central Asian nationalities. The urbanization process in Central Asia since the 1950s contained both the aspects of increasing the participation of the indigenous population in non-

1. Kozlov, op. cit., p.48.

agricultural occupations and of simultaneously slowing down the rate of influx from outside. This was to be made possible by moderating the rate of industrial growth instead of the very rapid rate earlier and the rapid mechanization of agriculture, as well as training of personnel. Moderation in the rate of industrial growth also was to slow down the demand for skilled labour, which earlier far exceeded the training of the local manpower or even the overall supply of local manpower. The slow rate of demand of manpower and a faster rate of manpower release from agriculture due to mechanization and a faster growth of a skilled local cadre due to more intensive training of an increasing number of the indigenous population, would help in raising the level of urbanization of the indigenous population, which in 1970 was only 23% among the Uzbeks in the Uzbek republic and 22.5% among the Tajiks in the Tajik republic.¹ The rise in the level of urbanization among the titular nationalities was a very slow process, due to the high rate of natural increase in the rural areas. But a more immediate effect of the above described urbanization process has been the growing share of these nationalities in the total urban population in the republic. In 1970, the share of Tajiks and Uzbeks was more than that of the Russians in the urban areas of their ^{respective} titular republics.² Because of the greater

1. Ronald Wixman, "Demographic trends among the Soviet moslems (1959-79)", Soviet Geography: Review and Translation, vol.25, No.1, 1984, p.56.

2. Ibid., p.56.

concentration of industrial production in the capital cities, they still had a higher share of Russian than the proportion of Russians in the total urban areas. In 1970, Russians constituted 40.8% of the population of Tashkent and the same proportion in the population of Dushanbe.¹ However, this should not overshadow the changes that have come about in the ethnic composition of the urban population in the two Central Asian republics.

The most distinctive feature of urban growth between 1950-1975, was the growth of the medium sized industrial cities, specializing in one major branch of heavy industry.² The growth of these centres was much faster than the larger centres and also the medium sized cities which were not specialized industrial centres.

In spatial terms, the large centres were witnessing a faster development of capital-intensive branches.³ Since

1. Ibid., p.56.

2. The fastest growing towns in Uzbekistan were the industrial and mining centres like, Angren, Almalyk, Urgench, Nukus, Tashauz, Chirchik, Begovat, Kuvasai, Zarafshan, Navoi, Shorsu, Leninsk etc. in Uzbekistan. In Tajikistan such centres included the uranium-processing centre of Chkalovsk, the aluminium centre of Regar, the hydro-electric centre of Nurek and the electro-chemical centre of Yavan.

3. Almost all the large cities of Uzbekistan and Tajikistan were also the main machine-building centres of their respective republics.

European migration has mostly been attracted to large cities of Central Asia, any rationalization of labour-use was bound to affect the rate of European influx. At the same time the growth of the service sector and its concentration in the large cities was expected to help man-power mobility among the ethnic Central Asians whose participation in this sector has been relatively higher than other non-agricultural sectors.

Since most intensive urbanization was associated with industrial development, the centres of heavy industry, which were characterized primarily due to their industrial functions, had generally a faster growth than the large centres which were the main industrial, commercial, cultural and administrative centres of the republic.¹ This may have been due to a slower rate of growth of industries in the latter type of centres, which more and more shifted to non-material production. The pattern of urban growth directly influences the process of population redistribution territorially and sectorally. For example, the growth of large

1. For example, according to the data compiled by Ann Sheehy, such medium-sized, new and primarily industrial centres like Almalyk (70%), Urgench (39%), Chirchik (39%), Bekabad (33%), Nukus (31%) had a higher growth rate of population between 1959-65, than such old and large cities like Andizhan (22%), Namangan (22%), Tashkent (20%), Kokand (19%) and Ferghana (11%). Ann Sheehy, "Population trends in Central Asia and Kazakhstan, 1959-65", Central Asian Review, vol.14, No.4, 1966, p.325.

urban centres creates greater scope for non-agricultural occupations, as compared to medium and small centres. At the same time, such centres, as in case of Central Asia, are far removed from the rural population both in terms of their cultural milieu and skill level of the occupations. Similarly, the faster growth of medium sized industrial centres may create more opportunities for occupational and social mobility for the agricultural population. At the same time, in the context of low skill level of the indigenous population, as in the case of Central Asia, the faster growth of such centres may actually increase the influx of manpower from outside the region. The growth of smaller urban centres may suit the cultural and skill level of the indigenous rural population and yet such centres are neither suited for the location of heavy industry nor can they be sufficient to absorb a faster growing rural population, which in the case of Central Asia especially is exceptionally high.

In the light of these assumptions the urban growth pattern of Central Asia is sought to be discussed in this study. Before that a review of the migration process is essential. The urban growth pattern during the period under study has not been exactly the same in Uzbekistan and Tajikistan. However, one essential thing common to them both was the faster growth of the medium sized industrial centres. In case of Uzbekistan the growth of large

urban centres was steady and in the case of Tajikistan the smaller urban centres had a steady growth.

This growth pattern, according to Lubin, has accentuated the problem of indigenous manpower mobility. The indigenous population being concentrated in small and medium non-industrial or old centres, would find more indigenous surplus manpower in such centres, while the new industrial centres would more and more continue to be staffed by Europeans from outside the region.

According to Lubin, despite rapid urbanization in Central Asia, Europeans are disproportionately over-represented in Uzbekistan's urban areas, within which, again, the Europeans have generally tended to settle in the new, industrial cities that have been created during the years of Soviet power. Urban Uzbeks are concentrated in old, small and medium-size towns. This has been according to her, largely due to the location of industries, which are based largely on the extraction and processing of raw materials and as such are close to the resources in question rather than to the population concentrated in the rural areas. Given the low mobility and low industrial skill among the indigenous population, these industries created in the Soviet period had a large Russian and other European personnel.¹

1. N. Lubin, op. cit., pp.99-100.

The net effect in terms of population, as Lubin points out, has been that there was a spatial imbalance in the redistribution of the ethnic population. While the industrially developed centres were dominated by Europeans, the old, smaller cities were overwhelmingly Central Asian in their ethnic composition.

Table -39: Selected economic and nationality indicators by type of city, Uzbekistan, 1970

Indicator	New small and medium cities with developed heavy industry	Old large cities with multi-sectoral industry	Old small cities with main industry the primary processing of agricultural raw materials
Per cent of total number of cities	22	15	63
Per cent of total urban population	21	62	17
Indigenous nationalities as per cent of total population	20	50	60
Per cent of labour resources employed in social production	72.1	70.1	73.8
Per cent of employed population in industry, construction and transport	70.4	53.7	46.6

(Source: Mikheeva, V., "Trudovye resursy malykh i srednykh gorodov, Uzbekistan'i perspektivy ikh ispolzovaniia", doctoral dissertation, Tashkent, 1975. Cited in N. Lubin, op. cit., p.101.)

This imbalance, according to Lubin, is because of the emphasis placed on the economies of construction for location of industries and not the presence or absence of labour resources. This led to difficulties in staffing the labour force in many instances by the indigenous population. To overcome the difficulties the industrial enterprises were staffed by in-migrants from outside. Lubin concludes that population pressures and traditional governmental priorities in heavy industry were intensifying the division between Central Asians and Europeans rather than diminishing them. According to her, differences in growth rates of employment by sectors led to increasing labour surpluses in agriculture and shortages in industry. Differences in population growth led to growing labour surpluses in rural areas, and old, small towns and to potential shortages, in new industrial cities and large urban centres.¹

While not rejecting entirely the validity of some of her observations, it can be said that the conclusions of Lubin have been somewhat far-fetched. Neither the experience, nor the projections for the future show any increasing dominance of Europeans in the industrial centres. In fact, their share in the total population of such centres are steadily declining. Nor the alternative to the problem is to scrap the future building of heavy industry. The problem

1. Ibid., pp.100-02.

has been sought to be tackled by increasing labour productivity in industry to meet the labour shortages in modern enterprises and to get labour released from traditional ones. This, along with diminishing in-migration from outside will help the redistribution of the indigenous labour force sectorally as well as spatially. The alternative, thus, has been more modernization of industry and rapid training of indigenous manpower in industrial skills.

The Pattern of migration:

Since the 1950s there was a slowing down of the Russian and other European in-migration into Central Asia. This might have been due to the slowing down of the industrial growth rate in this period and also due to the increasing educational, skill and cultural level of the indigenous population who slowly began to replace the Russians in industrial and urban jobs. The share of Russians in the Central Asian republics declined as the Russian influx into Central Asia slowed down during this period. The share of Russians in Uzbekistan dropped from 13.5% in 1959 to 12.5% in 1970 and to a further 10.8% in 1979. Similarly in Tajikistan the Russian population declined from 13.3% in 1959 to 11.9% in 1970 to 10.4% in 1979. It could be argued that this was due to a higher rate of natural increase among the Central Asians. Undoubtedly this was a main reason for the declining share of Russians. But this could

not be the only reason, because the number of immigration into Central Asia was also declining, a fact which has already been demonstrated in the earlier chapter. The migration trend in Central Asia showed a decline in the rate of in-migration.¹ In the urban areas the rate of in-migration dropped. In fact, the high growth rate of the capital cities and large cities of Central Asia was mainly due to natural increase and much less due to mechanical increase, i.e., migration.² Incidentally, the rate of natural increase in the urban areas of Uzbekistan in 1970 was 20 per 1,000 population as compared to 8 per thousand in the urban areas of USSR as a whole.³

Between 1959-70, natural increase contributed more than half of the urban population increase in Uzbekistan and Tajikistan and about a third of the increase was due to migration. This one third or so involved ^{also} migrants from urban areas to urban areas. So the net rural-urban migrants constituted a very small share in the total urban population increase, indicating a small change in the socio-occupational structure

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1. Between 1967-71, the number of in-migrants per 1,000 out-migrants declined from 1,405 to 1,246 in Uzbekistan and from 1,036 to 1,034 in Tajikistan. B.S. Khorev and B.M. Moissenko, op. cit., p.47.
 2. V. Perevedentsev, "Population movement/labour supply in Siberia, (Part III)", Soviet Sociology, vol.8, No.1, 1969, p.34; also V. Perevedentsev, "Population distribution and migration", Soviet Review, vol.16, No.1, 1975, p.62; V. Bialkovskaia and V. Novikov, op. cit., p.87.
 3. Robert A. Lewis and Richard H. Rowland, Population redistribution in the USSR, Its impact on society, 1897-1977, op. cit., p.248.

brought about by urbanization. An overwhelming majority of the migrants to cities were constituted by those coming from outside the republic.

Between 1959-70, natural increase contributed 52% of the urban growth in the Uzbek republic; reclassification 16% and net in-migration, only 32%. The majority of the in-migrants were non-indigenous. In the same period, i.e., between 1959-1970, as much as 90% of the in-migrants to the urban areas of Uzbekistan came from outside the republic and only 10% came from the rural areas of the republic. Even within the rural-to-urban migrants the indigenous Uzbeks comprised a very small proportion - Uzbek men comprised only 37% of all male migrants from the countryside to the urban areas while Uzbek women comprised only 19% of the total female migrants to the cities from the rural areas.¹ Like in Uzbekistan, similar trends were discernible in the urbanization process of Tajikistan, where the share of natural increase and reclassification in the total increase of urban population was more than twice that of migration. Between 1959-70, 56 per cent of the urban growth in Tajikistan came from natural increase and 14% from reclassification, as compared to only 30% from migration.²

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1. According to Feshbach, rural migrants comprised less than 17% of the new arrivals to the cities of Uzbekistan in 1970. N. Lubin, op. cit., pp. 33-34.
 2. Chauncy D. Harris, "Urbanization and Population growth in the Soviet Union, 1959-1970", The Geographical Review, vol. 16, No. 4, 1971, p. 110.

Though the Russians and other Europeans continued to dominate the total migration to the cities, there was a conspicuous downward trend in the in-migration to the Central Asian urban areas from outside. While their relative weight still remained high due to low mobility among the Central Asians, the diminishing rate of influx from outside might pave the way for increasing mobility among rural Central Asians. The high growth rate among urban Central Asians also meant that there would be a potential reserve to substitute the European migrants to Central Asia. The urban reserve would not be constrained by cultural factors to take up industrial-urban occupations, thus making the need for outside labour less and less over time.

However, any drastic change in the present level of socio-occupational and spatial mobility among the ethnic Central Asians requires a qualitative change in the present urbanization process, which is dominated by natural increase and in which migration, especially of the indigenous population, plays a very small part. Otherwise such high urban growth rates, as Central Asia witnessed, would have no meaning in the socio-economic life of the indigenous population. One positive factor in the urbanization process had been the slowing down of the European influx into Central Asia, which both reflects the growing mobility and skill level of the indigenous population and still more, would create more scope for the Central Asians to take up urban-industrial occupations.

The downward trend of European influx into Central Asia, especially in the 1970s, was very conspicuous. Between 1959-70, net in-migration into Uzbekistan was 514,000, while between 1970-79 the number was only 135,000. Similarly in Tajikistan, from a net influx of 69,000 in 1959-70, the number declined to 41,000 between 1970-79. These figures indicate the greater success achieved over the years in attracting the indigenous population to industrial and urban occupations and the relatively lesser need to recruit labour from outside the republic.¹

In Uzbekistan the share of intrarepublic migration increased much faster than interrepublic migration. In Tajikistan, the share of intrarepublic migration declined at a less faster rate than did interrepublic migration. The reasons for the declining proportion of rural-urban migration in Tajikistan was mainly due to the high rate of natural increase and also because the earlier tempo of growth of big cities like Dushanbe slowed down considerably.

Table-40: Intrarepublic and Interrepublic migration in Uzbekistan and Tajikistan, 1962-67

	<u>Intrarepublic migration</u> (in % of total urban increase)			<u>Interrepublic migration</u> (in % of total urban increase)		
	1962	1965	1967	1962	1965	1967
Uzbekistan	22.7	28.6	34.7	38.7	41.2	32.9
Tajikistan	19.5	19.2	13.5	30.2	37.6	19.3

(R.V. Tatevosyan, "Methods of analysis of interregional migration in the USSR in relation to the proces of urbanization", Soviet Geography: Review and Translation, vol.13, No.2, 1972, p.129.)

1. "Theodore Shabad, "News notes (Ethnic results of the 1979 Soviet Census)", Soviet Geography: Review and Translation, vol.21, No.7, 1980, pp.483, 487.

There is no doubt about the diminishing impact of the interrepublican migration on the demographic process in Central Asia. The slowing down of the European influx to Central Asia and a very high birth rate, resulted in making the impact of migration from outside on the population growth very negligible.¹

Since the influx of the Europeans was mainly related to industry, any slowing down in the growth rate of European migration into Central Asia would help the growth of indigenous industrial labour force. Two examples are cited here to underline the relationship of European migration to industrial growth in Central Asia. The two examples are, the construction of the Nurek hydroelectric plant and the Dushanbe textile mill, in Tajikistan. In both these plants the share of Russians in 1964 was much larger than any other nationality and even all nationalities combined together. In the construction of the first plant the share of Russians was 51.8% and in the second plant 55.7%. The share of Tajiks was as 27.8% and 15.2% respectively.²

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1. Between 1939-59, migration accounted for more than 42% of Uzbekistan's population growth, the share dropped to 10% between 1959-70 and to a further 4% between 1971-76. N. Lubin, op. cit., p.41.
 2. V.I. Perevedentsev, "Population movement and labour supply in Siberia (Part V)", op. cit., p.454.

These two examples reveal many aspects of the Central Asian urbanization process. The participation of ethnic Central Asians ⁱⁿ non-agricultural occupations, particularly industrial occupations, was much smaller compared to the Europeans. Among the former, female labour participation was lower than males. Thus the share of Tajiks in the construction of the Nurek hydroelectric plant which required primarily male labour was higher than that in the Dushanbe textile mill which required primarily female labour.¹ Another aspect was the non-participation of the local labour due to the low level of skill of the indigenous labour. This is exemplified by the fact that only one-sixth of the Tajik workers at Nurek construction were the local inhabitants of Nurek itself. Most of the Tajiks were from outside, since the skilled personnel, particularly drillers, blasters, tunnelers and excavator operators etc., were mostly those transferred from other construction projects and from coal and ore mines.²

The ethnic trend in the cities was influenced by the ethnic trends in industry. The low share of the indigenous nationalities in the industrial workforce was reflected in their low share in the urban population of the industrial cities. This being the correlation, the ethnic composition

1. Ibid., p.454.

2. Ibid., p.455.

of the urban areas was bound to be affected by the rate of development of their industrial growth. The industrial growth rate since the 1950s slowed down as compared to the previous period, when Central Asia had a very high growth rate due to the initial low industrial base. In that period the rate of industrial growth far exceeded the rate of preparing the indigenous population for industrial jobs. As a result the influx from outside had risen manifold. But after the take off stage, the growth rate declined and the disproportion between industrial growth and the training of the indigenous personnel was sought to be reduced. The training of the local personnel as a result of urbanization of the Central Asian republics and the reduction of immigration into Central Asia, would help expanding the scope of ethnic Central Asian participation in the labour force. The trend of the ethnic composition of the urban population in Central Asia showed that since 1959 the share of Russians in the urban population had been on the decline, from 33.4% in 1959 to 30.4% in 1970 in Uzbekistan and from 35.3% to 30% in Tajikistan during the above period.¹

The large urban centres, the main industrial centres of the region, whose growth rate slowed down substantially since the 1960s, witnessed a declining share of Russians in their ethnic composition. These urban centres, offered

1. I. A. R. Vinnikov, "National and ethnographic groups in Central Asia: as reflected in ethnic statistics (Part I)", Soviet Sociology, vol.19, No.2, 1980, p.38.

the best conditions for European influx, due to the material and cultural amenities, they could provide. These centres were now required to act as instruments for transforming the indigenous population, unlike the earlier phase when under the circumstances these centres were the focal points of European influx into Central Asia. Relevant in this context is the case of the capital cities which were possibly the most attractive centres of European migration to Central Asia. The decline in the share of Russians in the capital cities shows the trend in the large urban centres. In Tashkent the share of Russians in the total population declined from 43.9% to 40.8% between 1959-70, in which period the proportion of Russians in the total population of Dushanbe declined from 47.8% to 42%.¹ Apart from the declining industrial growth rate, the other major factor in reducing man-power demand was the relatively higher industrial labour productivity in large centres.

The spatial pattern of industrial production in Central Asia before the 1950s was characterized by concentration of

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1. O.V. Larmin, V.M. Moiseyenko, B.S. Khorev, "Social-demographic aspects of urbanization in the USSR", Soviet Geography: Review and Translation, vol.13, No.2, 1972, p.103; V.V. Pokshishevskiy, "Urbanization and ethnographic processes", Soviet Geography: Review and Translation, vol.13, No.2, 1972, p.117; Robert A. Lewis, Richard H. Rowland and Ralph S. Clem, "Modernization, population change and nationality in Soviet Central Asia and Kazakhstan", Canadian Slavonic Papers, vol.17, Nos.2-3, 1975, p.295.

the productive forces in larger centres. The large centres offered greater economic advantages, in terms of cost-efficiency and labour-productivity, for rapid industrialization in a short time. The large cities with a higher concentration of the skilled manpower or a higher availability of a skilled workforce and also due to the concentration of educational and training facilities, were in a better position to constantly improve the technical level and the labour productivity in material production. Since the 1960s the emphasis on increasing labour productivity increased. This could have had an impact on the demand of manpower, leading to a slowing down of the Russian and other European influx.

The decreasing rate of European influx into Central Asia, especially the inflow of industrial workers, increased the opportunities for Central Asians to participate in non-agricultural jobs. Since the participation of the Central Asian in the sphere of services and other non-material production was relatively higher than that in industry, a faster growth of the former surely increased the scope of Central Asians' participation in urban jobs vis-a-vis the Russians.

According to Perevedentsev, a leading Soviet expert, ethnic factors influence both interregional and intraregional population redistribution. In fact he argues that the effects of ethnic factor on the population movement is comparable with that of the economic factors. Since the Russians found

themselves in a familiar ethnic environment in the cities of Central Asia the Russian migration was very high. This limited the job opportunities for the Central Asians in the urban areas as well, apart from presenting a different urban ethnic environment for the rural Central Asians. It was difficult for the tradition-bound rural Central Asians to migrate to urban areas with a very different ethnic, cultural and linguistic environment.¹ Likewise Gale Johnson and Karen Brooks also point out that one major effect of inflow of industrial workers from outside to Central Asia has been the diminishing job opportunities outside agriculture for the indigenous population. The other major effect would be the exacerbation of labour deficit in North and the Slavic areas.²

From the above arguments it is clear that a declining ratio of non-Asians in Central Asian urban centres would create conditions for increasing migration of rural Central Asians. One major step in that direction has been to remove the great disparity between the demand for industrial labour and the supply of indigenous labour. In fact, between 1959-70, the demand for labour in the non-agricultural jobs in the slavic areas grew faster than that of Central Asian republics,

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1. V. Perevedentsev, "Population movement and labour supply in Siberia (Part V)", Soviet Sociology, vol. 9, No.3, 1970-71, pp.452, 460-61.
 2. Johnson and Brooks, op. cit., p.184.

as has been pointed out by Johnson and Brooks.¹ This might have been the cause of low influx into Central Asia from outside. If this trend continues, then the conditions for a higher level of urbanization among the Central Asians would be more conducive. The reduction of outside influx to a large extent, however, depends on the nature of incentives and the level of training of the indigenous personnel.

So far as the indigenous population is concerned, the wage structure inside the region's economy was more weighted in favour of industry and within industry in favour of heavy industry. Thus ideally the existing wage level in Central Asia should encourage more intrarepublican migration as compared to the interrepublican migration. While the wages did not provide incentive to labour from outside Central Asia, they did provide higher remuneration to Central Asian workforce in terms of shifting from agriculture to industry.

For the indigenous population, customs and traditions and other cultural factors may have been responsible for slower mobility to industrial jobs, or within industry from the service sector to the material production sector, though wage incentives were higher in industry as compared to agriculture and higher in heavy industry as compared to the light industry and service sector. But for the Europeans, the system of incentives might have influenced their migratory

1. Ibid., p.184.

behaviour, especially when more and more Central Asians were coming up to take skilled jobs. The lower availability of skilled jobs for non-Central Asians coupled with the low incentives to discourage European in-migration, unlike earlier when not so much the wages, but the predominance of Europeans in skilled jobs influenced European migration into Central Asia. The system of incentives was not enough to induce more European influx, but could promote socio-occupational mobility among the ethnic Central Asian given conducive socio-cultural environment.

The structure of wages, income and incentives:

As far as wage-incentives were concerned, the Central Asian industries did not offer any incentive to others in the rest of the country to migrate to Central Asia. Wages remained lower than the USSR average. Yet it offered some incentives to the local population since the difference with the USSR average was narrowing and also because industrial wage differences vis-a-vis agriculture were not declining as much in Central Asia as in the country as a whole.

Table-41: Monthly Payment to Industrial employees (as % of that in the USSR)

	1940	1965	1970	1975
Uzbekistan	81	90	93	94
Tajikistan	-	89	90	-

(Rahman and Ghai, op. cit., p.16.)

This shows that wages in Central Asian industry were much lower than that in the country as a whole in the period when migration to Central Asia was most intense, i.e., in the 1940s. In other words, migration to Central Asia was not just because wages were higher, as Johnson and Brooks argue. In case of Central Asia the incentives were in the nature of better skilled jobs to be had by the European migrants, jobs which paid more. Apart from that urban growth in Central Asia created better amenities for migration to Central Asia than to other regions of the country where there were more economic incentives offered. One such example is Siberia and Far East where climatic factor also played an important role in neutralizing the economic advantages to be gained by European migrants.

In comparison with the collective agricultural sector, Central Asian industry offered better wage-incentives. While the differences between industrial income and collective farm income narrowed down in the USSR as a whole, from a ratio of 1.56 to 1.43 between 1965-75, that in Uzbekistan increased from 1.14 to 1.32 and in Tajikistan from 1.16 to 1.19 in the same period.¹ Thus the differences in wages and ~~higher~~ dependency ratio due to large size of the rural families could have caused enough rural outmigration if mobility had been simply the function of an economic process.

1. Rahman and Ghai, op. cit., p.29.

By the mid-1970s the highest monthly wages were in industry (industrial/production personnel); in construction and construction assembly work; automobile, urban electric, water and other transport, and loading and unloading organizations. This means the wage incentives were more in industrial-urban spheres of activity. Within industry the highest wages were in the fuel, ferrous and non-ferrous metal, construction material and cotton-cleaning industries. The lowest wages were in the light and food industries. The wages of the former four branches were each above the average industrial wage in 1975; the average wage in the light industry and food industries, on the other hand, was only 86-87% that of the average industrial wage.¹

From the early 1960s to mid-1970s, wages in industry, transportation and construction grew more than twice as rapidly as those in most spheres of the service sector. Whereas wages ⁱⁿ industry grew by about 52% from 1965 to 1975, and in transport, by 67%, they grew by only 22% in health and in government administration and by only 34% in education and culture over the same period.²

It is difficult to say how much has the wage structure to do with the migration process. While there has been a slowing down in the rate of European in-migration into Central

1. N. Lubin, op. cit., p.178.

2. Ibid., p.178.

Asia, at the same time the rural out-migration in Central Asia has not been at a rate that would suggest a simple relationship between wages and migration.

However, some conclusions may be drawn from the picture presented above. That economic and other material incentives have a better influence on the urbanization process in case of nationalities which are less influenced by tradition and custom. Thus in case of Europeans, the declining incentives or loss of its relative advantage over other areas in wage or other incentive terms, was an important factor in their migration to Central Asia. But in the case of ethnic Central Asians, higher wages in industry could not induce a higher mobility due to the influence of tradition and custom. Skill and education also plays a major role, which is conspicuous from the concentration of Central Asians in the service sector and not in the material production sector, though the latter provided higher incentives.

Education, training and cultural progress:

A major factor that influenced interrepublic and intrarepublic migration was the rise in the educational and skill level of the indigenous population. While urbanization creates conditions for the faster development of skilled population, the rise in the level of skill also plays an important role in raising the level of urbanization of the population by preparing them for horizontal as well as

vertical mobility. Between 1950-75, Central Asia, with a rapidly growing network for education and training, was witnessing a rapid territorial and socio-occupational mobility of its indigenous population.¹ An important feature of this cultural development was the rise and growth of the women intelligentsia of indigenous origin.

Between 1959-70, the Central Asian republic had a much faster growth of persons with higher education. In Uzbekistan and Tajikistan the growth was even much faster than the country's average.

In short, the educational level of the population in the Central Asian republics, especially among the indigenous nationalities, was rising very rapidly. Education did not only prepare them for expanded mobility, but also by being concentrated in urban areas it was exerting a pressure on the rural population to migrate to towns for acquiring higher education. Thus education performed a dual function. Education in rural areas prepared the rural population for urban and non-agricultural occupations, while expanding higher educational facilities in urban centres was increasing the scope of intake from rural areas.

However, without underestimating the achievements in the sphere of education in Central Asia, it may be stated

1. "Interrepublic training of specialists", Current Digest of the Soviet Press, vol.28, No.23, July 7, 1976, pp.14-15.

Table-42: Number of persons with higher education, 1959-70

	<u>1959</u>		<u>1970</u>		%growth in urban areas	%growth in rural areas	Urban as compared to rural in '70
	Urban	Rural	Urban	Rural			
USSR	3,169,391	608,144	7,117,890	1,143,651	124.5	880.0	6.2 times
Uzbekistan	80,914	24,068	201,636	87,964	149	265.4	2.3 times
Tajikistan	16,046	4,639	40,399	16,037	151.7	245.6	2.5 times

("The level of education of the population of the USSR, the Union and autonomous republics, territories and regions", Soviet Education, vol.16, Nos.11-12, 1974, pp.19-22).

that the form or the level of quantitative expansion of education and skill during the period under study was not enough to bring about a radical change in the pattern of socio-occupational and territorial mobility in Central Asia. What had mainly constrained the urbanization process in Central Asia was the low efficacy of the rural out-migration mechanism. Any change in the urbanization process therefore had to emphasize on man-power mobility from rural to urban areas on the basis of the rural push factor. The education and training of the population must therefore be planned in such a way that the preparation of the rural population for skilled industrial jobs takes precedence. Instead, urban areas dominated the sphere of higher education, though a higher proportion of the population stayed in the rural areas.

The faster rate of training and educating the urban population was easier. The facilities and infrastructure for higher education and training could be located more easily in large cities and their concentration in such centres where the general level of education was relatively higher, facilitated the raising of the skill level of the urban population. This growth pattern solved one aspect of the problem in the urbanization process. It created an expanded base among the indigenous Central Asians who could replace the skilled labour coming from outside the region. However, it also simultaneously achieved little so far as

the other problem in the urbanization process was concerned the migration of rural population to the urban areas and from agriculture to non-agricultural occupations.¹ How far the large urban centres with educational facilities would be able to attract the rural population to raise their skill level, is a matter of speculation. In the existing context of lower mobility from rural areas, this prospect seemed very limited.

Women constituted a very large proportion of the farm labour in the agricultural sector and also a very large proportion of the workers in light and food industries, and so constituted a key element in the process of urbanization. Since agricultural modernization released a large number of female labour from that sector and since light and food industries and also the expanding service sector could attract and absorb them, the strategy of urbanization required emphasis on the education and training of women in the rural areas. But as is amply clear, education among women in the rural areas remained at an extremely low level.

The need for cultural change in the promotion of the urbanization process was possibly greater in case of women.

1. By 1970, there were per 1,000 urban residents, 46.6 persons with higher education in the Uzbek republic and 37.5 persons in the Tajik republic. In contrast, per 1,000 rural residents the number of persons with higher education was 11.7 persons in Uzbekistan and 8.8 persons in Tajikistan. "The level of education of the population of the USSR, the union and autonomous republics, territories and regions", Soviet Education, op. cit., pp.19-22; and Narodnaya Khoziaistvo, SSSR, 1974, pp.10-11.

This section holds out the possibility of bringing out a radical change in the process of man-power mobility, once the remnants of age-old restriction imposed on them, in the name of tradition and custom, are removed. Once they are freed from the burdens of child-bearing and household work, there would be such a spurt in the migration process that the urbanization process in Central Asia would be taken to a qualitatively new stage. Once women break the restrictions of the family on their movement, either for education or for jobs, the ethnic composition of Central Asia's industrial and urban labour force would witness a reversal of the existing trend.

The lower participation level of indigenous women in industrial work, has added to the problem of industrial labour shortage, which had to be met by influx from outside. This trend had restrained the pace of industrial growth, since increasing influx from outside might compound the shortage of labour in European areas and also restrict the opportunities for Central Asians in industrial occupations. The influx of European women labour had also sometimes created problems such as labour turn-over. Since many did not wish to settle permanently in this region, or came to meet labour shortage for a particular project, the problem of labour turn-over was surely to be a feature in the migration process.

The workers who came from outside, especially young women, worked for a short period of a year or two and then left. For example, as many as 70-80% of the graduates of vocational-training schools left Dushanbe and Leninabad after acquiring specialities as weavers and spinners, as reported in the Tajik press in 1975.¹ In Uzbekistan, the shortage was such that it could be met with huge influx from outside. The size of the influx was so large that as much as 88% of the migration to the urban areas of Uzbekistan between 1959-64, was from outside and only 12% was from the rural areas of the republic.² Because of this replenishment from outside Uzbekistan did not probably have the general shortage of industrial manpower as Tajikistan where the size of influx from outside was relatively smaller. Discussions in the Supreme Soviet of Tajikistan revealed the acuteness of labour shortage in many of the undertakings.³ Another way of looking at manpower shortage is the level of utilization of the industrial capacity. One indicator of this is

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1. "When work is not waiting: Problems of the rational utilization of labour resources in Tajikistan", Current Digest of the Soviet Press, vol.27, No.22, June 25, 1975, p.1.
 2. Ann Sheehy, "Labour problems and employment in Kazakhstan and Central Asia", Central Asian Review, vol.14, No.2, 1966, pp.169-70.
 3. In 1965, for example, delegates to the Supreme Soviet of Tajikistan were speaking of the Leninabad footwear factory that was 150 workers short, of Dushanbe textile combine that needed another 2,200 workers to fulfill the annual plan targets. Ibid., p.170.

the number of shifts operating in an enterprise. In this respect, the number of shifts were less in many enterprises of Central Asia due to the shortage of manpower, as well as due to the prevailing customs due to which in the women dominated enterprises the operation of a night-shift was difficult. Even as recently as 1975/76, the Tashkent Cotton Combine was having a shift index of about two, whereas the textile enterprises in the Ivanovo province operated in three shifts.¹ The two-shift operation in the Tashkent combine was largely possible due to a large recruitment from outside.² Thus the problem was not of industrial growth but that of rationalizing industrial growth that not only should not be too disproportionate to the level of training of the local cadres and the growth of the indigenous industrial workforce, but would rather correspond to the latter though gradually. Otherwise, a very fast industrial growth based upon outside recruitment would have too many ramifications on the socio-economic development of the region. A large number of personnel from outside could not continue increasing without increasing the problem of rural overpopulation. The decreasing scope of horizontal and vertical/mobility would affect the rural economy and society.

1. "Siting industry in Siberia, Central Asia", Current Digest of the Soviet Press, vol. 28, No. 16, May 19, 1976, p. 4.

2. Ann Sheehy, "Labour problems and employment in Kazakhstan and Central Asia", op. cit., p. 171.

The labour problem could become more acute by such a recruitment pattern, since this process involved also a high degree of labour turnover. Labour turnover was not just a feature of the young workers coming from outside, it was more acute in case of local young workers. Since the Central Asians mostly occupied unskilled jobs, the high rate of labour turnover was to be expected. How serious was this problem can be gauged from the fact that about one-third of the young workers of Tashtektsilmash and Tashkent textile combine, who joined in 1964, and two-thirds who joined in 1965 had left by the August of 1965.¹ Another example is that of the Aluminium plant construction in Regar, one of the enterprises of the future South Tajik territorial production complex. In 1974, for the construction of the plant 2,049 workers were hired out of which 1,147 were dismissed in the same year. The high labour turnover was mainly responsible for the low quality of construction, the over expenditure of the wage fund and extensive losses to the tune of over 1,000,000 roubles.²

The training and education of local cadres in Central Asia would play a leading role in promoting socio-occupational mobility, reducing migration from outside and

1. Ibid., p.174.

2. "When work is not waiting: Problems of the rational utilization of labour resources in Tajikistan", Current Digest of the Soviet Press, op. cit., pp.1- 3.

increasing productivity. The reduction of cadres from outside and expanding the base of indigenous skilled cadres, would have a great impact on labour turn-over. This period was one in which the economic and cultural directions were towards achieving these goals.

The main direction of economic development in Central Asia had been how to slow down the rate of influx from outside and to correspondingly increase the trained indigenous cadres for industry and other urban occupations. For this purpose the opportunities for professionalization and socialization had been expanding along with economic development. This process provided the local cadres with the capacity to keep step with the economic growth of the republic and continue the trend of replacement of Russian and other European cadres by indigenous ones, which has prevailed in recent years. The increasing participation of ethnic Central Asians in industrial, educational and cultural establishments has strengthened the trend of Khorenizatsia (the process of replacement).¹

The cultural/^{and}technical level of the working class was continuously rising by the broadening of the number of educated cadres in Central Asia. In only three years leading to 1974, more than 40,000 secondary school leavers

1. James Critchlow, "Uzbeks and Russians", Canadian Slavonic Papers, vol.17, Nos.2-3, 1975, p.368.

joined the ranks of the industrial working class in Uzbekistan. During those years the proportion of workers with complete secondary education in many enterprises of the Uzbek republic had gone over 50%.¹

Table -43: Level of education within the employed population, USSR, Uzbekistan, Tajikistan, 1939-1970

Republic	Per 1,000 inhabitants of 10 years of age or older, the number of persons with a higher or secondary (complete or incomplete) education			Per 1,000 persons in the labour force with a higher or secondary (complete or incomplete) education		
	1939	1959	1970	1939	1959	1970
USSR	108	361	483	123	433	653
Uzbek	55	354	458	61	447	663
Tajik	40	325	420	45	407	602

(G. Maksimov, "The educational level of the population of the USSR", Soviet Review, vol.XVI, No.1, 1975, p.31.)

The growth of indigenous skilled personnel led to their increasing participation in managerial and other highly skilled professions. For example, Uzbekistan which had no engineers or technicians from among the indigenous population before the revolution, had nearly 70% of the production managers from among the Uzbeks by 1972. The training of the skilled workforce enabled many ethnic Central Asians to occupy higher positions in skilled occupations.

1. G. Shister, "The worker: on the way to technical and cultural standards of the intellectual", Socialism: Theory and Practice, No.8 (13), 1974, p.55.

Though much had been achieved in raising the educational and skill level of the indigenous population, much still needed to be done in this regard. What was needed was not just elevating the indigenous cadres to highly skilled positions, but to bring about a wholesale rise in the skill and cultural level of the entire population of the republics in Central Asia. Without this cultural transformation it would be difficult to overcome the influence of such institutions like family and marriage and also that of such factors like the demographic one, which could otherwise make immense positive contributions to the urbanization process, given proper conditions.

Changing pattern of urbanization
and the migration process:

The detailed exercises undertaken in this study intend to show the changes that have been brought about in the vertical and horizontal mobility of the indigenous population in the two Central Asian republics of Uzbekistan and Tajikistan. These changes were directly related to the pattern of industrial growth and that of the urbanization process and at the same time were constrained by demographic and cultural factors. The emphasis on heavy industry and labour productivity sought to meet the manpower supply situation, that was dominated by influx from outside, and low mobility among the Central Asians. This also was an attempt to break the vicious circle, wherein the more is the influx

from outside, still less is the mobility from the rural areas. If the influx from outside is not reduced, inspite of lower supply from the rural areas of the region, it would be difficult to improve rural labour supply to the urban centres in future. The strategy of heavy industrial growth resulted in the faster growth of medium size urban centres. The slowing down of the growth of large cities, again, has affected the ethnic composition of the urban areas. These centres which were more suited for European migrants, were far removed from rural Central Asians both due to the ethnic and cultural environment of such centres and also due to the level of skill required for the labour force in such cities. In contrast, the medium sized industrial cities would be culturally less alien and with the rapid rate of training of the local skilled cadres, these centres can attract more indigenous labour force. Being centres of heavy industry they also would have a greater capacity to absorb a faster growing rural population, as compared to centres which lack heavy industry. The changes in Central Asia so far confirmed these trends. The rate of European migration slowed down, though not complimented by a corresponding increase in indigenous labour mobility. The training of the Central Asian cadres have gone on at a very rapid pace. The effect of this can be imagined. The next stage is expected to be one in which migration from rural to urban areas within Central Asia would be very rapid.

Both the urban pull and rural push mechanisms have been set to work. The less the influx from outside the region, the more would be urban pull on the local rural labour force to migrate. Simultaneously the economic organization and management of agriculture has already started the process of large-scale release of manpower, i.e., the push factor has become operative. The catalyst in this process would be the education and training of the indigenous manpower and raising their skill level so that the constraints of custom and tradition, as well as demographic factor are removed to the extent the former improves and in the process the socio-occupational and spatial mobility of the Central Asian indigenous population rises to a higher level.

The relationship of industrialization to the process of urbanization was such that the dispersal of industries beyond the large cities changed the pattern of urban growth. Urban growth slowed down as did the pace of industrial growth. But the growth of medium-sized industrial centres was very rapid. However, the level of urbanization did not reflect the level of urban growth in the two Central Asian republics under study. The share of the urban population, especially among the titular nationalities, remained very low. This was due largely to the demographic process which witnessed a very high rate of growth of the rural population. Even though migration from the rural areas increased, the high growth rate of population kept the intensity of rural-to-

urban migration at a low level and similarly kept the proportion of urban residents at a low level. This is to say that the migration of the rural population was in no way satisfactory. Far from it, the need for expanding migration from the rural areas is much greater due to the nature of the demographic process. Otherwise the reserve labour in the rural areas would pile up to such an extent that phenomena like underemployment, expanding private agriculture, female unemployment would crop up. Another important aspect is the socio-occupational mobility without which it would be impossible to achieve greater social homogeneity. The growth of the working class becomes absolutely crucial to this process. The transformation of the society into a single class structure is a necessary goal under socialism and to increase the heterogeneity within this class is symptomatic of advanced socialism. In this sense the pattern of urbanization is very intimately related to the growth of a working class society and its intraclass heterogeneity. The higher the territorial mobility from rural to urban areas, higher is the socio-occupational mobility of the population.

CHAPTER V

GROWTH, DISTRIBUTION AND
REDISTRIBUTION OF THE LABOUR
FORCE, 1950-1975

The growth of the working class in quantitative terms is a universal phenomenon in the USSR and Central Asia is no exception to it. However, even a quantitative expansion of the working class has great relevance to the titular nationalities of Central Asia, which had a predominant share of the population working in agriculture at the beginning of the period under study. More than mere quantitative growth, the present chapter would focus on the impact of the urbanization process on socio-occupational mobility and thus on the redistribution of man-power in Uzbekistan and Tajikistan. The territorial and sectoral distribution of the working class as well as its distribution in terms of skill, ethnicity and sex constitute the nuances of working class growth, on which the study will devote greater attention.

Till the 1950s, the distribution of man-power in the two Central Asian republics was highly uneven in all spheres - sectorally and territorially, agriculture and the rural areas had a predominant share of the workforce in the two republics. In terms of skill, manual workers had an overwhelming share. Participation of the indigenous population and women in the industrial labour force was extremely low. The period after the 1950s was one in which there were conspicuous changes leading to less and less unevenness in this distribution pattern.

A cursory glance at the social and occupational structure of the indigenous population reveals the nature and

pattern of working class growth in the Central Asian republics till the 1950s. A higher level of urban growth in the republic and low level of urbanization among the indigenous population resulted in slow changes in the class structure of the local population. But the material basis for the future transformation was laid during this period.

In the initial phase of socialist industrialization the main concern was to remove the economic backwardness of the Central Asian republics by transforming their economies from agricultural to a more industrial one. This called for a much faster pace of industrialization, a task that could not be fulfilled by the local cadres at their existing level of skill and mobility. The task was fulfilled by the participation of labour from outside the region. As a result by the 1950s the participation of the ethnic Central Asians in the workforce was disproportionate to their share in the total population of the given republic.

Table-44: Percentage of ethnic Central Asians among workers in Uzbekistan and Tajikistan

Republic	(in %)	
	1939	1959
Uzbekistan	36.56	43.15
Tajikistan	29.63	32.59

(M.P. Kim and L.S. Seniavskii, "The growth of the Working Class of the USSR, 1953-1961", Soviet Sociology, vol.2, No.2, 1963, p.12.)

According to Arutiunian, a number of factors had restrained the growth of the ethnic working class in Central Asia before 1950s, during the first phase of socialist industrialization. Apart from the low level of initial skill of the local population and specific feature of agricultural production (cultivation of labour-intensive industrial crops), Central Asian republics were also handicapped by low migration and low level of urbanization among the indigenous population. Thus while the share of workers in the total population increased very rapidly in both Uzbekistan and Tajikistan between 1939-59, that among the indigenous population increased relatively slowly. The share of industrial workers in the total titular population was almost negligible - 4% among both Tajiks and Uzbeks in their respective titular republics. The indigenous nationalities still retained an overwhelming share among the collective farmers. The share of collective farmers in the total indigenous population far outweighed the republican average for the share of collective farmers as a whole in the total population.¹

Similarly, in the case of white-collar workers, proportion of white-collar personnel among the indigenous population was half the size of the proportion of white-collar workers in general in the total population, both in case of Uzbeks

1. Iu. V. Arutiunian, "Changes in the Social structure of Soviet nations", Soviet Sociology, vol.12, No.3, 1973-74, pp.10-11.

and Tajiks in 1959. This would suggest that while the intra-class structure of Central Asian republics, like in the rest of the USSR, was moving towards more homogeneity, it was far from being so in the case of the indigenous nationalities of Central Asia.¹

Another important feature of the working class growth in Central Asia was the low level of participation of women in general and those of the titular nationalities in particular, in industrial occupations. Due to a variety of factors, mainly cultural and demographic, the socio-occupational mobility among women from the indigenous nationalities was a very slow process. This also affected the sectoral and ethnic redistribution of the workforce in general, since a major component of the workforce was characterized by extremely slow mobility. Even by the end of the 1950s women constituted less than a third of the workers from the indigenous nationalities in Uzbekistan. In Tajikistan it was still lower, with only about one-fifth of the indigenous workers being women.²

In this whole background, the man-power redistribution in Central Asia was critically dependent on the quantitative growth of the ethnic working class. The numerical growth

1. Ibid., pp.10-11.

2. In 1959, the percentage of women among workers of indigenous nationalities was 30.9% in Uzbekistan and 20.4% in Tajikistan. M.P. Kim and S.L. Seniavskii, op. cit., p.12.

between 1950-1975 was not confined to unskilled or low-skilled occupations. The later stage of this period, that was defined by Scientific and Technological Revolution (STR), provided a new orientation to increase in numbers. The number of workers in both unskilled and skilled occupations increased rapidly. The growth in the latter came to be more and more emphasized. This pattern of quantitative growth brought about a whole gamut of change that altered the earlier pattern of manpower distribution. It also brought about a higher level of social homogeneity and a more heterogenous intra-class structure in Central Asia.

Numerical growth of the Working Class and man-power redistribution

Changes in the employment structure are the outcome of the growth of productive forces and are influenced to a great extent by the pattern of urbanization. With the rapid industrial growth and agricultural modernization, there came about a restructuring of the employment pattern. Industry created more employment, while agriculture required less labour. This restructuring had proceeded inspite of the demographic constraints, though some have expressed doubts about the existing capacity of industry to absorb surplus labour from agriculture. But the fact is, demand had been increasing at a very brisk pace and trying to cope with any excessive labour supply situation. This was true of the economy in general. In industry, in many instances the supply had been inadequate,

leading to shortages. The quantity of work places, according to Uzbek scholar N.S. Esipov, outside agriculture, was growing faster than the growth of the working-age population.¹

Table-45: Numerical growth of the factory and office workers in Uzbekistan and Tajikistan 1950-1975 (in thousand)

	1950	1955	1965	1970	1975
Uzbekistan	848	1,070	2,083	2,642	3,343
Tajikistan	174	235	444	586	745

(National economy of the USSR. Statistical returns, op. cit., p.174; Narodnaya Khoziaistvo, SSSR, 1982, p.367.)

The growth of industrial-production personnel in the two republics was also very impressive, overtaking the rate of growth in the country as a whole.² A continuous rise in

1. For example, in Central Asia as a whole, employment outside agriculture had grown by 29% between 1956-62, as compared to 15% growth of the working-age population. In Uzbekistan, the rate of growth of labour force in the socialized sector between 1959-70 was 30% as compared to the growth rate of 25% for the working-age population. Since agriculture was releasing more and more man-power, it is obvious that the growth of the labour force was mostly a result of the expansion of the non-agricultural sector. A small part may have been played by expansion of agriculture in the virgin lands. N. Lubin, op. cit., pp.57-58.
2. The number of industrial-production personnel increased by 2.5 times in the USSR, 3.6 times in Uzbekistan and 4.7 times in Tajikistan between 1940-1974. Narodnaya Khoziaistvo, SSSR, 1974, op. cit., p.189.

Between 1960-70, the number of industrial production personnel increased by 60% (including 50% for workers and 100% for engineers and technicians in the Uzbek republic. In Tajikistan the increase was by 70% in the same period. "The current state of development of the working class of Uzbekistan", op. cit., p.89.

the number of persons engaged in industry and continuous increase in their share in the total population has been characteristic of the working class growth in the two Central Asian republics. By 1975, the structure of employment had been entirely reversed and it was dominated by non-agricultural employment.¹

The sheer quantitative expansion in demand for the non-agricultural labour force had not been the problem that the republics of Central Asia were faced with. The factual increase as well as the potentialities for increase had been quite high due to the high level of the productive forces obtaining in these republics. However, industrial demand and agricultural supply of manpower is mediated and balanced by the process of migration, which is why the pattern of urbanization becomes a key to the redistribution of the labour force.

The pattern of urban growth in the two Central Asian republics changed after the 1950s and the earlier pattern of growth concentration in the large cities gave way slowly to a more wider dispersal leading to growth of medium-sized and small urban industrial centres. A diversified industrial structure and the dispersed urban growth had its impacts on

1. The share of persons engaged in the non-agricultural employment increased from 41.7% to 62.3% in Uzbekistan and from 38.8% to 62.9% in Tajikistan between 1957-1975. Warren Eason, "Population and Labour force" in Koropecky and Schroeder (eds.), Economics of Soviet regions, op. cit., pp.76-77, 88-89.

the intra-class structure of the working class in general and the indigenous labour force in particular. This pattern of growth facilitated the process of mobility, both horizontal and vertical, among the ethnic Central Asian population, leading to qualitative changes in the economic, social and occupational structure of the two Central Asian republics. Though much of the effects of the changes in the urban growth pattern were neutralized by ethno-cultural factors, yet irrefutable advances were made in the process of restructuring of the economy, society and the working class of Central Asia.

Economic and Social restructuring:

Industry began to play the decisive role in the economy, which was assumed by various forms of industrial production that gradually absorbed an increasing portion of the employed population. Apart from persons employed in the two spheres of material production, there were other broad categories of occupations that were directly or indirectly related to the development of material production, especially industrial production. This included service and sociocultural infrastructure, occupations related to scientific research, design and its practical application to production sphere and also mass-based occupations in scientific institutions, and finally occupations related to supervisory and organizational activities.

A distinctive feature of the change in the social structure of the Central Asian working class was the relatively

rapid growth of workers in advanced branches of production defining scientific and technological revolution. In itself the scientific and technological revolution qualitatively changed the structure of Central Asian working class in terms of occupation and culture (qualification). The percentage of workers with higher qualifications increased while correspondingly the number of those doing unskilled and semi-skilled labour declined in proportion.¹

The period between 1950-75 was one of further perfection of the social structure of the Central Asian working class. Though workers in the sphere of material production still remained in majority, the trend was shifting in favour of workers in the sphere of non-material production, especially in the urban areas.² In the earlier phase of industrialization, the growth of large urban centres in Central Asia had facilitated the foundations of heavy industry, particularly in such fields as power, metal-working, petroleum, chemicals, building materials etc. In the phase of scientific and technological revolution, the urban centres acted as important means of creating a numerous, literate, cultured, skilled and multinational working class in Central Asia.

The development of heavy industry had a significant influence on the composition of the working class. The share

1. Shister, "The current state of development of the working class of Uzbekistan", op. cit., p.106.

2. Ibid., p.105.

of the industrial production personnel engaged in light and food industrial branches declined from 69% in 1940 to only 41% in 1969 in the Uzbek republic. During the same period the share of those engaged in machine-manufacture and metal-working rose from 15% to 29% in the republic. There were also substantial increases in the share of workers in such advanced branches of heavy industry as fuel and power and chemicals etc. For example, in Uzbekistan the number of workers in electric power production rose by 90%, in the manufacture of machinery and metal-processing by 70%, and in construction materials industry by 60%, between 1960-70.¹ Within industry the diversification of the labour force has progressively advanced and by 1975, workers in heavy and modern branches constituted half of the total industrial labour force. Machine-building and metal-working was the single largest branch in terms of man-power employment in the industrial sector. This branch, together with such modern and heavy industrial branches like electric power, fuels, ferrous and non-ferrous metallurgy, chemicals and petrochemicals and construction materials employed the majority of industrial workers in Uzbekistan.²

In the period under study electric power, chemicals and petrochemicals, machine-building and metal-working and

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1. Ibid., p.89.
 2. S. Rapawy, "Regional employment in the USSR, 1950-75", Soviet economy in a time of change, compendium of papers submitted to the Joint Economic Committee, U.S. Congress, vol.I, Washington D.C. 1979, cited in N.Lubin, op. cit., pp.80-81.

construction materials industry were the fastest growing branches in terms of employment of manpower. The numerical growth of workers in these branches resulted in these branches dominating the employment structure of the industries.

Table-46: Industrial labour force by branch of industry, Uzbekistan, 1960-75 (number in thousands)

Branch of industry	1960		1975		1975 as per cent of 1960
	No.	%	No.	%	
Electric power	9	2.4	20	2.9	222
Fuels	8	2.2	12	1.7	150
Ferrous and non-ferrous metallurgy	3	0.8	3	0.4	100
Chemical and petrochemical	11	3.0	24	4.2	264
Machine-building and metal-working	93	25.0	209	30.0	225
Timber etc.	16	4.3	24	3.4	150
Construction materials	37	10.0	76	10.9	205
Light industry	126	34.0	199	28.6	158
Food industry	45	12.1	69	10.0	153
Others	23	6.2	56	8.0	243
All Industry	371	100	697	100	187

(Source: S. Rapawy, op. cit.; and Ia. S. Vorovovskii, 'Trudovye resursy Uzbekistane i ikh raspredeleniie', Kommunist Uzbekistane, no. 9, 1975, p.p. 39-44, cited in N. Lubin, op. cit., p. 82.)

Such progress as outlined above in the economic, social and occupational structure of the Central Asian population imparted a greater heterogeneity to the intraclass structure of the working class. A diversified growth of the labour force characterized the period under study in the Central Asian republics.

Intra-Class structure of the
Working Class:

The internal structure of the working class was characterized by a certain socioeconomic heterogeneity with its division into mental versus physical and skill versus unskilled work. In the era of scientific and technological revolution new skilled occupations came to characterize the occupation of the Central Asian working class. Simultaneously occupations involving heavy physical labour either declined or were eliminated. The new skilled occupations involved control, adjustment and setting of complex machines, mechanisms, automated devices and mechanized installations. This modern detachment of the Central Asian working class included operators of mining and tunneling multiple-operations equipment in coal industry; apparatus operators and laboratory personnel in the chemical industry; set up men and rolling-mill operators in the iron and steel and non-ferrous metals industries; excavators, operators, drivers and mechanics for road building equipment in the construction industry etc.¹ For example, the distribution of industrial workers in Uzbekistan according to the level of mechanization between 1959-69 shows an increase by 6% in the share of workers whose work involved the use of machines, mechanisms and apparatus, and also observation and monitoring the operation of machines, mechanisms, automated aggregates, apparatus and installations.

1. G.A. Shister, "The current state of development of the working class of Uzbekistan", op. cit., p.91.

Simultaneously the proportion of workers engaged in work involving purely physical labour declined by 8.8% in the republic during the same period.¹

The period between 1950-75 represented not simply a process of increase of the labour force engaged in the non-agricultural occupations. The share of workers in skilled professions, as well as those in non-material production increased in the period. In other words, the share of workers in more advanced, skilled and urban trades increased.

Table-47: Changes in the average annual number of persons employed in industry, Uzbekistan, 1960-70

	1960		1965		1970	
	Thou- sands	%	Thou- sands	%	Thou- sands	%
Total industrial production personnel	372.2	100	494.2	100	583.0	100
Of which:						
Workers	309.2	83.1	404.6	81.9	469.4	80.5
Trainees	7.3	2.0	10.8	2.2	11.8	2.0
Engineers and technicians	29.6	8.0	45.3	9.2	61.0	10.5
Clerical personnel	16.5	4.4	21.4	4.3	27.2	4.7

(G.A. Shister, "The current state of the development of the working class of Uzbekistan", Soviet Sociology, vol.14, No.1, 1975, p.90.)

The above table brings out the features of working class growth in the era of scientific and technological revolution. While the number of persons engaged in industry constantly rose, within industry the share of workers declined and that of engineers and technicians increased. This would give an

1. Ibid., p.92.

idea of the qualitative restructuring of the industrial workforce in Central Asia, that favoured more skilled sections.

An example of the occupational structure of Tajikistan, brings into focus the rising share of workers engaged in non-material production, so much so that by 1970 they constituted a majority of the labour force in the republic.

Table -48: Structure of Tajikistan's Labour Force, 1971

Category	Total number	Percentage of the total
Average annual number of workers and employees	6 20,000	100
Workers	422,000	68.0
Female workers and employees	238,000	38.3
Workers in industry	134,000	21.6
Workers in agriculture	78,000	12.5
Workers in Transport	58,000	9.3
Workers in communication	10,000	1.5
Workers in construction	78,000	12.5
Workers in trade	54,000	8.7
Workers in communal economy	19,000	3.0
Workers in health and social security	42,000	6.7
Workers in education and culture	93,000	15.0
Workers in science and services	18,000	2.9
Workers in credit and social insurance	3,000	0.48
Workers in state and social organizations	17,000	2.7

(ZevKatz, et.al., op. cit., pp.649-50.)

The above table shows that more than half (50.4%) of the workforce was engaged in the sphere of non-material production;

i.e., trade, communal economy, health and social security, credit and social insurance, state and social organizations, transport and communication.

This reflects the advances made in economic development as well as in the process of urbanization. The economy had become more diversified and the distribution of the labour force in various branches of the economy was showing more advanced traits and more correspondence to the trend in the intraclass structure of the country as a whole. And since the services were mostly concentrated in urban areas, the growth of the labour force in the service sphere may be said to represent the increasing urban growth in Tajikistan. Another feature of working class growth was the redistribution of the employed persons in terms of the broad division of physical and mental labour. Between 1950-75, the Central Asian republics were characterized by similar trends as in the rest of the country in this respect.

Table -49: Distribution of the employed population according to physical and mental work (% of the total employed in the national economy)

Republic	Employed primarily in			
	Physical labour		Mental labour	
	1959	1970	1959	1970
Uzbekistan	83.7	76.4	16.3	23.6
Tajikistan	84.7	77.8	15.3	22.2
USSR	80.5	72.7	19.5	27.3

(G.M. Maksimov, op. cit., p.6.)

Two tendencies are visible in the growth of the skill structure of the working population in Uzbekistan and Tajikistan. Firstly, since 1950 onward, the Central Asian republics have been showing roughly a similar distribution pattern as in the country as a whole of the employed population into physical and mental categories. Secondly, the redistribution of the employed population according to physical and mental labour, has been favouring an increase in the share of the latter and reduction in that of the former. Though the existing distribution still leaves a very large share of workers who are primarily employed in physical labour, the trend in 1950-75 has been in the positive direction.

Apart from this broad division of the workforce in terms of skill, the intrabranch structure of the working class showed also an increasing share of workers in trades which required a higher level of skill in general and represented a higher level of urbanization of the population. In short, not only has there been a redistribution of the labour force between agricultural and non-agricultural occupations, but also that between various branches of non-agricultural occupation itself.

The growth of the working class and the perfection of its internal structure has not been either a simple or a singular process. The level of growth of the working class in general and that of the indigenous working class has not

been a simultaneous and corresponding process. However, the changes in the urbanization process, with agricultural push mechanism being more effective, brought about visible changes in the class structure of the indigenous nationalities in Uzbekistan and Tajikistan. A drastic fall in the share of the indigenous population engaged in collective farming has provided the class structure with greater balance, with the share of industrial workers constantly rising among the ethnic Central Asians.¹ The constant rise in the number and proportion of the urban population hastened the process of growth of the indigenous labour force. By 1970, the social structure of the ethnic Central Asians was characterized by a large share of workers in their total population.

According to Lubin the success of Soviet policies in creating indigenous local cadres has been mixed. Great strides have been made in diversifying the economy and bringing indigenous nationalities into all sectors of the national economy. This diversification resulted in much quantitative and qualitative changes in the working class. While earlier the state sector was dominated by employment in agriculture

1. The share of Kalkhoz peasants among the Uzbeks declined from 65% to 45% and that among the Tajiks from 74% to 48% between 1959-1970. Darrell Slider, "A note on the class structure of Soviet nationalities", Soviet Studies, vol.37, No.4, 1985, p.538; David Lane, Soviet economy and society, Oxford, 1985, p.219.

The fall in the share of collective farmers was very drastic after 1970. The share among Uzbeks declined to 32% and among Tajiks to 30% by 1979. David Lane, op. cit., p.219.

and government administration, by 1975 the structure of the labour force in the state sector came to be dominated by people working outside agriculture and government administration, which occupied together only a fifth of the total labour force in this sector.

The most rapid growth in the non-agricultural sectors occurred in construction sector, science sectors, in housing and communal services and in education and culture.¹ The changes in the structure of the Central Asian labour force may have been slower compared to the European republics, yet compared with the earlier period these changes were certainly remarkable.²

The process of diversification within the indigenous labour force was still a slow one, though it had come a long-way since the revolution. The indigenous nationalities continued to be concentrated in light and food industries, the service sectors and agriculture. Despite the decline of proportion of the labour force employed in agriculture, the number of Central Asians employed in this sector still remained high and growing. Within the non-agricultural sector, the

1. Lubin, op. cit., p.79.

2. Between 1950-75, employment on collective farms declined more than 3 times more slowly in Uzbekistan than it did in RSFSR. By 1975, only 8% of employment in RSFSR was in collective agriculture, compared to 25% in Uzbekistan. Only 8% of the total labour force was in education and culture, against 14% in Uzbekistan and on the other hand, employment in industry in the RSFSR was about 35% of the total state labour force, against 20.8% in Uzbekistan. Lubin, op. cit., pp.79-82.

Central Asians were drawn mainly toward the service sector. For example, while the indigenous workers constituted 35% of all workers in the late 1970s, they comprised about 85% of all publishing workers in Uzbekistan. Similar overwhelming proportion of indigenous workers characterized such professions as teaching, law and trade etc. while indigenous share in the workforce in general remained low as compared to their share in the total as well as working-age population, in certain areas like industry and scientific research organisation, the proportion of ethnic Central Asians remained significantly lower. In 1967, for example, Uzbeks comprised only 39% of the men and 21% of all women employed in industry; 35% of all men and 8% of all women employed in construction; and 42% of all men and 9% of all women in transport in the Uzbek republic. In communication, local representation was somewhat higher among males, reaching about 60% of all men employed in that sector. But the proportion of women remained low at 11%.¹ However, a promising trend lately has been the faster growth of indigenous women in the industrial labour force as compared to men.

Within industry the indigenous nationalities had a smaller share in heavy industry, but constituted a majority in light and food industries and local industries. A survey of seven mainly large industrial enterprises cited by Lubin

1. N. Lubin, op. cit., pp. 85-86.

shows that in 1971 Uzbeks comprised less than one-fifth of the more than 32,000 workers and employees working in them. While their share was very low in the heavy industrial enterprises, the light industrial branches out of these seven surveyed, had ^a higher proportion of indigenous workers in their labour ranks.¹

Table-50: Nationality Composition of selected enterprises, Uzbekistan

Enterprise	Year	Per cent Uzbek
1. Chirchik Agricultural Machinery Plant:		
Workers	1978	3.5
Employees	1978	<2.0
2. Tashkent Agricultural machinery plant	1975	10.0
3. Tashkent Textile Machinery plant	1971	12.8
4. Tashkent Tractor Factory	1971	7.8
5. Uzbek Chemical Machinery plant	1971	5.5
6. Navoi Chemical combine	1971	14.5
7. Uzbek combine of refractory metals	1975	13.7
8. Tashkent Textile combine	1975	15.0
9. Fergana Textile combine	1971	27.0
10. Kokand Furniture Factory	1979	59.0
11. Andizhan Sewing Factory	1979	85.0

(Cited in Nancy Lubin, op. cit., p.87.)

Man-power redistribution and the indigenous labour force:

A positive feature of the growth of Central Asian working class was the continuous rise in the proportion of indigenous

1. Ibid., p.87.

workers in the total workforce, especially industrial workforce. In 1959 Uzbeks comprised only 26.7% of the industrial workers in Uzbekistan and by 1967 they comprised more than a third of the total industrial labour force in the republic, i.e. 32.9% of the industrial workers were Uzbeks.¹ This proportion may not look impressive apparently. But considering the constraints on the growth of the indigenous cadres, this proportion is definitely remarkable. The rate of natural growth of population among the indigenous population, especially in the rural areas, was much higher than the rate of increase of industrial employment. So even if all jobs were to go to them only, non-industrial population would have decreased slowly, if at all. Thus in a situation where a large majority of the industrial workforce was composed of non-indigenous nationalities, the share in the titular nationalities ^{of those} in the industrial labour force could not but rise very slowly. The intensive nature of cotton and other farming in Central Asia, creation of new state farms, expanding cultivation on a large scale in the virgin land areas like the Hungry steppe and Central Ferghana etc. meant that requirement of manpower in rural areas remained substantial even if productivity of labour in agriculture increased. Finally, the low level of urbanization among the indigenous population had been an important factor in their slow mobility to industrial occupations. Even by 1970, as many as 64% of the

1. G.A. Shister, "The current state of development of the working class of Uzbekistan", Soviet Sociology, vol.14, No.1, 1975, p.93.

population of Uzbekistan was rural, mostly from the indigenous population. The higher the mobility to urban areas, the higher is the participation in industry. That is why indigenous industrial cadre had a low share of participation.¹

The number and proportion of the indigenous nationalities in the workforce in all sectors of the economy has been increasing. Substantial efforts were made to encourage socio-occupational mobility among them. According to Lubin, despite the influx of Europeans, the growth of an indigenous workforce was rapid. However, despite these advances, the indigenous nationalities remained disproportionately under-represented in the workforce. For example, while Uzbeks comprised 68% of the working-age population in Uzbekistan in 1970, they accounted for only 57.5% of the republic's population employed in social production. Of that the majority were agricultural workers in the countryside.²

In spatial terms, while the share of the titular nationalities in the labour force remained more or less proportionate to their relative share in the total population in the rural areas, that in the case of the urban areas was quite disproportionate. In other words, the urban labour force had a disproportionate ethnic composition. One of the main reasons for this might have been the higher skill demands of urban occupations and a high level of influx of skilled workers from outside the republic

1. Ibid., p.94.

2. Ibid., p.64.

despite the fact that the influx has been slowing down.¹

Table 51: Nationality composition of the labour force in Uzbekistan, urban and rural, 1970
(in percentage)

Nationality	Total population		Urban population		Rural population	
	Total	Of which employed	Total	Of which employed	Total	Of which employed
Uzbeks	65.5	57.5	41.1	29.8	79.5	77.3
Karakalpaks	2.0	1.8	1.6	1.2	2.2	2.2
Russians	12.5	18.3	30.4	39.2	2.2	3.4
Tartars	3.7	5.0	7.7	9.2	1.4	2.0
Kazakhs	4.0	3.6	3.0	2.4	4.6	4.4
Tajiks	3.8	3.3	2.6	1.9	4.5	4.3
Others	8.5	10.5	13.6	16.3	5.6	6.4

(Chankin A.S., "Motivy k trudu v sfere obshchestvennogo proizvodstva", doctoral dissertation, Tashkent, 1976, p.45, cited in Nancy Lubin, op. cit., p.65.)

The ethnic disproportion of the urban workforce might have been mainly caused by the ethnic disproportion in the distribution of skilled cadres and professionals. Due to the low level of skill and slow enlargement of the indigenous skilled population, the urban workforce retained a relatively higher share of the non-indigenous population compared to their share in the total urban population. A higher share of the indigenous workforce in the total urban workforce, thus, was a necessity for the structural

1. For example, in 1973, 700 workers and specialists came from the RSFSR to Navoi Chemical Combine. Another example is the Tashkent metro for the construction of which in the early 1970s, about 900 skilled workers and specialists came from the European republics. N. Lubin, op. cit., pp.92-94.

redistribution of the indigenous labour force. Since the urban workforce had a very high share of workers in the material production sphere, more skilled indigenous workforce in the urban areas was bound to increase their participation in the productive sphere. There had been considerable changes in the skill level of the indigenous population during the period under study. But a series of factors including the level of skill, the level of urbanization and the level of participation of women in the workforce in general and in certain trades in particular, prevented any substantial change in the sectoral distribution pattern of the ethnic Central Asian labour force.



In Central Asia, especially among the indigenous population, the rapid growth of workers in mental work and non-agricultural physical work had to go on at a faster pace simultaneously. The industrialization and the growth of an industrial labour force before 1950 had still left most of the ethnic Central Asian population tied to agriculture. Without raising the skill level of the indigenous workforce and substituting the outside skilled workforce by local skilled cadres, the chances of inducing mobility from agriculture to non-agricultural occupations or from rural to urban areas would have been difficult to realize. Thus the growth in the number of workers greatly depended on increasing the skill level of the labour force and also the number of skilled cadres.

There were visible changes in this direction as a result of the rise in the cultural levels of the local population, which was reflected not simply by the growth in the number of persons doing skilled work, but also by the improvements in the internal structure of the professional and semi-professional stratum. The earlier pattern of quick growth of the administrative personnel and personnel in health, justice, libraries, community centres etc. gave way to a rapid increase in the proportion of personnel engaged in the economy.¹

However, in industry in general and in advanced branches in industry demanding higher skill in particular, the indigenous participation was relatively lower. In industrial and technical sectors the share of Uzbeks lagged behind the growth of the labour force as a whole. For example, Uzbeks comprised 52% of the total number of workers and employees in all sectors of the economy, but comprised only about 36% of the total number of workers in 1973. Similarly among specialists their share was disproportionate to their share in the total population of the republic. Most of the indigenous skilled workers and specialists were concentrated in the non-industrial spheres like education, culture, administration and scientific and artistic professions. Uzbeks comprised less than one-third of the intelligentsia in the productive

1. Iu. V. Arutiunian, "Changes in the social structure of Soviet nations", Soviet Sociology, vol.12, No.3, 1973-74, pp.13-26.

sphere of the republic, while in the professions outside production their share was twice of that in the former in 1970.¹ As is clear, skilled cadres from outside dominated technical-industrial jobs, while the Central Asians occupied a dominant position at all levels of skilled work in non-industrial sectors.

The growth of the indigenous working class and the changes in its internal structure were to a large extent handicapped by the very slow socio-occupational mobility among their women population. Women constituted a very large proportion of the agricultural labour force, thus hindering the numerical growth of the indigenous industrial labour force. Even in industry, their participation was mainly in the non-productive sphere and in the light and food industries. Any drastic change in the sectoral distribution of the indigenous workforce outside agriculture, was difficult and had the danger of further inhibiting mobility among women. The result was, many branches of industry had a low level of labour productivity, while others were facing labour shortage. The upgrading of skill in certain occupations was slow, if at all, due to the participation of indigenous women in such occupations. Thus women participation in the industrial labour force and its redistribution sectorally posed many tricky problems. However, what was more obvious

1. N. Lubin, op. cit., pp.90-94.

was the fact that the growth of the indigenous working class in all its dimensions would be a smooth process only if women participation in the social production and outside agriculture is constantly enlarged. In the period since 1950s, there have been positive changes in this direction, though enough still remained to be done. In the latter part of the period under study, the growth of indigenous industrial labour force was mostly attributable to the growth in women participation, which reinforces the argument that participation of indigenous women is an important element in the growth of the labour force and that such positive changes in the participation level had been taking place. For example, between 1967-73, the proportion of Uzbeks working in industry rose from 31.2 to 35.5%, and the rise barely could be attributed to the male workers of the titular nationality, among whom those in the industrial workforce barely changed, i.e., from 21.8 to 22.0%. But among women the proportion working in industry changed sufficiently from 9.4 to 13.5%.¹ Thus, changes in the participation level of women in the industrial workforce not only improves their social composition, but also contributes to the growth of the working class, particularly the ethnic working class.

The women workers:

The impact of urbanization on the participation of women in industrial and other non-agricultural occupations has been

1. Ibid., pp. 86, 269.

decisive. Since women in rural areas are mostly engaged in collective farming, or work on private plots or in household works, their level of participation outside agriculture or domestic work is very low. In 1969 women constituted 53% of Uzbekistan's and 48% of Tajikistan's collective farmers, in able-bodied age group.¹ So, the level of participation of women in non-agricultural occupations depended to a large extent on the level of urbanization among women. Higher the level of urbanization, higher the share of participation of women in industrial labour force. Between 1959-70, the share of women in the urban population of Central Asia had been constantly growing.² This had its effects in raising the share of women in industrial and other urban occupations. By 1970 women comprised 41% of the workers and white-collar personnel in Uzbekistan and 38% of that in Tajikistan.³ Their share was the lowest in industry, building, transport and construction occupation in which they constituted a small share of the total workforce. Their share was also quite low in trade and analogous occupations, but was substantial

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1. "Women in the USSR: Statistical data", in Soviet Sociology, vol.2, No.1, 1972, p.71.
 2. Between 1959-70, the share of women in the total urban population of the republic increased from 34% to 37% in Uzbekistan and from 33% to 37% in Tajikistan. In 1939, their share was as low as 23% in Uzbekistan and 16% Tajikistan. Ibid., pp.58-59.
 3. G.A. Shister, "The current state of development of the working class of Uzbekistan", op. cit., p.95.

in agriculture and in professions (education, science and medicine) where women formed the majority of the employed persons.¹

In 1975 nearly 39% of the industrial and office workers in Tajikistan and 42% in Uzbekistan were women. This was lower than the USSR average of 51%, yet considering the fact that ^{at} the beginning of socialist construction the participation level of women in the workforce was extremely low in Central Asian republics, the level achieved was extremely impressive.² For example, in 1922, women in Tajikistan constituted only 5% of the industrial and white-collar personnel as compared to the USSR average of 25% for women.³ Apart from this initial lag, Central Asian republics are still characterized by a larger share of rural population, i.e., lower share of urban population than in the country as a whole, the greater influence than ⁱⁿ the rest of the country of tradition and customs that restrict the mobility of women outside their family work and also the prevailing demographic behaviour in Central Asia where large families are relatively numerous and the higher rate of child-bearing limits the scope of participation of Central Asian women in the labour force. However,

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1. In 1959, women constituted 43% of the total employed persons in Tajikistan. In industry, building, transport and construction their share was 31%, in trade and analogous occupations 34%, in agriculture 48%, and in education, science and medicine 53% of the workforce. J.A. Newth, "The establishment in Tajikistan - I", Soviet Studies, vol.14, No.4, 1963, p.409.
 2. In 1940, women constituted 29% of the industrial and office workers in Tajikistan. Soviet Women, Moscow, 1975, p.22.
 3. Ibid., p.21.

the level of participation of women in occupations such as teaching, medicine and research etc., i.e., in non-material production sphere was constantly rising and in these professions women accounted for a large majority of the total personnel.

The women professionals:

The participation of women in the labour force was not simply confined to factories or offices. The rising cultural level enabled them not only to perform skilled labour, but also to join the ranks of the intelligentsia. Some of the professions, belonging to the above category, came to be characterized as female professions due to the extremely high level of participation of women in such occupations. Some such professions like teaching and medical professions provide testimony to this fact. The figures for women participation in these professions have already been given. What was more positive in terms of women participation was that, the scientific and technological revolution had a tremendous impact on the cultural progress of women. The new requirements were met by participation of women in the scientific intelligentsia.

The development of machine industry greatly enhanced the social and labour activity of Central Asian women. The participation of women in social production was further enhanced by technical improvements in machine industry and by an increase in manufacturing and services. In future the

participation of women in the labour force would be an important element of the working class growth in Central Asia. Since the 1960s a large number of industries in Central Asia have been employing predominantly female labour. These include establishments of precision and complex machine manufacturing, and textile industry etc.¹ In certain jobs, women professionals had a higher degree of participation than their men counterparts.

The restructuring of the sex ratio of the labour force in various branches and sectors of the economy was undertaken on an extensive scale during 1950-75, especially among the indigenous population. Since women constituted a major factor in the quantitative growth of the labour force, the low level of their participation affected the size of the ethnic working class in the Central Asian republics. However, the increasing share of their participation since the 1950s has greatly reinforced the proportion of the indigenous labour force and thus has qualitatively affected the class structure of the titular population.

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1. V.S. Leontyev, "The impact of the territorial and sectoral structure of production on the renewal of population and labour resources", Soviet Geography: Review and Translation, vol.14, No.10, 1973, pp.638-39.
 2. For example, in 1972 women physicians accounted for 66% of the total in Uzbekistan and 61% of that in Tajikistan. "Women in the USSR: Statistical data", Soviet Sociology, op. cit., p.72.

Sectoral distribution of
female labour:

The sectoral distribution of the labour force in terms of nationality composition was more conspicuous in the case of women. Indigenous women concentration in agriculture and service sectors and their predominance in the lower-skilled manual occupations was more intense than that of the indigenous participation as a whole. In 1975, for example, women comprised 42% of all workers and employees in the Uzbek economy. Of these two-thirds or more were employed in state agriculture or service sectors. Within the service sectors the vast majority were concentrated in health and social security (73% of all workers and employees in that sector were women) and education and culture (55% of the total in that sector were women) in 1976. Women constituted a very small proportion of workers in construction and transportation and heavy industry. Though in industry in general their participation was not low, they were concentrated mainly in light and food industries, mainly in textile and sewing enterprises. While sectorally, women concentrated in low-skill demanding trades, occupationally, they tended to concentrate in unskilled or low-skilled jobs in all spheres, including the service sectors. According to one source, cited by Lubin, about 52% of all women working in industry in Uzbekistan were employed in manual labour in the early 1970s, of whom about 25% were employed in heavy manual labour.¹

1. According to Ubaidullaeva in the mid-1970s, out of the employed women, 50% in ferrous-metallurgy, 59% in the

While the growth of women specialists in Uzbekistan was rapid, most of them were medical workers, librarians and teachers etc. and very few were agronomists, livestock specialists and veterinarians. For example, women comprised about half the 466,800 specialists with specialized secondary education employed in Uzbekistan's economy in 1977, whereas 85% of the medical workers with specialized secondary education were women, the share of such women specialists among technicians was less than 30% and among agronomists, livestock specialists and veterinarians less than 17%. The share of women specialists in the latter professions was very negligible - 2% of all women specialists with higher and specialized secondary education were agronomists, livestock specialists and veterinarians, and less than 5% were engineers in 1977.¹

By the mid-1970s, while more than half the able-bodied population of the collective farms in Uzbekistan was composed of women, they comprised less than 3% of the approximately 22,000 skilled staff working on agricultural machinery - and close to 99% of the manual labourers on state farms. In industry about half the manual workers were women, higher

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coal industry, 46% in oil extraction, 64% in industrial building materials industry, and 49% in China and glass industry were engaged in heavy manual labour. Cited in N. Lubin, op. cit., pp.94-98, 271.

1. Ibid., p.271.

than their proportion in the total industrial labour force.¹

Within the light industrial enterprises also Central Asian women occupied low-skilled positions as compared to their European counterparts. Citing one example of a sewing factory in the Ferghana Valley, Lubin shows that out of almost 3,000 workers and employees there 2,743 were women, of whom 85% (2,373 persons) were Uzbek women. However, by occupation Uzbek women occupied low-skilled jobs in the factory - 90% of the women industrial workers were Uzbeks, and in comparison slavic women constituted 60% of the female engineers and technical personnel and 70% of the white-collar workers.² This was one typical example of women predominance in the labour force in the light industrial enterprises and the pre-dominance of indigenous women in the low-skilled occupations even within this sector.

Employment of women in industrial and urban occupations has a strong influence on the demographic factor. Birth-rates vary with the occupational status and professional skill of women. White-collar mothers have far fewer children than workers and workers have fewer than the collective farmers. In general higher the skill, smaller is the family, and thus relatively few large families are found among workers with high qualifications or with engineering and .

1. Ibid., p. 98.

2. Ibid., pp. 98-99.

technical skills. Among women in white-collar jobs, lowest birth rates are found among the working in the sphere of science, culture and art; the state apparatus, cooperatives and cultural organisations, public health; and social insurance. Higher birth rate is to be found among women engaged in communal, personal and household services.¹

The table below illustrates the differences in birth rates according to the social and spatial position of women. Thus not only the differences among various categories - workers, white-collars and collective farmers - are established, but also within the same category the urban and rural difference was glaring.

Table-52: Number of children per 1,000 mothers by social class, 1970

Republic	Workers		White collar personnel		Collective Farmer	
	Urban	Rural	Urban	Rural	Urban	Rural
Uzbekistan	2,778	3,740	2,116	3,062	-	3,942

(Gail W. Lapidus, "The female industrial labour force: dilemmas, reassessments, and options" in Arcadius Kahan and Blair A. Ruble (eds.), Industrial labour in the USSR, New York, 1979, p.252.)

The educational level of women also influenced the size of the family or the number of children, which is demonstrated

1. Gail W. Lapidus, "The female industrial labour force: dilemmas, reassessments and options" in Arcadius Kahan and Blair A. Ruble (eds.), Industrial labour in the USSR, New York, 1979, p.253.

by the fact that among the women of the Asiatic nationalities (Uzbeks, Tajiks, Turkmen, Kirghiz, Kazakhs and Azerbaidzhanis) the expected number of children by female educational level was - 3.89 for females with higher and incomplete higher education; 5.16 among females with general and specialized secondary education; 5.95 among females with incomplete secondary education; and 5.83 for women with primary and lower education.¹

The impact of cultural development and urbanization was not confined to women only. The whole Central Asian working class with its new forms of intraclass structure was a product of the vast cultural-technical changes that encompassed this region since the 1950s. A very developed network of cultural infrastructure was created to prepare the new generation of the Central Asian working class for the new role that was expected of them in the era of great technological progress. The emphasis shifted to increase the size of the labour force on the basis of improved cultural and technical level of the population. Quantity came to depend on quality. The need for qualitative development of the labour force was felt, because the existence of a high proportion of agricultural labour itself restrained the growth of industrial and non-agricultural labour force. So any substantial increase in the labour force required increase simultaneously in the skill level and productivity of agricultural labour. Moreover,

1. Ibid., p.255.

the technological upgrading of the industries also demanded higher educational level even for jobs requiring physical work.

Cultural changes and the working class:

The working class of Central Asia during the Soviet period, has not only increased in number but also has developed qualitatively, which was manifested in the rise of its educational-cultural and technical-skill levels. Since the 1950s this process of qualitative transformation has been more rapid than the simple growth in number. However, this is not to suggest that the quantitative aspects of development lost their importance. In fact, the numerical growth of a working class among the indigenous population or nationalities was the major concern during 1950-75, towards which much of the effort was directed. In this period the numerical growth of the working class to a great extent depended on the qualitative aspects of growth, i.e., on cultural and technical development. This was because of the improvements that had come about in the production technology and the complex nature of work in many branches like metal smelting, refining, power production, construction, chemicals, mining, the operation of spinning and weaving machinery. As mechanization and automation intensified, an ever-increasing number of workers were required to combine more completely physical with mental labour in their work. Most of the new recruits

into the working class thus had a higher cultural and technical level than the new recruits in the preceding stages of industrialization. The qualitative transformation of the local population in Central Asia enabled them to increase their quantitative share in the total working class of their respective republics.

Technological progress in Central Asia created the need for raising the skill of the working class. This was done by more intensive training of the future as well as the existing labour force. The 9th Five Year Plan of Uzbekistan envisaged a complete change over to universal secondary education. In the field of vocational education the emphasis was laid on training workers with a secondary education. The enrolment in young worker's schools, evening and correspondence departments of colleges, universities, and secondary specialized schools were to expand rapidly, along with the expansion and improvements in in-job training. This process not only resulted in the growth of workers with complete secondary education, but also in a steady rise of workers attending general and specialized educational institutions.¹

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1. G.A. Shister, "The worker: on the way to technical and cultural standards of the intellectual", Socialism: Theory and Practice, vol.13, No.8, 1974, pp.64-65.

By 1976, the level of education among the working population in the Central Asian republics was nearly equal or more than the level achieved in the country as a whole. Some of the republics like Uzbekistan and Turkmenia even exceeded more advanced republics like the Russian federation in this respect. For every 1,000 persons employed in the national economy in 1976, the number with at least seven-years school education was 767 for the USSR as a whole, 771 in RSFSR, 779 in Uzbekistan, 737 in Tajikistan, 763 in Kirghizia and 795 in Turkmenia. Z.S. Chertina, "The bourgeois theory of "modernization" and the real development of the peoples of Soviet Central Asia", Soviet Review, vol.XXII, No.2, 1981, p.76.

Table-53: Educational level of the indigenous population in their titular republics, selected nationalities (per 1,000 employed population with a higher or secondary (complete or incomplete) education), 1970

Nationality	1959	1970 including			1970 as per cent of 1959	
	Total	Total	Higher and specialized secondary	General Secondary		
Russians	445	663	192	143	328	149
Ukrainians	404	637	147	182	308	158
Belorussians	309	555	133	143	279	180
Uzbeks	410	640	108	232	300	156
Tajiks	378	572	98	167	307	151

(G.M. Maksimov, "Changes in the vocational composition of the USSR's working people, 1959-1970", Current Digest of the Soviet Press, op. cit., p.8.)

The stage of scientific and technological revolution broadened the sphere of information-related occupations, involving a relatively larger amount of mental work. While these occupations included such mental workers as scientific workers, designers, economists, laboratory technicians and computer operators etc., there were also mass-based non-manual occupations in this sphere. As a result of mechanization and automation of production, the number of workers engaged in the sphere of production of tangibles declined in Uzbekistan from 89.1% to 84.4% between 1959-70.¹

1. G.A. Shister, "The current state of development of the working class of Uzbekistan", op. cit., p.82.

The period since the end of 1950s was characterized by not only a higher growth rate of workers in branches defining technological progress such as metal and machine manufacture, fuel, power and chemical etc., but also by the growth in the share of skilled workers.¹

The number of low-educated workers went down rapidly with the rapid rise in the educational level. Correspondingly there was a decline in the number of those employed in occupations involving predominantly manual labour. With the increase in the number of the employed population with an incomplete secondary education or more, the number of non-manual occupations also expanded to keep in step with the growing cultural level of the population.

One feature of the structural changes among the industrial production personnel was the considerable increase in the number of engineering and technical personnel, an outcome of the scientific and technological progress in Central Asia. In Uzbekistan, for example, the increase in this category was twice as much faster as the growth of the working class as a whole. The share of engineering and technical personnel in

1. For example, between 1962-69, in the Uzbek republic, the number of skilled workers increased from 56.3% to 62.5%, while the proportion of unskilled workers during this period declined from 43.7% to 37.5%. In some branches the growth was quite high - in oil industry from 15.5% to 80.4%, in machine manufacture from 13.7% to 55.1% and in non-ferrous metallurgy from 11.7% to 64.9%. G.A. Shister, ibid., p.91.

the total industrial personnel rose from 8% to 10.5% in this period, the proportion being nearly equal to the all USSR proportion of 12% for this category.¹ Another significant aspect of growth of this category of personnel was that it primarily represented persons with higher and specialized secondary education.

In 1970, over 60% of the engineering and technical personnel had higher or specialized secondary education in Uzbekistan. The highest level of specialized education was among the engineers of the republic, 85.7% of whom had higher, incomplete higher and specialized secondary education.²

The engineering and technical personnel were also characterized by a higher level of work stability - 51.8% with 5 years or more seniority.³ Also symptomatic was the expansion of the ranks of engineers and technicians from among the workers in industry. An illustrative example was the Chirchik Integrated Chemical Works, where a large majority of engineers and technicians in many departments started as workers.⁴ The social background of the engineers and technicians in

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1. G.A. Shister, "The current state of development of the working class of Uzbekistan", op. cit., p.102.
 2. Ibid., p.102.
 3. Ibid., p.103.
 4. For example, between 1961-67, about 500 persons took engineering degrees while on job in the plant. Ibid., pp.103-04.

~~three~~ department of the plant shows the nature of socio-occupational mobility in the process of improvement of the level of skill. A majority of engineers and technicians were from worker and peasant background rather than from professional background. Out of 99 engineers and technicians at the Chirchik Chemical works, 45 were from workers families, 31 from peasants families and 23 from professionals families.¹

The change in the educational and cultural level of the workers in the Chirchik electro chemical plant also indicates the changes that were taking place in the advanced branches and enterprises in Central Asia. In the above plant, the proportion of workers with complete secondary education rose from 17 to 32.2% between 1961-70, in which period the number of workers with an incomplete secondary education declined by more than 16%. By 1973, nearly 80% of all workers in the plant had higher, specialized or general secondary (complete or incomplete) education.²

The impressive statistics of educational progress in Central Asia does not mean that problems are few in this region. Had this been so, then the redistribution of the manpower would have been much smoother than was the case. Despite the growth of the skill levels, the growth lagged

1. Ibid., pp.103-4.

2. G.A. Shister, "The worker: on the way to technical and cultural standard of the intellectual", op. cit., p.66.

behind the contemporary needs of production. Another problem has been that education by itself has not ensured participation. The non-participation of the educated manpower in social production was glaring. Balanced distribution of the skilled personnel sectorally remained a major problem.

There is no doubt that the growth of personnel in higher skilled jobs in industry had been significant in the period under study. As a result, the average skill level in industry rose. By 1972, about two-thirds of all industrial workers in Uzbekistan had been rated in third or higher skill bracket, and more than half in the fourth or higher skill rankings [Jobs in the USSR are classified on a 7-group scale from one (unskilled) to seven (highly skilled)].¹ However, despite their skill-ratings, the skill-level of workers in industry still remained low, due to the presence of a high proportion of manual labour in industry. In 1973, almost two-thirds of the total workers in Uzbek industry had received only an elementary level of education and less than 7% of all industrial workers in the republic had received specialized secondary education.²

The low skill level, especially among the indigenous population, created problems for industry, where the demands

1. Lubin, op. cit., pp. 109-10.

2. Of the total number of workers in Uzbekistan's industrial enterprises in 1973, 0.7% had completed higher education, 1.0% had an incomplete higher education, 5.0% had completed specialized secondary education; 28.7% had completed only general secondary education. 61.3% had not received a secondary education and 3.3% had not received even an elementary education. Lubin, op. cit., pp. 110, 274.

for skill had been rising very rapidly. While the demand for skilled labourers has been rapidly growing, the lag between the growing demand and lack of enough supply affected production. According to Ubaidullaeva's estimates, about 75% of all breakdowns in machine construction and upto 30% of broken equipment and instruments in the Uzbek republic was due to the low skill of the workers, who did not possess the essential knowledge and habit for work with the new technology.¹

As has been stated earlier, education by itself had not ensured that every educated person works in the social production. Even in the cities there were quite a number of persons with higher and specialized secondary education who were working in the household and private subsidiary activities, though the proportion was higher in case of old, small cities as compared to the large and now industrial centres.²

In a very interesting sample study undertaken by Chamkin in seven industrial enterprises and construction trusts in the newly opened areas of the Hungry and Karshi steppes, the influence of education and the persistence of old values have been brought to focus. The nationality composition of the selected enterprises was largely non-indigenous - 48% of all personnel were Russians, 21% were Uzbeks and the rest from other nationalities. In many enterprises the Uzbek proportion

1. Ibid., p.274.

2. Ibid., p.252.

was even lower: the Yangier combine was 8% Uzbek, the Bekabad combine, 13% Uzbek. Most of the Uzbeks were from the city itself or from the surrounding areas. In almost all the enterprises Uzbeks were more highly represented in the low skilled occupations; almost 70% Uzbeks surveyed were employed in unskilled or semi-skilled occupations, while 47% of the Russians were in skilled occupations.

The differences were more conspicuous in the social and cultural values of different nationalities. Uzbeks were involved in social self-administration and with the collective acceptance of decisions on questions of social life. They manifested greater interest towards active social vocations, while the Russians were attracted more towards cultural activities like studies, reading, literary activities, going to movies, theatre and concerts. With regard to work, Uzbeks showed greater inclination for private and household work and non-technical activities as compared to the Russians. Their lack of interest in more technical pursuits was reflected in the total absence among Uzbeks of those wishing to occupy themselves with rationalisation and innovation work. Since the sample surveyed by Chamkin comprised the most modern segments of Uzbeks - youths who had already entered the industrial and technical sectors and had moved their residence in most cases, this study can be an indicator of the general state of social and cultural values among Uzbeks, especially those who

worked in traditional sectors, in rural areas. Among women of the above category the values must be more traditional.

Like Chamkin, others have also concluded that 'cultural predilections' in Uzbekistan for certain types of activities still persisted and would take a long time in disappearing. Sh. Muzaparov, a Uzbek Social Scientist, in his dissertation on cultural changes among Uzbek workers in the oil industry of Ferghana valley, 1967, has noted that a change in attitude has not necessarily followed despite participation of those workers in Uzbekistan's industrial vanguard.¹ Similar views were also expressed by Soviet Social Scientist M.F. Soldatov in 1972, who concludes that moral, subjective factors in an individual's relation to work are as important in determining one's behaviour as material factors of income or type and level of production. Traditional attitudes, he suggests, towards work, associated life-styles and towards female participation in the labour force not merely persisted, but may also acquire a somewhat new, perhaps strengthened form within the context of contemporary Soviet society. He puts it in more theoretical terms, "The law of the negation of the negation suggests not a simple retention, not the mechanical repetition of elements of the old in the new, but their appearance in a form new in principle... This situation can be illustrated by traditions of work which are transferred from one generation of worker to another."²

1. Cited in Lubin, op. cit., p.218.

2. Cited in ibid., pp.218-19.

Cultural change and the rational utilization of labour:

A qualitative aspect of the development of the working class was the increasing stability of the workforce in the place of work. This means the rate of labour turnover was declining. In Uzbekistan by the end of 1960s, 73% of the blue and white collar workers in industry had five years or more seniority. Quite conspicuous in this regard was the iron and steel industry of the republic, which had the smallest share of workers with less than one year's seniority and as many as 48.2% of the employees in this industry had more than 10 years' experience.¹

In this respect urban-rural differences were quite conspicuous. Labour turnover was higher among fresh recruits from rural areas. Unskilled trades attracted most of the young rural recruits and in those branches labour turnover was more pronounced. In Uzbekistan while 21% of the industrial workers had less than one year's experience, the share of such workers in construction was 40.6%. Construction attracts a higher proportion of rural youth seeking jobs in towns, since work in this branch requires relatively less skill. Relation between the level of skill and labour turnover rate is clear, as the majority of those leaving jobs in Uzbekistan were under 25 years of age, with 8-10 years of schooling and less than 2 years seniority.²

1. G.A. Shister, "The current state of development of the working class of Uzbekistan", op. cit., pp. 92-93.

2. Ibid., p. 92.

The problem of labour-turnover and violation of labour discipline, which was quite acute in Central Asian republics may have been due largely to overmanning, which in turn may have been due to large manpower surpluses there. Ubaidullaeva suggests that overmanning in Uzbekistan may have been as high as 18% of the total planned labour force in 1970. Similarly (and related to manning level), the loss of working-time, infractions of labour discipline and the frequency of labour-turnover in Uzbekistan were substantially higher than the USSR average. This has significantly affected labour productivity. In 1971, the number of failures to report for work per worker in Uzbekistan was on average one and a half to twice that of the USSR average. Throughout the 1970s the number continued to grow.¹

However, labour turn-over and violation of labour discipline was more acute in sectors, which were overmanned and where the skill level was low. Thus these problems were less in case of heavy industry and more in case of light industry and the collective agriculture. This also leads to the conclusion that a redistribution of the population spatially as well as sectorally and the raising of the skill level of the workforce are vital to reduce labour-turnover and maintain labour-discipline, without which productivity of labour would be seriously affected. In the Central Asian republic this process has been going on since the 1950s at a rapid pace,

1. N. Lubin, op. cit., p.70.

though redistribution of the workforce was handicapped by lower mobility among the ethnic Central Asians. Yet the growth in the ranks of professionals and paraprofessionals imparted increasing stability to the workforce. Since this section of the working class had a greater stability in the workplace, the improvement in the quality of labour was linked to the level of growth of professional and semi-professional sections among the working class.

Rational utilization of manpower does not necessarily depend on capital investment, especially in the Central Asian context, where the scope of improvement is quite wide within the existing level of capital investment. Similarly the slowing down of the tempo of technological progress, which is what can be concluded from Lubin's argument, is no solution to increase participation in social production.¹ This might immediately imply more labour use, but in the long run it would

1. Lubin argues through statistics that technological upgrading meant saving in money terms and at the same time release of manpower that had to look for employment elsewhere. For example, she cites, between 1966-70, enterprises under the system of the Ministry of Cotton ginning industry in Uzbekistan spent approximately 67 million roubles for technological upgrading that saved in economic terms several millions of roubles, but released from work hundreds of individuals who had to be provided work elsewhere. Lubin also cites Tashkulova, according to whom in the 1970s, the constant modernization of existing equipment, the introduction of new technology, mechanization and automation of labour-intensive production processes, resulted in 300 million roubles saving during the 9th Five Year Plan, but also freed over 20,000 persons from work in the process, who needed to find work elsewhere. Lubin, op. cit., p.146.

mean low level of labour productivity and stagnation in industrial growth which would ultimately result in serious problems of generating further employment.

First of all there was more scope for improvements in the use of the already working labour force. This included avoiding wastage caused by overmanning, poor time use, absenteeism, turnover etc. Apart from these there could be better use of the already existing skilled cadres. In 1970, for example, about 3,000 specialists in Uzbekistan with higher education were employed in jobs that did not demand higher education. Study of the industrial enterprises in Uzbekistan showed that only 58% of the engineers and 48% of the technicians were in jobs related to their specialities.¹

Organisational changes such as two-shift work, part-time work etc. could improve the existing level of participation in social production and help the process of structural redistribution of the manpower. The level of part-time work in Uzbekistan had been very low in the 1970s. A study of 465 enterprises in the republic in the 'early 1970s showed that in as many as 345 enterprises (75% of the total) two-shifts were not in operation. The level of two-shift work was extremely low in the small cities, where labour surplus was high, and in local industries and in construction industries. Of the light industrial enterprises surveyed, many

2. Ibid., p.145.

had only one-shift, and most of those were located in small cities. In the study Ubaidullaeva concluded that an additional 11,200 people could be employed in those 465 enterprises alone if two-shift work had been introduced that could have increased the employment level by 30%.¹ Similarly increased facilities for part-time work and more provisions of goods and services would raise the level of participation of Central Asian women.

However none of these solutions per se would have sufficient impact on manpower mobility in Central Asia. Neither more provisions of two-shift or part-time work, nor more goods and services would result in increased participation. As it is there were enough labour shortages in certain sectors where the surplus population could move in for employment if that was the main problem. Similarly both the growth of large cities and that of small cities have their advantages in attracting indigenous manpower. The big cities had more enlarged sphere for participation in non-productive, service sphere, and a large number of Central Asians could be shifted to non-agricultural occupations by the growth of large cities. The argument is also strong in case of small and medium sized cities which were closer to the indigenous population in terms of cultural environment and the skill level of the occupations there. Lastly, the arguments can be both in favour of heavy

1. Ibid., p.145.

industry and light industry. While heavy industry could generate more employment for the growing surplus manpower in agriculture, light industry could attract more indigenous population. Technology also has both these aspects. Industrial growth, in the context of a slowly mobile manpower, required constant technological upgrading. At the same time such upgrading might affect the already limited participation of the local population. Thus a delicate balance had to be maintained between the growth of large and small cities; between heavy and light industry; and in the application of technological progress.

However, the most important link in the process of working class growth in Central Asia was the cultural transformation of the indigenous population. Cultural change in this period was the necessary condition for the further growth of Central Asian working class. The redistribution of Central Asian manpower sectorally, spatially and in terms of skill was critically dependent on the cultural changes.

Urbanization and redistribution of labour:

The restructuring of the occupational structure typified the process of urbanization in Central Asia. The intensive growth of production, particularly industrial production, and the application of the elements of scientific and technological revolution were integrally linked with urbanization. The higher the level of urbanization, higher is the production

efficiency and technical-skill level of the workforce. Thus urbanization profoundly influences the occupational composition of the society.

The social dimension of the socio-occupational structure is linked to the existing social relations of production - socialist state sector, collective and cooperative sector and the private subsidiary sector. The occupational dimension is linked to broad division of labour in the society in terms of agricultural and non-agricultural occupation, which are further categorized according to the skill-level of the work. Both these dimensions are related to horizontal and vertical mobility of the population. Urbanization, consequently has a great bearing on the socio-occupational dynamics of the society.

Since the 1960s, Soviet Central Asia entered the phase of developed industrial production on the basis of scientific and technological revolution. During this period workers in industrial branches (industry, construction, transport) became the social and productive core of the Central Asian republics. The supplementing and enlargement of the working class from among the indigenous population took place. Local women were also drawn into industry on a large scale, learning new skills as workers.

The concentration of material and cultural production in large urban centres allowed them to play a determining role in the process of growth of the working class. While large cities

are an outcome of the growing division of labour and increased productivity of labour, they in return offer objective prerequisites as large and favourable areas for new construction and for raising labour productivity further. The emphasis on the qualitative indices of development since the 1950s have made large centres of Central Asia all the more important in terms of production and labour efficiency. The large cities offer the conditions for building gigantic enterprises employing large number of persons. This especially is so in case of certain branches of industry where efficiency is mainly determined by the higher level of concentration.¹ The creation of very large enterprises creates conditions for the growth of many auxiliary enterprises to supplement the production of the major big enterprises. A large concentration of population in big cities necessitates the building of servicing institutions and enterprises. In turn, the servicing branches with their increasing personnel help further concentration of population in large cities. The large cities also enjoy the privileged position of a relatively larger share of the skilled population in their total population and possess a very developed higher educational and training infrastructure with most of the important institutions and training programmes of the republic situated in them.²

1. V.I. Perevedentsev, "Population movement and labour supply in Siberia (Part I)", Soviet Sociology, vol.7, No.3, 1968-69, p.40.

2. Ibid., pp.40-41.

Thus a large city not only has but also creates further prerequisites for concentration of industrial production and labour. The advantages of joint utilization of power, transport, water supply and sewage system, of warehousing etc., the concentration of skilled manpower and types of labour distinctive to certain branches production (women for light industry in cities where heavy industry predominates etc.) facilitates the introduction of new and better forms of production and production capacities.¹

Not just due to the advantages of industrial construction, the large cities are also as a general rule political and administrative centres and thus attract a large number of people. The higher standard of living in large cities due to better housing, supply, consumer and cultural services etc., provides a better stimulus for population movement to large cities.²

The large cities are better equipped for more diversified utilization of the labour resources and the use of specific types of labour in specific branches and enterprises is possible in large cities, as compared to small cities and towns where siting of industry or certain types of industries may not enjoy such advantages.³

1. Ibid., p.41.

2. Ibid., p.41.

3. Ibid., p.41.

In short, the optimal territorial utilization of the labour resources territorially, i.e., the highest productivity of labour with the maximum satisfaction of the needs of the population, puts the large cities at the centre or focal point of development.¹

However, the experience of Central Asia shows that the growth of large urban centres has not solved the problem of imbalances in the composition of the industrial and urban workforce. As a result, the sectoral redistribution of the manpower still remained a slow process. Since the overwhelming agricultural population was composed of indigenous nationalities, the sectoral redistribution of manpower depended heavily on the mobility of this indigenous section of the population from agricultural occupations. But as some studies show, the growth of large urban centres had rather accentuated the territorial and sectoral imbalances of the labour force in terms of their ethnic composition. While large centres predominantly were characterized by high-skilled occupations and a large share of non-indigenous labour, the small urban centres were defined by their low-skilled occupations and a larger share of indigenous labour.

Urbanization and ethnic
distribution of labour:

According to Lubin the problems of sectoral redistribution of labour are compounded by the territorial distribution

1. Ibid., p.42.

of labour resources by nationality. Citing from Mikheeva's study conducted in 1974, she concludes that cities in Uzbekistan can be categorized along ethnic lines, certain types being dominated by Europeans and certain by Central Asians. The former are distinguished from the latter by higher levels of employment, levels of production, number of industrial production personnel, labour productivity and capital assets installed in enterprises. Mikheeva divides Uzbekistan's cities into four types according to population size and level of industrial development: large cities with complex economic development (Type I); small, medium and large industrial cities with high rates of employment (type II); local small and medium economic centres with weakly-developed industry but with level of employment equal to that of the republican average (type III); and similar small and medium local centres but with levels of employment below the republican average (type IV).¹ In 1970, Mikheeva noted, that the levels of gross production in old, small towns were less than half those of the industrial centres; the average number of industrial production personnel, less than one-third that of industrial cities and capital assets installed in enterprises were four times lower in the former than in the latter. As much as 15% of the labour resources in small cities (predominantly indigenous in ethnic composition) were working exclusively in the household and private subsidiary economy as compared to 5-6% in this sector in the new industrial cities (mainly slavic in ethnic composition).²

1. Lubin, op. cit., pp.107, 247.

2. Ibid., pp.107-8.

The type II cities differed from others by their industrial potential, high level of economic activity and employment of labour resources as well as growth of employment in social production.¹

Table-54: Employment by type of city, selected indicators, Uzbekistan, 1959-70

Type of City	% of labour resources employed in social production		% of labour resources in household/private subsidiary employment		Growth rate of labour resources 1959-70 (in %)	Growth rate of population employed in social production 1959-70 (in %)
	1959	1970	1959	1970		
I	75.4	90.1	24.6	9.9	129.6	143.3
II	78.8	94.3	21.2	5.7	166.5	193.3
III	72.5	89.6	27.5	10.4	147.7	170.7
IV	68.5	85.4	31.5	14.6	131.6	160.7

(Source: V. Mikheeva, op. cit., pp.69-72. Cited in N. Lubin, op. cit., p.248.)

Urbanization and territorial distribution of labour:

The growth of new industrial cities has been due largely to migration and that in the old small and medium sized towns was due mainly to natural increase. The former type of cities had higher employment and economic growth and the latter had higher growth of the working-age population. In the large cities and new industrial centres of Uzbekistan nearly 80% of the growth of the able-bodied population was due to immigration. In contrast, in the old, mainly indigenous small

1. Lubin, op. cit., p.249.

and medium cities and towns an average of about 75% of the growth in the able-bodied population was due to natural increase and there was little migratory movement especially in cities of type IV.¹

Table -55: Level of migration by type of city

Type of City	Intensity of migration (average for cities)		Out-migrants per 100 in-migrants	
	In-migrants	Out-migrants	1959-1970	1970-1973
I	83.3	85.5	124	127
II	161.3	144.2	142	128
III	98.8	104.2	120	120
IV	56.3	72.4	99	83

(Source: Mikheeva, op. cit., p.59; Cited in Lubin, op. cit., p.250.)

Mikheeva's study indicates the complexities involved in the manpower planning in Central Asia. Lubin attributes the present manpower problem, i.e., shortage in industrial cities and surplus in small and medium local centres, to priority development of heavy industry at the cost of light and food industries, low level of investment in old small cities etc. The emphasis should shift from capital-intensive industries that require professional knowledge and productive experience, to labour-intensive industries like light and food industries and certain sectors of the extractive industry. This realisation has led to the emphasis by policy makers on the construction of agro-industrial complexes. These complexes while

1. Ibid., pp.249-50.

demanding high efficiency and productivity can help diminish the effect of seasonality on the rural labour by rational use of labour round the year, would gradually encourage the rural workforce to enter industrial sphere, increase the level of skill and educational training and also absorb the growing surplus labour in agriculture. According to Lubin, till 1976 more than 70% of the total amount of capital investment in the Uzbek republic went to the heavy or highly technical industrial sectors like fuel, electric power, chemical and machine-building industries, whereas only 10.5% of the total capital investment went to light industry. In spatial terms, small cities received a small share of the total investment as compared to the large cities and industrial settlements.¹

The problem of manpower mobility and indigenous participation in industrial labour force needed a deeper solution than the locational situation offered by some. First of all the ratio of capital investment is no proper indicator of the extent of sectoral growth. Per unit cost being more in case of heavy industries, a higher share may not necessarily mean a large number of enterprises. Similarly the number of enterprises built in the light industrial sector may not after all be as small as the ratio might suggest, because with a small share of the capital outlay a much larger number of industries can be built in this sector as compared to the

1. Ibid., pp.135-37.

heavy industrial sector. Secondly, the increasing capital investment in old, smaller centres may not have the same effect in terms of generating employment in the industrial sector. A large proportion of the investment has to be spent on creating infrastructure and building of a skilled manpower before the building of industries in such centres. Thus not only the capital cost of construction of enterprises would be more in such centres, but also the net effect would not be as rewarding as the investment would warrant. In other words the number of enterprises which could be created in such centres would be much less than in areas where infrastructure and the skill level of the population is already developed. Thus in terms of employment generation per unit of capital would have less effectiveness in old, small centres than in large centres. Finally, there is no guarantee that the creation of industrial enterprises in the former type of centres would attract the indigenous surplus population already in existence there, let alone attract from the rural areas. A few examples would highlight this aspect of the problem. According to Lubin, studies show that enterprises opened in the rural or mainly indigenous centres often attract more Europeans or Central Asians from non-agricultural sectors. This is true of new industrial enterprises as well as new non-industrial or trade or service organisations, whether in the small cities or in the countryside.¹

1. Ibid., p.138.

One study undertaken in the early 1970s noted that a large share of personnel in the new enterprises in the Ferghana valley were being drawn from other republics. This study conducted on 13 enterprises in the five cities of Ferghana valley included enterprises of all varieties, such as from construction material and mechanical engineering plant in the heavy industrial sector to textile and silk factories in the light industry. Uzbeks comprised more than 66% of the total population of the cities where the enterprises were located, but they comprised only 45% of the new cadres, as against 37% for the Russians. Sectorally, the indigenous population in these cities were primarily attracted to light and food industries. Whereas Uzbeks comprised over 70% of the new cadres brought into the textile factories, they comprised only 10% of the new workers and employees in the fertiliser factory. The ethnic differences were more distinguished in terms of sexes - among the local labour the males predominated, while within the European labour force females predominated. Most of the Uzbeks attracted to the new industries in the said five cities were male (54%), while most of the Russians, nearly 70%, were female. In the heavy industry participation of indigenous women was extremely negligible. For example, Uzbeks comprised 27% and 11% of the new entrants to the two industrial construction materials enterprises and not one was a Uzbek woman.¹

1. Ibid., pp.138-39.

Other studies have similarly shown that a very small share of the personnel in new industrial enterprises was drawn from the agricultural and private subsidiary sectors, even if the enterprises were located in small centres or in rural areas. As Maksakova noted, between 1966-76, only 2.5-3% of all new personnel in a 'representative sample' of new enterprises came from the household and private sector. Ubaidullaeva also noted that even if employment opportunities existed in a labour surplus area, the local participation remained low. As example, she notes, that of those workers who joined the Namangan Silk and Men's fabric Combine in 1969, only 16% were collective farmers earlier; of those persons who entered new industrial enterprises in the Ferghana valley, only 5-7% were former collective-farm women. Similarly, Uzbeks who shifted directly from agriculture (collective and state farms both) at the beginning of November 1970, formed only 0.8% of the industrial production personnel of such large plants in Uzbekistan as a major tractor assembly plant and the Chirchik Agricultural Machinery Plant, and migrants from rural areas constituted only 2% of the workers of the Tashkent Agricultural Machinery plant.¹

Another study conducted in the mid-1970s on the enterprises constructed in the Hungry Steppe had similar observations to make. Of all the new personnel in construction

1. Ibid., pp.139-40.

organizations there, as the study observed, more than 70% changed jobs to work in a different sector after migrating. But most of the new personnel had formerly worked in another sector of industry and construction - 56% of the new personnel had come from such sectors. Only 14% had been drawn from agriculture and 12.5% from the service sector.¹

Even in the non-industrial sectors (outside agriculture) in the rural areas the level of migration from agriculture was very low, indicating the weak link between location and mobility in the Central Asian situation. A local study conducted in 1971 on the composition of personnel in trade and services in the rural areas of Tashkent oblast revealed that only a small section of the new workers and employees there had moved from agriculture. Combinedly in the trade cooperatives and service sphere, less than 26% of the new personnel had been drawn from agriculture, only 49% of all new personnel were Uzbeks and only 18% of the total new personnel were Uzbek women.² Thus even in the service enterprises, located in the rural areas the situation was not very bright in terms of socio-occupational mobility of the indigenous agricultural population.

If the construction of new enterprises failed to induce migration from labour surplus areas or from the non-industrial

1. Ibid., p.140.

2. Ibid., p.142.

sectors, then the creation of new enterprises would have only meant movement of labour within the industrial sector, that might have compounded the already existing manpower shortage in certain sectors and enterprises and shortage of skilled cadres in local enterprises. Thus any simple solution like extensive construction of labour-intensive branches, or locating industrial enterprises in local small centres and rural areas would not have been enough either in terms of increasing manpower mobility, or in terms of the progress of urbanization process and working class growth in Central Asia.

The process of urbanization and manpower distribution:

Cities played the most influential role in the development of the Central Asian working class. While the formerly backward republics of Central Asia had to maintain a faster rate of industrialization to catch up with the more advanced regions in a short period of time, this could not be done with the lowly skilled and less mobile workforce of Central Asia. In this context the large cities played an important role in attracting skilled labour from the European regions. Even the very nature of industrialization which was characterized by concentration of industry in areas of transport, infrastructure and labour availability, made the larger cities the areas of concentration of the workforce. The large cities of Central Asia were to be characterized more for concentration of labour than for concentration of the population. For example, 21% of the population of Uzbekistan

lived in the city of Tashkent and the Tashkent oblast, but 54% of the total industrial production personnel was concentrated there.¹ The more urbanized areas, particularly the big cities, continued to have a higher share of the industrial labour force. Tashkent city alone had 38% of the industrial labour force of Uzbekistan in 1975.²

The role of large cities in drawing agricultural population to industrial and other non-agricultural occupations had been quite significant. With an enlarged and expanded service sector and light and food industrial enterprises, these centres were the focal points of manpower mobility in Central Asia. However, the growth rates of such centres could not be sustained within the existing conditions of low out-migration from the rural areas. Even the industrial growth rate in such centres was affected by problems of labour supply. The constant upgrading of the technical and skill-level of the occupations in large centres further checked the increase in their manpower demands. Apart from all these economic factors, the large cities confronted cultural constraints in the process of attracting labour from the rural areas. The lower level of skill of the indigenous rural population created problems for their absorption in the

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1. G.A. Shister, "The current state of development of the working class of Uzbekistan", op. cit., pp.95-96.
 2. Mathew J. Sagers, "Regional distribution of industrial employment in the USSR", op. cit., pp.175-76.

urban occupational structure. The large centres continued to be the focal point of manpower redistribution because in the existing situation, the performance of the smaller centres in either increasing employment or increasing influx from the rural areas did not offer a ready-made solution. But, whether it is the large centre or the small centre, the growth of urbanization was crucial to manpower redistribution. The concentration of branches of production in the urban areas determined the growth of the working class in Central Asia and also the deeper stratifications with ⁱⁿ the working class itself. The diversified nature of industrial and intellectual production, as well as their concentration resulted in more rapid social development in large cities than in small and medium-sized towns.

The heterogeneity of the Central Asian working class represents a higher stage in the growth of this class. The earlier one sided distribution, either in terms of sector (agriculture), region (Tashkent), ethnicity (Russian), skill (manual) and sex (males) was replaced by a tendency towards a more even restructuring between 1950-75. While the spatial differences in the level of intraclass structure of the working class remained, the Central Asian working class came to have an advanced structure as in the rest of the country. The spatial differences remained and the large cities still continued to play a significant role in the urbanization process. The large cities were the ones which came to

represent the advanced social structure that had emerged in the Central Asian republics. However, the growth in the size and structure of the working class was not simply a function of the large cities. The totality of the urbanization process that led to a redistribution of the population between urban areas and rural areas, increasing migration from rural areas of the republic and decreasing influx from outside the republics to the Central Asian cities, increasing participation of ethnic Central Asians, especially women, due to progressive changes in the educational-cultural and technical-skill levels of the population, played a determining role in the growth of the modern working class in Soviet Central Asia in the era of scientific and technological revolution.

Since the process of urbanization combined both the process of rural out-migration and urban in-migration, the growth of the working class depended as much on the changes in the rural areas as on the growth of urban areas. The change in the skill level of the rural population and the change in the rural occupational structure had a significant bearing on the growth of the ethnic working class in particular. At a time when the growth in the size of the indigenous working class depended on the skill level, the advancements in the occupational and skill structure of the rural population was of enormous importance to the process of working class growth.

As has already been stated, the restoration of the balance between push and pull factor characterized the urbanization process of this period, 1950-75, though the discrepancy remained. In fact it was not merely a process of lessening the rural pull that characterized the period after 1950. The activation of the rural push mechanism was also characteristic of this period. This process entailed among other factors the increasing skill and productivity level of the agricultural population. In this sense socio-cultural and economic changes in the rural areas served as important ingredients in the process of working class growth in the Central Asian republics. However, urban areas continued to play the dominant role in this process as urban pull continued to outgrow the rural push, which was reflected in the high growth rate of urban areas and low outmigration from rural areas. As a result labour from outside Central Asia continued to play an important role, though on a reduced scale. Nonetheless, Central Asia came to have, in the period between 1950-75, a developed working class with an advanced intraclass structure in line with the rest of the country.

CONCLUSION.

Urbanization is the relation between society and space, which arises in the process of organisation specific to a particular mode of production. Space achieves its specific form, function and significance in relation with the broad social relations. At every historical juncture space articulates the dominant mode of production in all its aspects. While urbanization articulates a particular mode of production, it is also capable of affecting and influencing various aspects of the mode of production because of the specificity of their spatial expression, or because of their particular relations with space. Various urban forms have their historical specificities depending on the nature of the conjuncture where earlier spatial forms persist and co-exist with emerging and new spatial forms. Even within each mode of production every stage gives new shape to spatial forms, which however does not mean the disappearance of the spatial forms of the earlier stage or stages of the same mode of production.

The historical experience of Central Asia demonstrates the relationship between the mode of production and the process of urbanization. The feudal society of Central Asia was drawn into the commercial network of Russian capitalism under Tsarist rule. This conjuncture of colonial-feudal relations created a specific pattern of urbanization in Central Asia. The predominance of feudal relations

prevented the socio-occupational and territorial mobility of the rural population on any substantial scale. The lack of growth of productive forces in agriculture due to the prevalence of share-cropping system and the absence of large-scale commodity sector in agriculture, restricted the process of rural man-power mobility. While the peasantry was extremely impoverished and many were turning landless under the dual pressure of feudal as well as commercial exploitation, there was no corresponding industrial development to stimulate migration to the urban areas from the rural areas. Colonialism, by artificially preventing the growth of Central Asian industry, slowed the process of urbanization and the growth of working class in Central Asia. Industry could not act as a big factor in pulling the rural population to the urban areas nor to non-agricultural occupations. Not only were the industries of light-industry type, but these light industries were very small and employed very limited man-power.

The nature and location of industries determined the pattern of spatial organization in Central Asia. The urban centres were basically centres of commerce and handicraft, with limited industrial function. The link between industrialization and urbanization was very very weak. In fact, urbanization depended on the extent to which agriculture was commercialized. Since the main medium of commercialization in Central Asian agriculture was cotton, urbanization process to a large extent depended on the expansion of

cotton. Urban centres came up in areas where cotton cultivation was well developed, and thus served as links between commercialized agriculture and the market system.

In the urbanization process the larger centres became more important and developed faster, though the average size of the urban centres in Central Asia was not large. The faster growth of large urban centres only helped the concentration of Europeans in such cities and did not help much in the way of inducing rural man-power mobility or in terms of changing the level of urbanization of the indigenous population. In the context of low industrial pull and the near lack of agricultural push in general, the growth of large urban centres naturally resulted in further concentration of Europeans in the big cities of Central Asia. This pattern might have succeeded in increasing the number and the share of urban population, but its impact on the territorial redistribution of the indigenous man-power was virtually negligible. In other words, the pattern of urbanization in Tsarist Central Asia was characterized by higher level of urban growth and lower level of urbanization, especially of the indigenous population. Rural-urban mobility was extremely limited, within the general pattern of non-industrial urbanization, stimulating external in-migration from the other regions of the empire. As a result, the migration process in Central Asia was dominated by European in-migration and not by rural-urban migration of the ethnic Central Asians.

The colonial system prevented the growth of Central Asia's productive forces beyond a certain limit. Consequently, the urban areas were neither products of industrialization, nor had primarily industrial characteristics. This pattern could not effect the socio-occupational and territorial mobility of the population. Overwhelming majority of the population remained tied to agriculture. The creation of an industrial working class among the titular population could not go beyond the rudimentary stage. The creation of the working class was itself fraught with all types of unevenness, ranging from territorial, sectoral, ethnic to sex divisions. Though the foundation of a modern urbanization and industrial working class was laid during the colonial period in Central Asia, their further growth was conditioned and limited by the same conditions which brought them into existence. The social relations created by Tsarist colonialism created a spatial organization in its own image - the growth of urban enclaves which served the interests of distant metropolitan centres. This pattern of urbanization had negligible impact on the life of the indigenous Central Asians, in terms of their horizontal and vertical mobility. The fetters on the further development of the urbanization process and working^{class}/growth was removed with the dissolving of the colonial-feudal social relations under the Soviet period.

The revolution of 1917 was followed by radical transformation of the social and economic structure of the Central Asian republics. The development of the urbanization process under the new social relations was markedly different from the pre-revolutionary period. However, the extent of changes in the urbanization process was limited both by the influence of the earlier pattern that continued for a long period and also by the requirements created by the growth of the productive forces under the new socio-economic relations in the Soviet period.

The new agrarian relations established after the revolution freed the peasantry from various forms of bondage and indebtedness. The removal of colonial-feudal relations created conditions for the gradual socialization of the means of production. These changes freed the productive forces in Central Asian agriculture from the earlier constraints and led to rapid increases in production and productivity. Modernization, mechanization and diversification of agriculture could be undertaken under the new social relations established in Central Asia.

The most impressive growth of the productive forces was taking place in the sphere of industry. The dismantling of the exploitative relations and freeing of industry from the control of Russian capitalists and Central Asian intermediaries, created conditions for undoing the uneven development and unequal relationships that had taken shape

in the past. The republics of Central Asia could overcome the narrow one-sided specialization of the colonial period and transform themselves into industrial economies. Nationalization removed the basis for non-equivalent exchange between regions and the old territorial division of labour was slowly being cast away with the socialization of the means of production. The growth of industry was extremely rapid in Central Asia and so also the share of industry in the national economy of the republics of this region. Industrial development diversified and created conditions for the integrated development of this region, which came to acquire its own fuel, power and machine-building base. By 1950 Central Asia had already come to possess a powerful and modern industry.

The pattern of urbanization that took shape in this phase of socialist development was largely an outcome of the vigorous growth of the productive forces taking place within the context of new social relations. The rapid development of industry not only led to the growth of industrial centres but also changed the character of the existing urban centres into industrial towns. The role of urban centres radically altered with the increasing industrial functions that they were performing. Since the development of key industries was closely associated with the development of other branches, urban centres, unlike during the colonial period, were organically bound up with the life of the areas

surrounding them. Whereas in the colonial period the industrial centres had little impact on the life of the surrounding agricultural population, in the Soviet period the urban centres were so much intricately linked to the region and its population that they were key to the transformation of the region.

The pattern of urbanization is an outcome of a historical conjuncture. The concrete form it takes depends not only on the new social relations, but also on such factors as the extent of influence of the old system and the specific requirements of a territory or region at a particular point of time notwithstanding the nature of social relations. All these combined give definite shape to the urban form and urbanization process.

The survivals of patriarchal relations, vestiges of clan system, communal ways and traditions continued to influence the growth of productive forces in Central Asia in the Soviet period. A serious constraint was the near absence of a local industrial proletariat that could undertake the task of reconstruction, or at least provide the basis for the radical transformation of the socio-economic life. The dismantling of the old territorial division of labour was not an easy process. The old specialization of the economy, the level of skill of the population and the traditional economic ties that had tied together different regions for many years, made it extremely difficult to change

the nature of specialization of the Central Asian economy. The persistence of archaic-patriarchal peasant farming and pre-capitalist forms of exploitation for a long time after the revolution also limited the scope for any radical solution to economic problems. Nationalization was limited in scope due to the lack of large-scale industry at the time of revolution. A poor and primitive transport system inherited from the Tsarist days hindered the quick development of Central Asia. At a time when resources in the country were marked by poor development generally, Central Asian region lacked the cost advantage as compared to other regions of USSR. Investment went to regions where modern equipment, labour skills and know-how had already accumulated over a long period in large-scale industry. The proletariat in Central Asia at the time of the revolution was small and its technical level was very low. These inherited handicaps influenced the growth of Central Asia's productive forces, since care had to be taken to ensure that the dismantling of the old territorial division of labour should be such that the national economy of the USSR would not be seriously disturbed.

In the specific circumstances of Central Asia, the growth of socialized agriculture was slow to evolve. It was only in the 1930s that mass collectivization was accomplished. Thus for a long time petty-commodity sector remained predominant in agriculture, making it less productive

and less mechanized.

The nature of crop farming in Central Asia remained the same, with the need for cotton self-sufficiency that USSR was confronted with in the early phases of socialist construction. The intensive nature of cotton cultivation and the organization of farming either in the petty-commodity sector initially and in collectives later, had a great bearing on the urbanization process in Central Asia. Central Asian agriculture continued to be highly labour intensive. The expansion of cotton cultivation in agriculture made man-power redistribution between agriculture and industry a difficult undertaking, though industrial growth and its man-power requirements had grown enormously between 1917-1950.

The specific context in which the urbanization process was developing in Central Asia decided its specific pattern. While the new socio-economic relations provided industrial character to urban areas of the region, the speedy growth of productive forces brought about by the new relations had its impacts on the migration process. The man-power requirements of both agriculture ^{and} industry went on expanding, while rural-to-urban migration of the indigenous Central Asians could not make much progress. The incentives and man-power requirements in agriculture strengthened the ties of the rural population to land. In short, the diverse pulls of both industry and agriculture characterized the urbanization

process of Central Asia.

Another feature of urbanization in this period was the concentration of industry and population in large cities. The general backwardness of the region, lack of infrastructure and skilled man-power at the time of revolution, came in the way of dispersing industries widely within the Central Asian republics. Thus concentration and growth of large cities characterized the urban growth pattern during this period.

The faster urban growth in this period however was not corresponded by a rapid increase in the level of urbanization of the ethnic Central Asian population. In fact the change in the rural-urban distribution pattern of the indigenous population was a very slow process, which was natural because the faster urban growth also went along with an actual increase in the rural population. The urban growth in Central Asia was greatly complimented by increased influx of population from outside Central Asia. The growth of large cities facilitated this pattern of migration. The larger the city, faster was its development and larger was the share of Russians in the total population of the city.

The existing pattern of urbanization influenced the composition, structure and growth of Central Asian working class. The specific nature of urbanization created a highly heterogenous or multi-national work force in Central Asia. The participation of the indigenous population in the industrial work force was highly disproportionate to their share

in the total population. Nationalities with a higher level of urbanization had also a higher share of workers in their social structure. Central Asian women had the lowest level of participation in the industrial labour force. This also can be attributed to the extremely low rate of migration among Central Asian women. However, the working class of Central Asia had come to acquire certain characteristics which it did not possess prior to the revolution.

In the colonial period, when urbanization was characterized by low rural push and low urban pull, the industrial working class was small, non-indigenous and less diversified. Since the urban areas were not defined by their industrial functions, the urban working class was mostly in the service sphere, in administration, in cultural and commercial establishments and in the transport sector. A very small segment of the urban work force was industrial.

In the Soviet period, until the 1950s, in contrast to the earlier period, the urban working class was mainly industrial and the industrial working class was mainly urban. However, the new pattern created new contradictions in the process of development of the Central Asian republics. The socio-occupational mobility of the population could not proceed smoothly beyond a certain point. Higher urban growth and the faster growth of the large cities could not go on without accentuating the sectoral distribution of the population along ethnic lines. But this pattern was

inevitable in the circumstances of existing Central Asia and had served its purpose of promoting the growth of productive forces in Central Asia, which were extremely backward at the time of the revolution. By the 1950s, socio-occupational and territorial mobility of the indigenous population had shown remarkable progress with the consolidation of new production relations and the growth of productive forces. With almost complete collectivization, the mechanization of agriculture could be widely applied and as a result productivity of land and labour increased. Industrialization created an enormous scope for the redistribution of man-power territorially and sectorally. However, beyond a certain point the need for further improvements in the socio-economic organization was realized. Within the existing pattern it was no more possible to effect any further socio-occupational as well as spatial mobility of the population.

The period between 1950-75 was one in which the socio-economic organization of the Central Asian republics of Uzbekistan and Tajikistan was further perfected. The earlier system of wages, incomes and incentives was modified to link it with productivity. The crop structure was also showing a shift towards less labour-intensive ^{crop cultivation.} Collective farms in the two Central Asian republics lost their formerly enjoyed income advantages as compared to other sectors as well as other regions of the country. While farm incomes in the rest of the country caught up with that in these two republics,

incomes in the industrial sectors within Uzbekistan and Tajikistan were higher than that in the collective farm sector. With large families and more number of dependents, collectives of these two republics lost whatever little edge they had in terms of wages and earnings. Per capita land area and per capita income was shrinking due to a rapidly increasing rate of natural population growth.

Agricultural organization was becoming more rational and efficient. Large scale amalgamation and merger of the collectives was undertaken. This process of consolidation of the collectives was accompanied by an increased emphasis on the state farms, which were more capital-intensive and used less labour. The growth in the number of state farms and their increasing share in agriculture complimented the process of consolidation of the collectives. These larger economic entities in agriculture could make mechanization more efficient and effective by having their own machine and power base and also could further rationalize the use of manpower. Between 1950-75, agriculture in Uzbekistan was becoming more and more capital-intensive. The growth of fixed capital and labour productivity in agriculture since 1960 was faster in these two republics than that in the country as a whole. In short the whole agriculture in Central Asia was moving towards greater diversification, productivity related incentives and labour saving methods. All these changes activated the agricultural push mechanism so far as the migration process was concerned.

Industry in Uzbekistan and Tajikistan underwent qualitative transformation during the period between 1950-1975. The industrial structure came to be dominated by heavy industry. The share of light and food industries went down though it remained quite substantial by the end of this period. There was also a continuous increase in the share of non-productive branches. While the heavy industry was highly capital-intensive, the latter two were more labour-intensive. This pattern of growth helped to reduce the demand for skilled outside labour. The low-skilled indigenous labour force could participate in the labour-intensive branches. The increasing overall capital-intensity in industry would effect a slowing down of the man-power demand in industry, while not affecting the participation of indigenous population. The growth of the non-productive sphere would help increase participation of indigenous women in the labour force.

The wage structure in this period was such that it provided ample incentive for the indigenous agricultural population to migrate to industry. At the same time this wage structure could not have encouraged European migration to Uzbekistan and Tajikistan. Industrial wages in these two republics were much lower than the USSR average. With more and more Central Asians occupying high-paid skilled jobs, remunerations from industrial employment could not have been an inducement for European migration to these Central Asian republics.

In short, the diverse pulls of industry and agriculture on the labour-force before 1950 was being replaced by a pattern which sought to effect release of man-power from agriculture and lowering the labour-intensity of industry. This would bring about a balance between agricultural push and industrial pull, and a redistribution of manpower between agriculture and industry.

The pattern of urban growth reflected the changes brought about in the social and economic organization in Uzbekistan and Tajikistan. The need to reduce the influx of population from outside meant less and less concentration of the population in large cities. The dispersal of industries and their location close to the sources of natural resources was reflected in the growth of industrial cities outside the pale of the old large centres. The slowing down of the growth of large cities and also the influx of European population as well ^{created} /conditions for increased mobility among the indigenous population. However, by 1975, the level of urbanization among the indigenous titular population and the rate of migration of rural Uzbeks and Tajiks to the cities continued to remain very low despite the changes in agriculture, industry and the pattern of urban growth.¹

1. Even with an improved balance of push-pull mechanism, total migration accounted for only 10.9% of the total urban growth in Uzbekistan between 1959-79, as compared to 42.3% between 1939-59. As it is this migration constituted a lot of European migration. N. Lubin, op. cit., p.42.

This may be explained by the operation of certain non-economic factors which have affected further changes in the socio-economic system. The totality of social dynamics constitutes the role of these factors, which though affected by changes in social relations, also show much resilience and autonomy. These factors included ethno-demographic and cultural factors in Uzbekistan and Tajikistan. The major factor that mainly neutralized the effect of agricultural push was the demographic factor. The Uzbeks and Tajiks had a very high rate of natural increase as compared to their European counterparts. This high rate inflated the number of rural population in these republics while that in the country as a whole was declining. A large surplus population in the rural areas held back rapid and efficient use of machines. As a result productivity of labour could rise only slowly, if at all.

The influence of culture and tradition was another important variable in the process of urbanization. The persistence of national traditions, nature of rural families and the attitude towards women participation in social production still remain such that without bringing changes in this sphere, the further growth of productive forces and production relations would be seriously constrained. Large families, social traditions and attitude continue to play a major role in influencing the demographic behaviour of the Uzbeks and Tajiks and their mobility outside their

traditional spatial environment. Such things as early marriages, fewer divorces and abortions and a strong ethnic propensity for large families were causes for higher birth rate among ethnic Central Asians.

A major vehicle of cultural change is education and training, which not only breaks the hold of tradition on the population but also prepares people to take up new and non-traditional occupations. In this respect, though Uzbekistan and Tajikistan had made phenomenal achievements by 1975, the progress in the rural areas still lagged far behind. The lower educational and skill level of the population did not help the titular population to overcome the influence of tradition and custom, nor enable them to seek better and different jobs in the cities. The cities of ^{these} republics had also grown in a manner that presented a cultural atmosphere which was very different from the rural areas. The high rate of influx of Europeans into large cities and industrial centres, created a vast gap in the cultural levels of rural and urban areas. As a result, in spite of the dispersed urban growth in this period, the urban areas were divided along ethnic lines - the large and industrial centres were predominantly European and the small, non-industrial centres were predominantly indigenous.

The combination of a high rate of natural increase of population and national-cultural tradition with lower skill levels created huge rural labour surpluses. With the

activization of the agricultural push mechanism, the low rate of rural-urban mobility only resulted in increasing the sphere of private subsidiary agricultural activity in Uzbekistan and Tajikistan. In the specific circumstances of these republics, the pressure of a large dependency ratio on the rural households was sought to be mitigated by incomes from private agriculture and not by seeking employment outside agriculture or in the towns.

The effects of agricultural push in these two republics were overshadowed by demographic and socio-cultural factors. Though the number of out-migrants from the villages went on increasing, the ratio was very low owing to a very high rate of natural increase of population in the rural areas and also due to the immobility of the population released from agriculture. However, rural out-migration in this period was not largely due to urban pull like in the period before 1950. In the period under study rural push factor complimented urban pull mechanism in the process of migration from rural to urban areas.

The arguments that are based primarily on economic factors have neglected the role of superstructural elements in social transformation. The discussions centring round such themes as rate of industrial growth, priority of heavy or light industry, emphasis on large or small urban centres, have been inadequate in the sense that the totality of the social reality is missing in such discussions. A very high

rate of industrial growth would only compound the problem of man-power shortage in industry, which was already evident in many sectors by 1975. The choice for priority development in heavy or light industry has not been an easy one. Before 1950, such a choice was easy. The all round industrialization of these Central Asian republics was mainly carried out through the development of light and food industries. The necessary resources for heavy industry were either lacking or were extremely limited. But since 1950 the emphasis shifted to heavy industry which came to dominate the industrial structure of these republics. However, any drastic overhauling of the industrial structure was not possible. It was the light and food industrial branches that attracted most the participation of the indigenous labour force. Considering the low skill level of ^{the} indigenous population, the faster growth of heavy industry contained the possibility of further accentuating the difference between various nationalities, especially their labour force, along skill lines. Like it was difficult to overemphasize the growth of heavy industry, it was equally difficult to give priority to the low-skilled and labour-intensive light industries, though these could attract the indigenous man-power most. As the experience shows, even in the light industries, there was a fair amount of European participation, especially in the skilled occupations within this sector. The man-power shortage in many industries also made it imperative to undertake sectoral redistribution of the labour force. This could not be done

if the labour-intensity of the light industrial branches was not brought down. And finally, the slowing down in the rate of European influx could be effected by increasing the overall capital intensity of industry in general, which in effect meant emphasis on heavy industry. Thus the solutions offered in terms of choosing one type or the other seem too simplistic. The strategy of growth in Uzbekistan and Tajikistan, however, had been to balance the development of the industrial structure in such a manner that while the rate of influx of European labour slowed down,, the scope for the participation of indigenous labour force remained unaffected.

Equally difficult has been the choice between large and small urban centres. While the process of growth since the 1950s witnessed a wider dispersal of urban population and the slowing down in the rate of growth of large centres, there can be arguments in favour and against both settlement patterns. Large cities are a natural outcome of the growing division of labour and increased productivity of labour. These centres offer most favourable conditions for further expanding the concentration of production and the labour force. The growth of such centres would mean further expanding the scope for non-agricultural employment on a large scale. However, in the context of Uzbekistan and Tajkistan, the growth of such centres resulted in increasing the scope of influx from the European areas and

in widening the gap between rural and urban areas. The growth experience of smaller centres have not been very positive either. Studies conducted by Chamkin in the Hungry and Karshi steppes show that workers in the newly opened enterprises there did not come from the surrounding areas. The European participation continued to be very high and the indigenous workforce showed very little mobility from the rural areas. If this study is any indicator, then the location of industries outside the large centres and nearer to the indigenous rural population have not been much successful. Thus, any overemphasis on small centres has the danger of further deepening the ethnic division of settlement patterns. The small centres would remain less industrialised, with a low-level of skill of the population in general and mainly inhabited by the indigenous ethnic population.

What is most important in the urbanization process of the Central Asian republics is the mobility of the rural population. Any strategy that seeks simply to concentrate on the aspect of urban pull - like industrialization pattern or urban settlement pattern - would not be of much help in the existing conditions of Central Asia. That is the reason why non-economic factors have assumed greater significance in the urbanization process in Uzbekistan and Tajikistan. Since economically, all indicators point to both less and less requirement of man-power in agriculture and less and less incentives for the population to remain attached to

agriculture, the actual mobility has not been to any desirable extent. Consequently, greater emphasis on the cultural transformation of the rural population and rapid development of their education and skill level has become the urgent need in the Central Asian republics under study

The growth of the working class is an outcome of the socio-occupational and territorial mobility of population and is thus integrally linked to the urbanization process. In a situation where urban growth was very fast and mobility of the indigenous population was very slow, the growth of the working class was accordingly very rapid, but had a lower share of the indigenous population. With the slowing down of European influx, there was some improvement in the share of indigenous labour force. But even so, by the end of 1975, the level of participation of the indigenous population in the work force remained highly disproportionate to their titular republic. This disproportion was more conspicuous in the case of large urban centres.

The indigenous labour force was relatively low-skilled and was mainly participating in sectors representing low-skilled occupations. Thus in light and food industries and in the non-productive spheres, the participation of the indigenous labour force was higher than in other sectors. The internal structure of the labour force showed more heterogeneity, while that among the indigenous workers was much less in comparison.

Another aspect of the working class growth in Uzbekistan and Tajikistan was the lower level of participation of indigenous women in the industrial labour force. Not only was the mobility among women from rural areas extremely slow, but their propensity to take up industrial and urban occupations was highly influenced by culture and tradition which discouraged the participation of women in works outside the household. Apart from the low level of urbanization among Central Asian women, their skill level in general was very low. This led to a concentration of indigenous women in sectors demanding low skills. Even some trades came to be defined as female trades, due to a very high level of concentration of the indigenous women labour force in these branches.

Thus the growth of the working class reflected the contradictions arising out of the urbanization process in the Central Asian republics. The contradiction between a high level of urban growth and a low level of mobility of the indigenous population was reflected in a high level of working class growth in these two republics in general but a slower growth in the share of industrial workers in the social structure of the titular population. The territorial, sectoral, skill and sex redistribution of the ethnic Central Asian working class decisively depended on the resolution of the above contradiction. Many steps were taken in the period between 1950-75 to resolve this contradiction. The

socio-economic reorganization undertaken in this period created the material basis for this. Though the achievements were significant in terms of socio-occupational and territorial mobility of the population, the full potentiality of this reorganization could not be realized due to a variety of factors that had assumed the force of an inertia that had gripped the rural life. Changes in this sphere were discernible under the impact of new social relations and advanced productive forces. However, these were not enough by themselves to sweep away the outlooks and habits accumulated over centuries. To deal with these problems new strategies of priorities have become inevitable in Central Asia.

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APPENDICES

Appendix-1: Growth of Cities, Urban Centres and
Urban type settlements in Soviet Central
Asia, 1897-1959

	1897	1926	1939	1959
<u>Uzbek SSR</u>				
1. Tashkent	155,673	323,613	549,855	911,930
2. Samarkand	55,128	105,206	136,283	196,484
3. Andizhan	47,627	73,465	84,703	130,083
4. Namangan	62,017	73,640	79,542	123,467
5. Kokand	81,354	69,324	84,645	105,082
6. Ferghana	8,928	14,288	35,646	80,206
7. Bukhara	60,000	46,778	50,311	69,254
8. Margelan	36,490	44,327	46,007	67,990
9. Chirchic	-	-	14,733	65,520
10. Angren	-	-	-	55,789
11. Yangiyul	-	3,656	16,193	45,225
12. Urgench	-	5,161	22,469	43,756
13. Bekabad	-	-	8,279	42,186
14. Almalyk	-	-	-	40,480
15. Nukus	-	-	10,456	39,146
16. Kattakurgan	10,087	14,493	25,759	34,078
17. Termez	-	10,127	11,630	22,063
18. Kagan	-	10,342	17,656	21,103
19. Khodzheyli	-	3,027	10,368	20,525
20. Leninsk	-	6,753	11,848	20,416
21. Karshi	-	15,118	15,767	19,709
22. Navoi	-	3,691	3,086	18,600
23. Gulistan	-	3,167	5,698	18,320
24. Chust	13,785	14,369	14,775	18,045
25. Khavast*	-	3,220	10,335	17,661
26. Khiva	12,000	20,212	14,426	17,460
27. Denau	-	-	-	16,813
28. Shakhrisabz	-	10,705	12,531	16,443
29. Chimbay	-	5,393	8,470	1,595
30. Dzhizak	15,710	13,522	8,848	15,689
31. Syrdarya*	-	-	-	15,139
32. Ordzhonikidze*	-	2,505	6,334	14,814
33. Krasnogvardeysk	-	-	-	14,721
34. Iskander*	-	-	17,395	13,344
35. Stantsiyakarshi	-	-	7,027	13,285
36. Pskent	-	7,218	-	12,507
37. Kuvasay	-	-	4,600	10,791
38. Turtkul	3,111	4,202	19,604	10,495
39. Biruni	-	-	-	10,464
40. Muynak	-	1,588	7,904	10,428
41. Gizhduvan*	-	3,876	10,171	10,850
42. Urgut*	-	13,774	16,490	10,447

contd...

contd...		1897	1926	1939	1959
Tajik SSR					
1.	Dushanbe	-	5,607	82,597	224,242
2.	Leninabad	30,109	37,480	45,528	77,465
3.	Ura-Tyube	20,621	21,056	25,516	23,839
4.	Kurgan Tyube	-	-	10,570	23,560
5.	Kulyab	-	4,192	8,439	23,455
6.	Kanibadam	10,974 ⁺	19,254	11,801	17,486
7.	Kuybyshevskiy*	-	-	2,644	14,985
8.	Isfara	4,643 ⁺	8,307	13,123	13,590
9.	Regar	-	-	4,040	13,532
10.	Ordzhonikidzeabad	-	-	4,701	11,130
11.	Pendzhikent	3,658	3,847	8,666	10,829
12.	Shurab	-	-	3,465	10,177
13.	Sovkhoz im. Kirova*	-	-	3,977	10,281

* Urban type settlement.

+ not judicially a city in 1897.

(Compiled by Chauncy D. Harris, "Special issue on population of cities of the Soviet Union", Soviet Geography: Review and Translation, vol. II, No. 5, May 1970, New York, pp. 337-39.)

Appendix-2: Population of the cities and towns of Uzbekistan
and Tajikistan

City/Town	Population (total)			
	1959	1967	1970	1974
<u>Uzbek SSR</u>				
Chust	18,045	-	28,000	31,000
Urgench	43,756	65,000	76,000	87,000
Khiva	17,460	22,000	24,000	26,000
Nukus	39,143	56,000	74,000	88,000
Khodzheyli	20,525	32,000	36,000	40,000
Chimbay	15,954	18,000	19,000	21,000
Turtkul	10,495	-	19,000	21,000
Biruni	10,464	-	20,000	24,000
Muynak	10,428	-	10,000	-
Shakhr ikhan	-	-	11,000	-
Gizhduvan	10,850	-	16,000	17,000
Dzhizak	15,689	23,000	26,000	29,000
Ketab	-	-	13,000	-
Navoi	18,600	27,000	61,000	77,000
Zarafshan	-	-	14,000	18,000
Uchkuduk	-	-	19,000	-
Uchkurgan	-	-	17,000	18,000
Samarkand	196,484	248,000	267,000	293,000
Kattakurgan	34,078	44,000	44,000	47,000
Krasnogvardeysk	14,721	-	-	-
Urgut	-	-	15,000	17,000
Aktash	-	-	13,000	14,000
Yangiyer	-	-	16,000	19,000
Shirin	-	-	2,000	-
Narimanov	-	-	6,000	24,000
Akhangaran	-	-	22,000	25,000
Yangiabad	-	-	9,000	-
Druzhba	-	-	3,000	-
Andizhan	130,083	169,000	188,000	211,000
Namangan	123,457	158,000	175,000	202,000
Leninsk	20,416	26,000	28,000	31,000
Bukhara	69,254	102,000	112,000	133,000
Kagan	21,103	32,000	34,000	38,000
Termez	22,063	30,000	35,000	52,000
Karshi	19,709	39,000	71,000	84,000
Stansiya Karshi	13,285	26,000		
Denau	16,813	22,000	25,000	28,000
Shakhrisabz	16,443	22,000	27,000	30,000

contd...

Appendix-2..contd...

	<u>1959</u>	<u>1967</u>	<u>1970</u>	<u>1974</u>
Tashkent	911,930	1,239,000	1,385,000	1,552,000
Chirchik	65,520	100,000	107,000	121,000
Angren	55,789	74,000	76,000	84,000
Yangiyul	45,225	55,000	55,000	59,000
Bekabad	42,186	29,000	56,000	60,000
Almalyk	40,480	73,000	81,000	91,000
Gulistan	18,320	25,000	31,000	37,000
Khavast	17,661	-	-	-
Syrdarya	15,139	-	17,000	18,000
Ordzhonikidze	14,814	22,000	-	-
Iskander	13,344	-	-	-
Pskent	12,507	17,000	-	-
Ferghana	80,206	93,000	111,000	124,000
Kokand	105,082	131,000	133,000	147,000
Margelan	67,990	89,000	95,000	108,000
Kuvusay	10,791	-	13,000	15,000
<u>Tajik SSR</u>				
Dushanbe	224,242	333,000	374,000	422,000
Leninabad	77,465	100,000	103,000	116,000
Ura-Tyube	23,839	31,000	33,000	36,000
Kurgan-Tyube	23,560	31,000	35,000	39,000
Kutyab	23,455	33,000	40,000	46,000
Kanibadam	17,486	23,000	27,000	29,000
Isfara	13,590	17,000	22,000	25,000
Regar	13,532	17,000	-	-
Pendzhikent	10,829	-	14,000	16,000
Shurab	10,177	-	-	-
Kuybyshevshiy	14,385	18,000	-	-
Sovetabad	11,130	26,000	-	-
Ordzhonikidzeabad	10,281	-	24,000	29,000
Tursunzade	-	-	18,000	21,000
Nurek	-	-	under 15,000	21,000
Chkalovsk	-	-	24,000	27,000
Kayrakkum	-	-	under 15,000	-
Khorog	-	-	12,000	14,000

(Chauncy D. Harris, "Population of cities of the Soviet Union", op. cit., pp.337-39; Theodore Shabad, "Population trends of Soviet Cities", op. cit., pp.150-52.

Appendix-3: Average Annual employment by branch of national economy,
Uzbekistan, 1929-75 (thousands)

Sectors	1929		1950		1960		1965		1970		1975	
	No.	%										
<u>State Sector</u>												
Industry	28	14	254	28.6	371	23.7	492	23.6	579	21.9	697	20.8
Agriculture	45	22.6	121	13.6	304	19.4	365	17.5	414	15.7	582	17.4
Forestry	-	-	6	0.7	3	0.2	3	.1	3	.1	5	0.1
Transport	22	11.0	74	8.3	121	7.7	164	7.9	218	8.3	271	8.1
Communications	2	1.0	10	1.1	17	4.6	26	1.2	34	1.3	40	1.2
Constructions	19	9.5	48	5.4	172	11.0	230	11.0	327	12.3	386	11.5
Other branches of material production ^a	12	6.0	104	11.7	135	8.6	188	9.0	249	9.4	311	9.3
Housing, communal economy and personal services	-	-	21	2.4	32	2.0	57	2.7	82	3.1	106	3.2
Health services	7	3.5	60	6.7	107	6.8	137	6.6	181	6.9	232	6.9
Education and cultural services	15	7.5	109	12.3	174	11.1	276	13.3	371	14.0	478	14.3
Arts	n.a.	n.a.	6	0.7	10	0.6	11	.5	13	.5	15	0.4
Science and research	2.5	1.3	15	1.7	37	2.4	53	2.5	63	2.4	82	2.5
Credit and insurance	4	2.0	7	0.8	7	0.4	8	.4	11	.4	15	0.4
Government administration	37	18.6	47	5.3	38	2.4	49	2.4	65	2.5	84	2.5
Other non-productive sphere	5.5	2.8	7	0.8	7	0.4	26	1.2	33	1.2	38	1.1
Total State sector	199	100	889	100	1565	100	2083	100	2642	100	3343	100
Collective farms	-	-	1369	60.6	1015	39.3	985	32.1	1042	28.3	1088	24.6
Total State and collectivized sectors	199	100	2258	100	2580	100	3068	100	3684	100	4431	100

^a - includes trade, cartering, material-technical supply and procurement.

'-' - signifies negligible.

'n.a.' - not available.

(Source: 1929 figures from "Soviet Uzbekistan Za 40 let," 1964, p.265;
1950-75 figures from S. Rapawy, "Regional employment in the USSR, 1950-75",
Soviet economy in a time of change, Compendium of Papers submitted to the
Joint Economic Committee, U.S. Congress, vol.I, Washington, D.C., 1979;
Cited in Nancy Lubin, op. cit., pp.80-81.)

Appendix-4: Percentage of Women in the total number of workers and employees by branch of the economy, Uzbekistan 1975

	Percentage of women in the total no. of workers & employees of given branch of economy					Women in given branch as percentage of total number of women workers and employees				
	1955	1970	1973	1974	1975	1965	1970	1973	1974	1975
Total women workers and employees in the national economy	40.0	41.3	41.9	42.2	42.4	100.0	100.0	100.0	100.0	100.0
In Industry (industrial production personnel)	43.5	45.3	46.7	46.5	47.0	25.6	24.0	23.7	23.2	23.1
Agriculture	38.5	40.3	40.0	40.5	40.5	16.9	15.3	15.3	16.5	16.7
In state farms, subsidiary and other state agricultural enterprises	40.8	42.6	42.0	42.4	42.4	16.3	14.7	14.7	15.9	16.1
Transport	16.3	16.2	15.4	15.3	15.3	3.2	3.2	3.0	2.9	2.9
Communications	47.5	48.2	48.0	49.3	48.3	1.5	1.5	1.4	1.4	1.4
Construction	20.2	20.2	20.5	20.2	20.0	5.5	6.3	6.0	5.7	5.4
In construction-installation work	18.0	18.3	17.2	16.9	16.5	4.0	4.5	4.0	3.8	3.6
Trade, public-catering, material-technical supply and sales and procurement	39.9	42.7	44.4	46.0	46.7	9.0	9.7	10.2	10.2	10.3
Housing-communal economy and services	36.9	38.7	38.6	37.9	36.6	2.5	2.9	2.9	2.9	2.7
Health services, physical culture, and social security	73.1	73.7	73.3	72.1	72.5	12.0	12.2	12.3	11.7	11.9
Education and culture	51.8	52.7	53.4	54.5	54.6	17.1	17.9	18.2	18.4	18.4
Art	29.6	31.7	32.0	31.0	33.4	0.4	0.4	0.3	0.3	0.4
Science and scientific services	37.5	41.5	43.1	41.5	43.6	2.4	2.4	2.4	2.5	2.5
Credit and State insurance	55.5	59.0	61.0	61.6	62.2	0.6	0.6	0.7	0.7	0.7
Government administration and administration of co-operative and social organisations	41.8	46.4	47.6	48.2	48.4	2.5	2.8	2.9	2.9	2.9

(Source: "Tsentral'noe Statisticheskoe Upravlenie", Narodnoe Khoziaistvo Uzbekskoi SSR v 1975 g. Tashkent, 1976; cited in Lubin, op. cit., p. 95.

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