CHAPTER 1

1. INTRODUCTION: PERSPECTIVES ON CHILD MALNUTRITION

1.1 BACKGROUND AND RESEARCH OBJECTIVES

This study is aimed at providing some answers or, at best helpful clues, as to why wide variations in the levels of malnutrition[1] exist among children under the age of five years in Central Asia (see Appendix 3). This type of investigation becomes even more important if we recall that, just before the breakup of the Former Soviet Union (FSU), child undernutrition levels reported in the Soviet Union were found to be lower than those in many developing countries at the time (United Nations, 1992).

Statistics on the prevalence of protein energy malnutrition in developing countries indicate that, on average, stunting (low height-for-age), underweight (low weight-for-age) and wasting (low weight-for-height) affect about 30, 27 and 8 percent of the child population respectively (UNICEF, 2004:113). These figures provide important evidence of a global nutrition problem that must be vigorously addressed. However, these figures mask the marked variations in the proportions of stunted, underweight and wasted children under the age of five that exist from country to country by province of residence and by rural or urban residence.

For example, a recent comparative analysis of Demographic and Health Survey (DHS) data from 20 countries in the developing world and in provinces within these countries indicate that there are large cross-country and intra-country variations in malnutrition levels. This led to calls for the focus to be shifted to reducing levels of malnutrition at provincial level rather than on targeting the improvement of population averages (Wagstaff & Watanabe, 2002:1). More than 30 percent of malnourished children live in Asia, approximately 40 percent in sub-Saharan Africa, and about 20 percent in Latin

[1] The term 'malnutrition' refers to the consequences of a combination of an inadequate intake of protein energy, micronutrients, undernutrition, overnutrition and frequent infections.

America and the Caribbean. About 6 million of the 12 million under-five child deaths per year in developing countries are linked to malnutrition. Furthermore, about 83 percent of these deaths are linked not to severe malnutrition, but to mild and moderate forms of malnutrition (UNICEF/WHO, 2004:17). Even when malnutrition is not in itself life threatening it may reduce immunity to disease and hinder growth, brain development and the child's capacity to learn, thereby hampering their ability to acquire skills that are crucial for survival.

The nutritional status of children under the age of five is one of the most important indicators of not only the living standard of households, but also of child survival (Som et al., 2006:626). According to the United Nations Children's Fund (UNICEF) adequate nutritional deprivation is one of the seven areas of deprivation that affect children from developing countries – the others being deprivation of safe drinking water, decent sanitation facilities, health, shelter, education and information (UNICEF/WHO, 2004:20). Malnutrition may arise from a number of factors, such as low birth weight; duration of breastfeeding; poor breastfeeding patterns and supplementation; infection; lack of ready access to a safe water supply and proper sanitation; childcare practices (notably problems encountered with caregivers and working mothers); household food security; household cost of living; allocation and distribution of household income, and access to and utilisation of health services.

According to the UNICEF conceptual framework on the determinants of child malnutrition and health, the immediate determinants of a child's nutritional status are the inadequate food intake and high morbidity within the social and economic context of poverty. These factors are, in turn, influenced by three underlying household-level determinants: food security, adequate care for mothers and children, and a proper health environment. Finally, these underlying determinants are influenced by the following basic determinants – the potential resources available to a country or community, and a host of political, cultural and social factors that affect their utilisation (UNICEF/WHO, 1998).

In the year 2005, it was globally estimated that more than 165 million children under the age of 5 were stunted, 138 million underweight, and 51 million wasted. In those economies in transition, including the Central Asian Republics (CARs), the collapse of economic institutions has reduced output over the past few years, thus negatively affecting child nutritional status in these countries (UNICEF/WHO, 2002).

Perceptions of the child malnutrition problem have changed significantly in recent years. From being regarded as a problem resulting from a lack of protein, then of calories, it is now seen to be caused as much by frequent infection and poor feeding practices as by a shortage of food itself. In particular, it is the link between infection and malnutrition that pulls many children into the downward spiral of poor growth and early death (UNICEF/WHO, 1998).

While widespread moderate malnutrition may not be obvious unless children are weighed and measured, certain severely malnourished children develop clinical signs that are easily observable, such as wasting and stunting. Child malnutrition is also synonymous with growth failure. Malnourished children are lighter and shorter than they should be for their age. An understanding of the complex and subtle causes of malnutrition is important in order to appreciate and develop ways and means of dealing with the scale and depth of the problem. Multiple and interrelated determinants are involved in the reasons for malnutrition, and a similarly intricate series of multifaceted and multisectoral approaches are needed to deal with the problem (UNICEF/WHO, 1998).

Worldwide major surveys on malnutrition such as the DHS use indicators that are comparable across countries and through time, for example, birth order, birth interval, education of the mother, place of residence, age of the mother, and so on. Thus, a great deal is known about the effect of these indicators on child nutritional status in most of the developing countries. However, the different situation exists in the CARs. The first DHS in this region was conducted in 1995 in Kazakhstan, followed by one conducted in Uzbekistan in 1996, Kyrgyzstan in 1997 and again in Kazakhstan in 1999. Therefore,

information about the effect of the above-mentioned variables on child nutritional status in these regions is relatively new. This renders it difficult to compare information that could shed more light on the causal factors. What is clear, however, is that child malnutrition is on the increase, although still at a relatively low level compared to many developing countries (UNICEF/WHO, 2004:113). This is in sharp contrast to the situation before independence when poverty was masked by a functioning and heavily subsidised public assistance system. This system ensured a well-nourished population of children under the age of five in these countries.

During Soviet rule, the nutritional status of children in the CARs was of a higher standard than it is at present. There existed a particularly supportive environment for children and women. Children were highly valued. There was also a comprehensive family support system for the provision of pre- and after- school care. The pro-natalist regime of the time encouraged families to have as many children as they desired. Family allowances given to these families masked the poverty faced by many in the poorer Central Asian Republics (Bauer et al., 1998:12; Falkingham, 2000).

The collapse of the Soviet Union brought about drastic changes in the lives of the people in this region. The state-owned support and social protection systems disappeared, causing a depression, which resulted in a sharp rise in the incidence of poverty, unemployment and inflation. Children have withstood the worst of a major share of the cost of transition from a central planning system to market-related economies. The decline and subsequent disappearance of the social assistance system has exacerbated poverty among the already poorer families. The impact of the transition has resulted in worsening health indicators, especially in the case of children, and in a higher incidence of child malnutrition (Bauer et al., 1998:2; Falkingham, 2000).

A number of factors are responsible for the decline in the nutritional status of children in the CARs – for example, poverty, unemployment, decline in family income, and closure of milk kitchens. Ironically, the latter has had a positive spin off because the incidence of breastfeeding has increased (Bauer et al.,

1998:84). Malnutrition levels are twice the levels before independence. In a study conducted by the World Bank in 1996 it was found that there was a 60 percent increase in wasting among preschoolers in Kyrgyzstan compared to the pre-independence figures. In Kazakhstan, similar estimates were made in a study conducted by the Ministry of Health. Acute malnutrition in the 0-1 age group increased from 7.3 percent in 1993 to more than double (16.7%) in 1996. The growing problems of malnutrition, increasing poverty, poor living conditions, difficult economic conditions, and lack of water and heating are directly related to more than half the infant deaths in Kazakhstan (Bauer et al., 1998:86; Falkingham, 2000). Food consumption, especially by women and children, has decreased radically since 1990 (Goskomstat, 1995).

The problem of child malnutrition is especially severe in rural and remote areas. Farm animals are being slaughtered due to the economic distress experienced on farms, the rural transport system is rapidly deteriorating, and government stores are closing or have closed down in the remote areas. As a result of the abovementioned problems, infectious and preventable diseases have reappeared, especially among children, and maternal mortality rates have increased (Bauer et al., 1998:86; Falkingham, 2000).

Iron deficiency anaemia, which is an indicator of nutritional problems, has become prevalent. According to the most recent DHS data from Central Asia anaemia is a common problem across the region. Uzbekistan has the highest incidence (36%) of children under the age of three years suffering from mild to moderate anaemia, followed by Kyrgyzstan with 24 percent and finally Kazakhstan with 17 percent. The high levels of anaemia found in Uzbekistan were found in children living around the Aral Sea region, and are due to severe environmental problems, which include agrochemical pollution, shortage of food (especially fruits, vegetables and meats which contain iron that is needed by the body to prevent anaemia) and water, and many other socio-economic problems. Children from the rural areas of the Central Asian Republics had a higher incidence of anaemia than children from the urban areas (Sharmanov, 1998).

1.2 AIMS AND OBJECTIVES OF THE STUDY

The goal of this research is to help close the gap in knowledge regarding factors that affect child nutritional status in three Central Asian Republics. Appendixes 4, 5 and 6 present the regional maps of these three countries. This study will examine the relationship between malnutrition among children under the age of 36 months and their environment. Only children under three years of age will be included in the study because Uzbekistan and Kyrgyzstan interviewed only mothers whose children were below three years of age. Kazakhstan interviewed mothers whose children were below five years of age. Secondary to this a causal analysis of the current situation will be conducted in order to provide insights into specific factors in Kazakhstan, Kyrgyzstan and Uzbekistan. The main question that this study proposes to engage is the way in which social, economic, health and environmental factors affect child nutritional status in Central Asia. The second question addresses the way in which institutional factors, including government policies, negatively influence child nutritional status. It is expected that the results will contribute to our understanding of the intermediate factors responsible for child malnutrition in Central Asia.

1.3 RESEARCH QUESTIONS

The study is designed to examine variations in childhood malnutrition that exist within countries and communities, and to investigate the ways in which socio-economic status, health and environmental factors affect child nutritional status regardless of the children's individual characteristics. More specifically the motivation is to attempt to answer the following questions:

- What is the variation regarding the prevalence of stunting, underweight and wasting between the three Central Asian countries, and within these three countries?
- Which factors best explain differences in stunting, underweight and wasting among the three nations?
- What role does the economic development of a country play in the modification of the child malnutrition status?
- What role do structural factors play in the child nutritional status?

1.4 RATIONALE FOR THE STUDY

The CARs comprise a relatively new United Nations region – a region which is approximately fifteen years old. Until 1991 the five countries comprising this region were under Soviet rule. Under Soviet rule data collection and dissemination was in accordance with the requirements of the government. Any data collected was disseminated only with government approval. Under these conditions very few large-scale survey studies were conducted without a directive from government, and very few of these studies were published for public consumption. Studies were published either in Russian or one of the other major languages; this meant that non-Russian speaking researchers were unable to read them and could therefore not be in position to understand the population dynamics in the FSU (Olcott, 1996).

With the breakup of the Soviet Union individuals and research institutions began conducting research, and this research has been able to reach the public domain. The literature that became available indicated huge gaps in the type of data that was collected. As a result of the increase in adult mortality that was crippling the former republics and the independent states of the former Soviet Union, a number of researchers concentrated on mortality, especially adult mortality. A number of factors contributed to the increase in especially male adult morality. The increase in unemployment led to high poverty levels which in turn led to high alcohol consumption and high morbidity from alcohol related disease. Suicide levels also increased probably related to high unemployment and resultant despondency, because the men could not fulfil their traditional obligations of looking after their families (Anderson & Romani, 2001:8). Almost no literature written in English on child malnutrition at national level after 1991 in the CARs is available, except for those reports produced through the DHS beginning in 1995 in Kazakhstan.

The few child nutrition related studies that have been published in Central Asia since the break-up of the Soviet Union have shown that there has been a considerable increase in the extent of malnutrition in the form of impaired child growth, anaemia, morbidity and deficiencies of specific micronutrients. None of these studies have attempted to determine the causes, nor has there been

a study conducted to discover why child malnutrition is higher in the CARs when all the former republics of the FSU were governed through a central planning system under Soviet rule. In Uzbekistan in 1996, for instance, 31% of the children under the age of 36 months are stunted (UZDHS. 19996). Such knowledge is critical in the Central Asian context because of, inter alia, the general deterioration of economic and social welfare, increasing inequalities in society generally, the growth of poverty, increasing unemployment, especially among women, and low rates of remuneration (Anderson & Romani, 2001).

It is within these dynamics that the researcher decided to embark on a further analysis of data collected on child nutrition in this region, in order to probe the causes of child malnutrition, and whether there are similarities and differences between developing countries and these republics. Another aspect warranting a comparative study of the three countries chosen is the fact that nearly all studies on child nutrition using anthropometric information have used single country data, mostly from Latin America, the Caribbean Islands, and a few from Asia and Africa. While these individual country studies are undoubtedly of great value they nevertheless raise the question of the universal validity of empirical relationships that are observed within a single country context.

Cultural and racial/ethnic differences between and within countries are unlikely to allow for wild generalisations. This prompts the need to conduct a comparative study on child nutrition, and socio-economic, health and environmental factors using cross-country data. This is the principal motivation for this study. In addition, fresh evidence on new data sets will be provided bringing out similarities and dissimilarities between countries and within countries with respect to the nature of the impact of different variables on child nutrition individually, and on pooled data combining the three data sets. This study will also take into account the extent of malnutrition and the inequality in nutrition among malnourished children of these countries.
The choice of these specific three countries, apart from their regional proximity, was dictated by the following factors:

- Wide coverage and diversity in terms of development and culture, the three countries also contain comparable information on child malnutrition and its determinants.
- Data for the DHS is available for only three of the five countries in this region.

1.5 MEASURING GROWTH ATTAINMENT

The evaluation of growth attainment requires the use of a reference standard which allows for normal variations at any age. It is based on the rationale that, in a well-nourished population, there is a statistically predictable distribution of children of a given age with respect to height and weight. The World Health Organization / National Centre for Health Statistics / Centres for Disease Control (WHO/NCHS/CDC) reference data are widely recommended for this purpose, as well as for the purpose of evaluating the effect of nutritional programmes. The distribution of children in such a well-nourished population may be used as a reference for assessing the nutritional status within other populations (Waterlow et al., 1977).

The WHO/NCHS/CDC data was compiled from two samples of well-nourished American children during the 1970s. In a healthy, well-nourished population of children it is expected that 2.3 percent of the children will have two standard deviations (-2SD) lower than the median of the reference population on these nutritional indices, and this indicates severe undernutrition About 13.6 percent of the children are expected to fall between –1.00 and –1.99 standard deviations, indicating a mild or moderate undernutrition, while 68.2 percent are expected to fall between –0.99 and +0.99 standard deviations, indicating normal nutritional status. On the other side of the cut-off point 2.3 percent of the children are expected to have standard deviations of two and more, indicating severe obesity, and the remaining 13.6 percent to have standard deviations between +1.00 and 1.99, indicating mild to moderate obesity (Waterlow et al., 1977; Pelletier, 1991).

Several questions pertaining to the collection, analysis and use of this data as a tool for measuring child nutritional status have been raised. One of these

questions involves the reference data itself – data which is based on the growth of American children. Should children in diverse populations be expected to show the same patterns of growth as American children? Would children with different genetic make-ups grow to be the same size as American children if they were raised in the same environmental circumstances? Several studies comparing the growth of affluent children belonging to different ethnic groups indicate no major differences in their growth patterns. It is these studies that have justified the use of one set of international reference data for growth comparisons worldwide (Martorell & Habicht, 1986). There are a number of other internationally recognised reference standards, such as the Harvard data, which were collected before the WHO/NCHS/CDC. Certain countries have also developed their own standards.

A detailed account of the historical background of the currently used NCHS/WHO growth charts, together with a discussion on some of the contemporary scientific issues, may be found elsewhere (Onis de & Yip, 1996; WHO, 1986).

1.6 ANTHROPOMETRY

Cross-sectional anthropometry (body dimensions and composition) is often used as a proxy for assessing the eventual extent and severity of child malnutrition, since this cross-sectional anthropometry reflects the combined effects of past and recent diet, morbidity and childcare. Anthropometric indices are used as the main criteria for assessing the adequacy of diet and growth in infancy. The classical indicators in this respect have to do with the growth of children and the body composition of adults. The most commonly used measurements are the body weight, height, age and gender of each individual, and this allows us to calculate weight-for-age (WAZ), weight-for-height (WHZ) and height-for-age (HAZ). Children whose Z-score[2] are –2SDs below the median of the reference population are considered to be stunted,

[2] A Z-score is the number of standard deviation units by which a child's measurement deviates from the median of the reference population for the child's age.

underweight or wasted. A Z-score of between –3SDs and –2SDs indicates moderate levels of undernutrition while a Z-score of below –3SDs indicates severe levels of undernutrition (Radhakrishna & Ravi, 2004). The criterion is different for WAZ, HAZ and WHZ. For example, if the prevalence of malnutrition is less than 20 percent for HAZ, less than 10 percent for WAZ and less than 5 percent for WHZ, the population is considered to have a low prevalence (Som et al., 2006:627).

1.6.1 Weight-for-age (WAZ)

Weight-for-age (WAZ) is influenced by both the height of the child (height-for-age) and the child's weight (weight-for-height). In addition, low weight-for-age or underweight is associated with both chronic and acute malnutrition, or with infection. The composite nature of this measure renders interpretation complex. For example, weight-for-age fails to distinguish between short children of adequate body weight and tall, thin children. However, in the absence of significantly low weight-for-height, similar information may be provided by weight-for-age and height-for-age, as both reflect the long-term health and nutritional experience of the individual or population. In general terms, the worldwide variations and age distribution of low WAZ are similar to those of low height-for-age (UNICEF/WHO, 2002:170). The worldwide variation of the prevalence of low WAZ is considerable – ranging from 6 to 46 percent in poorer countries (WHO, 1986; UNICEF/WHO, 2004:113).

1.6.2 Weight-for-height (WHZ)

Weight-for-height (WHZ), which reflects body weight relative to height, is a more robust indicator, particularly for cross-sectional data, since it allows for low height-for-age. It is important to note that weight-for-height cannot be substituted for height-for-age or weight-for-age since each index reflects a different combination of biological processes. In most cases low WHZ, or wasting, indicates a recent severe weight loss, which is often associated with acute starvation and/or severe disease. However, low weight-for-height may also be the result of a chronic unfavourable condition. Provided there is no severe food shortage, prevalence of low weight-for-height is usually below 10 percent, even in poor countries (UNICEF/WHO, 2004:113). Even so, lack of

evidence of low weight-for-height in a population does not imply the absence of current nutritional problems, as low height-for-age and other deficits may be present (UNICEF/WHO, 2002:165).

1.6.3 Height-for-age (HAZ)

Low height-for-age (HAZ) or stunting generally indicates long-term past malnutrition. Height deficiencies are usually related to intermittent or continuous inadequate nutritional intake and frequent infection, especially during the first two years of life (Graitcer & Gentry, 1981:292). High levels of low height-for-age are usually associated with poor socio-economic conditions and exposure to adverse factors, such as illness and/or inappropriate feeding practices. Similarly, a decrease in the national low height-for-age indicates improvements in the overall socio-economic conditions of a country (UNICEF/WHO, 2002:164). The worldwide variation of the prevalence of low HAZ is considerable – ranging from 16 to 44 percent in poorer countries (UNICEF/WHO, 2004:113).

1.7 ORGANISATION OF THE THESIS

Chapter 2 provides a general background of the three countries and focuses on their socio-historical and socio-political backgrounds, the peoples of Central Asia, and the geography and climatic conditions. Chapter 3 briefly examines the demographic transition for the region. Chapter 4 describes the conceptual and theoretical framework for analysing child nutritional status. Chapter 5 provides a discussion of the conceptual and theoretical tools used in analysing child nutritional status. In Chapter 6 a brief description of the data used in this study is presented. Chapter 7 discusses the effects of the social, economic, health and environmental factors encountered in the empirical analysis. The results of logistic regression analyses are reported using the binary logistic regression form. Finally, in Chapter 8, a summary of the key findings, the conclusion and policy implications will be presented.

CHAPTER 2

2. GENERAL BACKGROUND NOTES: KAZAKHSTAN, KYRGYZSTAN AND UZBEKISTAN

2.1. INTRODUCTION

This study examines three of the five Central Asian Republics. However, a general introduction to the rest of the region covering its socio-historical, political and economic background will be sketched so as to situate and contextualise the research. The geographical and climatic characteristics will also be summarised.

It is important to draw the attention of the reader to the fact that Central Asia does not constitute a homogeneous entity – it is dissimilar and diverse in many ways. Consequently it is not possible to approach the region in a simplistic, integrated way.

Central Asia (CA) consists of five countries, which form part of the Commonwealth of Independent States (CIS).[3] These five countries are Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. Central Asia forms part of this community of independent states, which regard themselves as the successor of the Union of Soviet Socialist Republics (USSR) with respect to certain aspects of international law and international affairs. These countries became independent states for the first time in history after the dissolution of the FSU in December 1991 (Olcott, 1996:3). They are situated east of the Caspian Sea and have common borders with Russia to the north and to the west, China to the east, and Afghanistan, Pakistan and Iran to the south. By 1 January 2005 they had a total population of more than 59.9 million, an increase of 5 million on the 1999 figure (United Nations, 2005a).

[3]The CIS is a loose association of eleven former Soviet Union republics, and includes the five Central Asian Republics.

The FSU consisted of Russia and fourteen national states, and was known as the USSR. These republics represented fifteen separate nationalities – each with unique socio-historical and ethnic characteristics. Together they formed the third most populous country in the world; the first and second most populous at the time were China and India respectively (Haub, 1994:3; Kort, 2004:66).

Although these countries were ill-prepared for independence, when it came all Central Asian leaders accepted independence as something that could be to their benefit. However, none of the leaders understood that the dissolution of the Soviet Union also meant the end of old economic ties. Since 1992 drastic changes have occurred and the political, social and economic situation became anarchic. These changes have had a seriously negative impact on the welfare of the populations of this region. The dissolution of the FSU radically reconstituted the demography of the republics, and this in turn effected economic collapse, and political and social turmoil (Olcott, 1996:5; Islamov, 1999).

For example, the disturbance of the socio-political equilibrium among ethnic groups produced new emigration patterns and, in particular, mass emigration of Russian-speaking populations out of Central Asia. The forced immigration of migrants from neighbouring states due to civil and economic unrest has been, and still is, one of the most urgent concerns for the new states. The collapse of the Soviet Union also brought about an increase in poverty, unemployment, child illness, malnutrition, and mortality in general (the biggest increase has been found to be among middle-aged men) presumably due to increased physical and mental stress, and deteriorating socio-economic, health and environmental circumstances (Olcott, 1996:4; Islamov, 1999; Anderson & Romani, 2001).

2.2 RUSSIAN CONQUEST OF CENTRAL ASIA

To sum up Central Asia's experience of Imperialist Russian and Soviet rule is a complicated task. However, the end of Soviet supremacy has allowed us to conceptualise that experience as pure history and not as an ongoing process.

As Western European countries in centuries past sailed the world conquering territories and establishing colonies, so too did the Russians conquer territories and establish colonies; but rather than sail, they marched. Contact between the people of Russia and the peoples of Central Asia dates back more than a thousand years. The Russian Empire expanded into Asia in three stages. In the first stage, beginning in the 1550s, they crossed the Ural Mountains, conquered certain Muslim principalities, and continued east through Siberia all the way to the Pacific Ocean. Although they traversed immense distances, they encountered only sparse populations of underdeveloped peoples, and reached the Pacific in 1638 without serious opposition (Bacon, 1980; Pipes, 1983; Becker, 1994: 21-26; Ferdinand, 1994:10; Kort, 2004:34).

The second wave took place about 150 years later and lasted from 1711 until 1855. During this period the Russians conquered the Caucasus region between the Black and the Caspian Seas, and also present-day Kazakhstan. Although both these areas had larger and more developed populations than Siberia, they too included few well-developed centres of power. By the end of the 18th century the Russians controlled most of the Kazakh steppe. They maintained that control despite a series of revolts during the first three decades of the 19th century (Bacon, 1980; Pipes, 1983; Becker, 1994: 21-26; Ferdinand, 1994:10; Kort, 2004:34).

The third and final wave progressed more rapidly. Between 1864 and 1884 the Russians took control of the important cities of Central Asia, all of which, surprisingly, fell almost without a struggle. Quite suddenly the Russians found themselves wielding power over some five million subjects of varying origins (Bacon, 1980; Pipes, 1983; Becker, 1994: 21-26; Ferdinand, 1994:10; Kort, 2004:34).

By the end of the 19th century, the Russians were eyeing the southern part of Central Asia. There were profitable trade opportunities with the states in the south and, more importantly, by the middle of this century the Russians wanted land on which they would be able to grow cotton in order to supply the

country's growing textile industry. The American Civil War had cut off vital cotton supplies from the United States of America (USA). The stage had thus been set for a vigorous new campaign to complete the occupation of Central Asia. Russians were also concerned about their fellow compatriots, mainly settlers on the steppe, who had been captured by Turkic tribes and sold into slavery (Bacon, 1980; Ferdinand, 1994:10).

While this situation may have been little more than an excuse for expansion, it nevertheless struck at national pride and inspired public anger. Muslims, who many Russians considered to be 'heathens', were enslaving Russians, who were Orthodox Christians. Arguably, both sides felt the conflict between religions was secondary to the struggle for power and control. The Muslims of Central Asia looked down on the Christians intruding on their land from the west and, at various times, called for a jihad or holy war against Russian 'infidels'. For a millennium they had actively participated in Islamic civilisation, producing many of its great dynasties, scholars, great buildings in the Islamic world, and cultural achievements. Islam not only brought a new belief system, but also a new social order and a new epistemology. Whilst most of the population spoke Turkic, some spoke the Iranian languages, and Iran was a predominant political, cultural and economic force in the region. In important ways Central Asia was virtually a part of Iran. Accordingly, the population was heavily oriented toward the Muslim areas in the south and east, and had had only fleeting and antagonistic contacts with a distant, but expanding, Russia (Bacon, 1980; Pipes, 1983; Ferdinand, 1994:6-7; Kort, 2004: 36).

There were few obstacles in the way of a determined Russian colonising drive. The three states (Kokand, Bukhara and Khiva) that controlled most of southern Central Asia were in poor shape. They were socially, politically, technologically and economically underdeveloped societies. Most of the land was controlled by the state, by powerful property owners, or by Muslim religious institutions, and was farmed by poor peasants. The three states, under their absolute rulers, were constantly engaged in tortuous territorial disputes. The Russian campaign lasted about a decade and, in effect, rendered Central Asia a Russian colony. The Russian Land Empire closely

resembled the contemporary sea empires put together by the British, French, Dutch, Spanish, Portuguese, Italians, Germans, and Belgians (Bacon, 1980; Pipes, 1983; Ferdinand, 1994:9; Kort, 2004:37-38).

Like other colonial masters the Tsarist government believed in the overwhelming superiority of its own culture. Russians insisted on using their own language, despised local customs, especially Islam, and held attitudes characteristic of all European colonial powers in the Third World. The Russian settlement in Central Asia resembled that of the French in Algeria, the British in the former Rhodesia, and the Portuguese in Angola. The only difference was that, unabashedly imperialistic in their expansion, they used far harsher and more brutal methods than any other European colonial power (Bacon, 1980; Pipes, 1983; Ferdinand, 1994:9; Kort, 2004:37-38).

The Russians divided Central Asia into two main parts. The old name, Turkistan,[4] was revived to designate the southern half of the region and included present-day Turkmenistan, Uzbekistan, Kyrgyzstan, Tajikistan and parts of Kazakhstan. The northern half, which constitutes most of present day Kazakhstan, was governed separately. Both regions were divided into several administrative units. The Tsarist government also used its colonies for strategic and economic benefit, much as the other European powers did. Central Asia served the Russians in blocking a British advance from India. The imperialist government built two new railroads connecting Central Asia to Russia, encouraged the planting of cash crops such as cotton, and turned Central Asia into a captive market for Russian industrial products by imposing high tariffs on foreign goods. Russians settled in Central Asia not only in towns but also on farms, especially in order to grow grain on the Kazakh plain. Old irrigation systems were repaired and new ones were built to provide for the expanded cotton fields. As a result, cotton production in the last two decades of the 19th century increased eightfold. Russian settlers in Central Asia profited from the growing cotton trade. In Moscow and other European

[4] Turkistan 'land of the Turks' named after Turkic incursions into the region and the dominance of Turkic languages.

cities Russians made money manufacturing cotton textiles (Bacon, 1980; Pipes, 1983; Kort, 2004:40).

The Central Asians themselves, however, paid dearly. They lost the ability to grow food locally. This, as will be argued in Chapters 4 and 5, would have an adverse effect on the people in these countries long after they had attained their independence. Fields that had once produced grains, fruits and vegetables were converted to growing cotton, thus forcing Central Asians to import much of the food they ate. It has been suggested, however, that there were a few positive aspects to Russian rule in Central Asia. The region apparently enjoyed greater peace and security than before, as the old economic and ethnic conflicts were kept under control (Bacon, 1980; Pipes, 1983; Kort, 2004:40).

2.2.1 Opposition to Russian rule

Between the mid-1880s and the turn of the century there were a number of revolts against Russian rule in various parts of colonised Central Asia. All were put down quickly and brutally. The outbreaks led the Russians to pay very close attention to potentially 'dangerous' ways of thinking, especially those with appeal across ethnic lines. There were two varieties of these dangerous ways of thinking – either from traditional Islamic teachings or from more modern ideologies based on pan-Turkic ideas. The revolt in the Russian territories and homeland in 1905 raised the prospect of democratic reforms among Central Asians, and even the possibility that Russian rule might be overthrown. The defeat of the revolutionary forces dashed these hopes in Central Asia, even though there were important, if limited, political reforms within Russia (Bacon, 1980; Pipes, 1983; Ferdinand, 1994:10; Kort, 2004).

The outbreak of World War I in 1914 brought more hardships to every part of the Russian empire, including Central Asia. Once the war began new taxes that weighed heavily on an overwhelmingly poor population intensified discontent. By mid-1916, Central Asian men who had not initially been drafted to fight in the war were called up by decree. The decree was a disaster. Central Asians were conscripted into a war in which they clearly had no stake.

Furthermore, Russians informed them that they, who took pride in their martial traditions and skills, were not fit to fight, but suited only for digging trenches and performing similar non-military tasks. The decree sparked an uprising in Kazakhstan that quickly spread across Central Asia. Russian troops were called in to suppress the rebellion, which, with great brutality and at the cost of many lives, they did by the end of that year (Bacon, 1980; Pipes, 1983; Kort, 2004:42).

The suppression of the rebellion of 1916 proved to be the last act of oppression Central Asians would suffer at the hands of the Russian Empire. In March 1917, the hardship caused by World War I sparked another upheaval, this one in St. Petersburg (then known as Petrograd), the Russian capital at the time. The Tsarist government collapsed, and a Provisional Government, committed to democracy, came to power. Eight months later the Bolsheviks came to power under Vladimir Lenin's leadership. This seizure of power by a militant minority determined to remake Russia totally ultimately ushered in an era of repression and hardship, noble goals notwithstanding. This was the prelude to a period of fundamental social transformation in this region (Bacon, 1980; Pipes, 1983; Ferdinand, 1994:10; Kort, 2004: 42).

2.3 THE BOLSHEVIKS

The goal of the Bolsheviks was to overhaul Russia completely and to turn it into the world's first socialist society. The Bolshevik coup quickly plunged Russia into a dreadful civil war that lasted until the end of 1920. On coming to power, the Bolsheviks promised a new era and spoke of the cultural, and even political autonomy, of the old colonies. Despite such lofty goals and intentions, these areas still formed part of the authoritarian and fascist Soviet Union more than seventy years later. Once in power the Bolsheviks resisted every effort to break up the empire – indeed, they reconquered a number of non-Russian regions that had set up local rule during the civil war that had destroyed the Imperial Russian regime after the October Revolution of 1917 (Bacon, 1980; Pipes, 1983; Critchlow, 1994:243; Kort, 2004:45).

Finally, in 1924, with the turmoil of the revolution and the subsequent civil war at an end, the new Soviet government began implementing a 'nationalities policy' known as the National Delimitation of Central Asia. The National Delimitation of Central Asia was based on the assumption that ethnic and linguistic affiliates coincided, and that together they formed markers of 'national identity'. During this time the Bolshevik government had to contend with the dilemma of how to govern a country that essentially remained a multinational empire. They wanted to maintain tight central control over the entire country, but they also wanted to give the impression that its many non-Russian subjects were equal members of a new socialist and fraternal union. Their solution was a new political phenomenon – the Union of Soviet Socialist Republics. Officially the new union had a federal structure that was composed of 'union' republics. This setup was primarily for the sake of appearance. In reality, the Soviet Union was a dictatorship, tightly controlled from the centre by the Communist Party (as the Bolshevik Party had been renamed in 1918). The federal structure of the Soviet Union was an administrative ploy to hide the true nature of the dictatorship. Nevertheless the restructuring provided a way to govern the Soviet Union, especially as efforts were made to enlist non-Russians into the Communist Party and, thereby, into the tight knit apparatus that controlled the huge country. Rather than release the non-Russian peoples from Imperial Russian rule, this policy granted them national 'republics' within the USSR (Bacon, 1980; Pipes, 1983; Ferdinand, 1994:11; Kort, 2004: 50).

In Central Asia this meant dividing the region into five republics which, with minor adjustments, survive today: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. The boundaries of these republics had scrupulously followed ethnicity and minor linguistic variations (dialects) in the Turkic language. The republics did not reflect anything more than this, however, for there was no existing political consciousness along linguistic or any other lines in Central Asia. Indeed, the inhabitants had almost no sense of territorial loyalty except for a strong anti-Russian sociopolitical consciousness. Rather, they saw themselves primarily as Muslims. The names given to them under Stalin's rule were derived from their tribal designations and they "were

created primarily as a mechanism of divide and rule". The creation of national republics introduced a new political concept – suddenly, on orders from Moscow, the Central Asians had become five distinct peoples. The boundaries were politically imposed in order to retain central control, a fact which belied true autonomy. This was no less artificial than the division of South Africa by the apartheid regime in the 1970s along the lines of eight major languages and the naming of each of the resulting regions a nationality (Bacon, 1980; Pipes, 1983; Ferdinand, 1994:11).

Sociologists define ethnicity as a concept referring to a shared culture and way of life, especially as reflected in language, folkways, religious and other institutional forms, material culture such as clothing and food, and cultural products such as music, literature, and art. Ethnicity is sociologically important because it is both a major source of cohesion and/or of social conflict. The notion of ethnicity is particularly important when it forms the basis for social discrimination or for independence movements, as happened in the FSU (Marshall 1998; Johnson, 2000). To define ethnicity in the Central Asian context is a daunting task. It is widely acknowledged that ethnic discord has always been a major feature underpinning the Central Asian landscape. When the Soviet rulers came to power, coercive and ideological measures were used to promote ethnic stability. This resulted in a reorganisation of the traditional power structure in the region through the creation of 'nationalities' (Haghayeghi, 1995:186) as has been suggested above.

Arguably the imposition of national republics on the Central Asians served the Soviet government in two important ways. First, it destroyed the unity of the region, and thus reduced the possibility of all Central Asians acting together in concert against the Russians. It obliterated previous forms of self-definition and provided an alternative focus for regional and substate identities (the state identity being Soviet). The borders of the newly formed republics left pockets of one ethnic group within the borders of another ethnic group, thereby creating friction points that prevented the development of any united front against the ruling Communist Party based in Moscow. Furthermore, the borders of the Central Asian Republics helped render all local ethnic groups

dependent on Moscow (Bacon, 1980; Pipes, 1983; Ferdinand, 1994: 11; Kort, 2004). Commenting on this issue Martha Olcott (1992:375) notes:

Stalin drew the map of Soviet Central Asia not with an eye to consolidating natural regions, but rather for the purpose of reducing the prospects for regional unity. Five separate republics were formed, creating national units of ethnic communities that had yet to think of themselves as distinct nationalities. Moreover, the boundaries were set to insure the presence of large irredentist populations in each republic.

Secondly, by providing the Central Asians with their own political structures, if only in form, the Communist Party technically ended the colonial nature of their rule in Central Asia without facilitating a de facto shift in power. This change had profound implications and long-term significance. Through a breathtakingly simple change in ideology, the establishment of national republics justified permanent Bolshevik rule over non-Russians. These republics allowed Soviet leaders to claim that the non-Russian peoples had voluntarily chosen to become part of the Soviet Union, and also that fraternal ties made their relationship mutually beneficial. Unlike imperial regimes, which overtly subsumed the interests of the colonies to those of the ruling peoples, the Bolsheviks could argue that federation with progressive forces in Russia brought benefits to all peoples, and that Moscow's revolutionary government had as much appeal to non-Russians as to Russians. Therefore if joining the Soviet Union was an enlightened act that benefited society as a whole, breaking away would be a counter-revolutionary act – the selfish response of the bourgeoisie (Bacon, 1980; Pipes, 1983; Ferdinand, 1994:11).

The Soviet assertion did have some validity, for, under the Soviet regime, Central Asia was under the regime, in important ways, much better off than under Tsarist Imperial Russia. Central Asians benefited from their own political structures, from dramatic economic gains, and from great advances in education. Most striking is the fact that, under Soviet rule, they fared better than did the Russians themselves. They suffered less terror, dislocation, bureaucracy, religious persecution, and economic mismanagement. However,

the counter-argument still stands, namely that prosperity and education have nothing to do with colonialism in principle – the colonial relationship is defined by power. A colony need not be badly off, but it is still ruled by a foreign power (Bacon, 1980; Pipes, 1983).

The political situation in Central Asia differed from that of a typical colony in several ways. The region's lack of power resulted from centralised Soviet rule, and not from the inequity between Russians and non-Russians. A totalitarian government, such as that of the Soviet Union, required centralisation – Moscow controlled innumerable details in the lives of all Soviet citizens. Thus, the absence of political power in Central Asia may be explained without reference to its predominantly non-Russian population – it would have little self-rule no matter who lived there. Given the nature of the Soviet government, the distance of Central Asia from Moscow had its own benefits, for, to some extent, it slightly removed the people of the region from the heavy hand of the state. Living far from the centre of power, their actions were less subject to the intense scrutiny of the government. It may be argued that the Muslims, legally classified as inorodtsy (aborigines) enjoyed a better quality of life than did the Russians themselves (Bacon, 1980; Pipes, 1983; Malik, 1994:5).

There were also two other aspects in terms of which Central Asians did not fit the status of a colonial people. Firstly, Central Asians were fully fledged citizens of the Soviet Union. They enjoyed complete legal equality with the Russians, and the discrimination they suffered was outside the law. Secondly, the Soviet army conscripted all citizens, without regard for regional or ethnic origin. Central Asians served in the army just as Russians did. Once in the army there was no distinction based on ethnic origin, and all nationalities were mixed freely. This too contravened the Imperial Tsarist Russian pattern. At the same time, however, Central Asia did share vital characteristics with colonies. It had the trappings of power but not the substance. Like the maharajas of India, who retained formal authority while the British ran their affairs, the republics of Central Asia were independent and sovereign. The Russians,

however, allowed the Soviet Third World peoples little more power than did the typical colonial master (Bacon, 1980; Pipes, 1983).

Moscow's power was not limited to foreign policy only, as it also had the final say in internal affairs. There could be no rivalry between Moscow and the republics as the latter had no forces to array against the central power. The instruments of power were all in Soviet hands. The army and the secret police were controlled by Moscow, and vital economic matters were directly supervised from Moscow. It was not necessary to look far for proof of Moscow's power in ruling the republics: Moscow could control the outcome of court cases, set censorship guidelines, discipline party members, and reverse any locally made policy. It retained the power to reverse any decision made at republic level. What little power the republics had was largely for propaganda purposes. Russians dominated every decision-making body. The minorities' token representation gave them almost no say in deliberations that decided their fate. A decision from Moscow was a decision by Russians, and all decisions were ultimately made (or affirmed) in Moscow (Bacon, 1980; Pipes, 1983).

It was not only that Russians dominated – the whole Soviet regime was inextricably bound up with Russian nationalism. Far from representing an internationalist ideology, as it had originally intended, the Soviet government represented Russian interests and in principle and effect was a linear successor to the Imperial Russian Empire. This limited the patriotic feeling of Central Asians towards the regime. They generally viewed it less as their own than as a Russian government. Russian power extended even within the Central Asian republics, where ethnic Russians held many key positions. However, the Soviet regime made a concerted effort to recruit a native elite, a comprador class that would serve its interests in return for privilege and status. This strategy was largely successful. However, nothing was left to chance. Russian officials often occupied key positions in the Communist parties within the republics. Normally, Muslims would hold the top positions and ceremonial posts, while Russians filled key second-level posts in order to keep a close watch on local developments. Russians also doubled up with

Muslims in many positions. They were appointed directly by Moscow, and they maintained tight control over the local political apparatus. The presence of so many Russian settlers in all the Central Asian republics made it possible to keep all political positions in local hands and still include many Russians. While technically leaving power in the hands of residents, Moscow awarded real authority to the Russians among them (Bacon, 1980; Pipes, 1983; Kort, 2004).

This situation closely resembles that of nineteenth century European empires. However, whereas those empires made no efforts to conceal their domination of the vanquished, the Russians used an ideology and elaborate political structures in order to disguise their own domination. Ironically, while the Soviet Union has greatly contributed to the anti-imperialist nature of present society by attacking all forms of colonialism, at the same time it has done the most to refine the colonial relationship by shedding its overt features. A "fraternal tie" may look better, but in real terms it means the same thing – the control of one people by another. Economic and cultural affairs closely reflected this power relationship. However in certain ways Central Asia also defied classic colonial patterns. Although there were barely any industries in Central Asia in 1917, dramatic improvements in productivity and standards of living took place, often greater improvements than those taking place in the Soviet Union as a whole (Bacon, 1980; Pipes, 1983; Kort, 2004).

The foregoing discussion paints an obtrusive picture of structural, physical and socio-psychological violence within an oppression paradigm, violence that existed within the structures of the society of the Soviet Union, especially through hypersurveillance.[5] Hypersurveillance of non-Russians by Russians was common practice under Soviet rule.

The government made substantial efforts to accelerate growth by investing heavily in Central Asia. Apparently, Moscow invested more money in the

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[5] Hypersurveillance is a type of structural violence. It occurs when state authorities pay undue attention to one group over others on a consistent basis (Wong 1998). Structural violence will be further analysed in a later section of the thesis.

region than it took out. This defies nearly all colonial precedents, for no metropolitan power ever (intentionally) invested more in a colony than it derived from the colony. Furthermore, much of this investment could have brought better returns through investment elsewhere in the Soviet Union. One may, therefore, conclude that this investment in Central Asia was in order to improve standards of living there although it is difficult to accept this. Martin Spechler, quoted by Pipes, has dubbed this oddity "welfare colonialism" (Pipes, 1983:160).

Thus the Soviet Union did bring economic benefits to Central Asia, lifting the region to a prosperity that the local peoples on their own might not have attained. Comparisons between the Central Asians and their nearest relatives in independent countries – Afghanistan, Iran, and Turkey – confirm this. Regardless which index one considers – per capita income, mortality rates, medical services, or electric power – Soviet Muslims, in all respects, enjoyed higher standards than their independent neighbours. This may also be due in part to the more stable government that prevailed in Central Asia at the time, as not one of its neighbours had had the same government since 1920, and all had witnessed turmoil over the period. Central Asia compared favourably not only with the Middle East countries to the south, but also with other regions of the Soviet Union. Central Asia experienced a smoother development under Soviet rule than most other regions. Aside from the catastrophic collectivisation efforts in the 1930s, to a large extent the Central Asians escaped the economic excesses and reversals that so severely afflicted the rest of the Soviet Union. In contrast to other regions, Central Asia received enough money for agricultural investment, and, as a result, it was the only region in the country with a successful agriculture (Bacon, 1980; Pipes, 1983; Kort, 2004).

2.3.1 Russian policies in Central Asia

Typical colonial relations existed not only between Central Asia and Moscow, but also between the Muslims and Orthodox Russians living in Central Asia itself. The Russians in this region tended to own the better land and have the better posts. The region presented a model case of ethnic stratification,

according to which one group, the Russians, commonly enjoyed socio-economic advantages that few from other groups shared. Even if it were possible to explain this situation in terms of differences in skills, motivation, and education, it still served to remind the Muslims of who was in control. Whatever the advantages Central Asia enjoyed, these were at Moscow's pleasure. Presumably, Moscow had good reasons for treating Central Asia leniently and one may be sure this was not a spontaneous act of generosity. As Michael Rywkin, quoted by Pipes (1983:188), notes, "Soviet Russia seeks political domination, even at the price of economic discomfort for its own citizens".

Without underestimating the socio-economic advantages that Central Asian Muslims enjoyed in comparison with their independent brethren to the south, this mattered very little in the then current age of nationalism. The economic benefits of colonial rule have almost never influenced a people (unless its numbers are very small) in preferring to remain a colony. Given the choice it would appear that independence matters more than socio-economic well-being, and this surely also applied to the Muslims of Central Asia (Pipes, 1983). The fact that the blacks in South Africa were richer than their compatriots everywhere else in Africa did not render them content – they did not compare themselves with poorer blacks in distant countries, but with the richer whites in their midst.

(a) Education

As far as education is concerned Central Asia differed in certain ways from the typical colony. The Tsarist government before 1917 had done nothing to encourage education, with the result that the literacy rate in Central Asia was extremely low. There were tremendous strides in education from 1917 onwards. This change came about as a result of the heavy Soviet emphasis on education, and the willingness of the government to spend on education. These advances in education distinguished Central Asia from the typical colony, where the European power was typically unwilling to spend money on education. Indeed, many colonial powers (including the Tsarist regime) preferred an uneducated colony, rightly expecting that less trouble would

emanate from it (Bacon, 1980; Pipes, 1983; United Nations, 2006c). Educating the Central Asians served two purposes for the Soviet rulers however. Firstly it created a more efficient workforce and secondly it politicised the population and thereby incorporated it into the new system. The educational process was saturated with ideology, with the sole intention of remoulding the intellectual responses of society (Ferdinand, 1994:12). Currently nearly everyone is able to read. All three countries have literacy levels of 99 percent. All children must attend school, numerous technical programmes prepare them for skilled jobs, and there are now several universities in the region (United Nations, 2006c).

(b) Religion

In a strange way the Soviet treatment of religion argues again for Central Asia's relatively privileged status. Soviet authorities discouraged religion in principle, yet overall Islam fared better than Christianity. If mosques were turned into post offices, Russian Orthodox churches were used as barns. The Communist leaders persecuted Christianity with a particular ferocity, while at the same time they seemed to care less about Islam (Bacon, 1980; Pipes, 1983; Ferdinand, 1994).

State atheism had two special consequences in Central Asia. As it originated from men of Christian origin, Muslims perceived these atheistic doctrines as a covert Christian attack on Islam. They observed that Russians had always despised Islam – earlier in the name of Christianity, now in the name of atheism. From the Muslim perspective the two appeared suspiciously similar. In addition, as Islam is tied to every aspect of a Muslim's life, an attack on the religion also denigrates the people’s lifestyle. By attacking Islam, the Russians denigrated much more than merely the religion of Central Asia (Bacon, 1980; Pipes, 1983; Blank, 1994:42-43).

(c) Language

Soviet policy toward the Turkic and Iranian languages of Central Asia indicated most clearly the power Russians wielded in cultural matters. The government wrought havoc with the local languages by changing their scripts

and word meanings. The Soviets regulated the Muslims' use of their languages. One technique was to change the system used in writing these languages. Between the 1920s and 1930s, the Soviet government ordered that the Central Asian languages drop the Arabic script, as a way to isolate the Muslims of the Soviet Union from both their Islamic heritage and from writings emanating from Turkey, Iran, and other parts of the Middle East. The Arabic script was replaced by the Latin script. This gave the Soviet authorities much greater control over reading matter. In addition, it placed an obstacle in the way of Soviet Muslims communicating with foreign Turkic and Iranian speakers. This intention to isolate was proved by the Soviet reaction to Atatürk's[6] reforms, when he required that the Turks adopt the Latin alphabet in 1928. In 1940, the Soviets ordered a second change in script, from the Latin script to the Cyrillic alphabet used to write Russian and other Slavic languages. Cyrillic letters remain in use until today (Bacon, 1980; Pipes, 1983; Blank, 1994:47; Kort, 2004).

The change from Latin to Cyrillic letters also involved a further change. Whereas the Latin alphabet had represented each sound of the many Turkic dialects with the same letter, the Cyrillic alphabet for the many dialects assigned different letters to the same sound. The intent behind this needless complication is clear – the different letters rendered communication between nationalities more difficult. Thus the policy with regard to the alphabet reduced the possibility of unified action on the part of Turkic speakers against the Russians. As ever, Russian interests came first. The Russians did even more – they redefined Turkic and Iranian words to suit their own purposes. Disregarding the sentiments of those who spoke these languages the Russians shuffled word meanings around to suit their own purposes. This is perhaps the most blatant instance of Russian cultural imperialism. Russian became the official language of each Central Asian Republic. The goal was to render the Muslim population of Central Asia more Russian – a policy known as Russification. This policy was also aimed at changing social processes and

[6] Atatürk founded the modern Turkish Republic.

relations in order to promote a single socialist consciousness and culture (Bacon, 1980; Pipes, 1983; Blank, 1994:51).

However, the most important, and by far the most difficult changes, that came about in Central Asia during Soviet rule had nothing to do with the tightening of the region's political bonds to Moscow, or with Russification. These changes resulted from the attempt to transform the Soviet Union's economy. Using Marxist principles, the Soviets instigated a programme of rapid industrialisation along centrally planned socialist lines. This programme was implemented under Josef Stalin, the all-powerful dictator, after the death of Lenin in 1929. Stalin's plans called for phenomenal, and, ultimately unrealistic, increases in industrial production.

(d) Collectivisation

Industrialisation depended on the overhauling of agriculture, still the largest sector of the Soviet economy in the late 1920s, through a policy of *collectivisation*. Collectivisation was implemented in the early 1930s. It entailed combining about 20 million small farms into about 200 000 collective farms controlled by the Communist Party. These were large farms on which dozens or hundreds of families worked together. Soviet planners expected that these farms with their large fields and herds of livestock would make use of modern machinery and methods to produce far more food than had been produced under the old system. At the same time, the state would have control over what was produced and would use it to promote industrialisation (Bacon, 1980; Kort, 2004; Ferdinand, 1994:12).

Collectivisation immediately ran into problems when most peasants refused to give up their land. The Soviet regime responded with brutal and overwhelming force. Peasants were driven into the collective farms, sometimes after bloody battles with soldiers armed with machine guns. The wealthier peasants, known as *kulaks,*[7] met an even worse fate. Stalin, like Lenin, had decided that, by definition, the *kulaks* were the enemies of socialism. Kulak families

[7] Kulaks were rich peasants before the formation of the USSR.

were, therefore, driven from the countryside altogether. The turmoil of collectivisation was followed by a famine, which did not abate until 1934. Collectivisation had equally disastrous consequences in Central Asia. Life was totally disrupted. Thousands of nomads fled the steppe and Kazakhstan altogether, with most of them going to Uzbekistan and Turkmenistan. There they joined the local people in a new upsurge of the Basmachi Revolt.[8] Eventually, however, the Soviet government was successful, and, by the end of 1932, 99 percent of the peasants in Uzbekistan had been collectivised. However, as elsewhere, production from the collective farms remained disappointingly low (Bacon, 1980; Kort, 2004).

(e) Reformist policies

World War II was one disaster of which the full force did not hit Central Asia. The Germans swept eastward to the gates of Moscow, Leningrad and Stalingrad. They were met by heroic and often unbelievable resistance and were turned back from the Soviet Union before they could reach Central Asia. Meanwhile industrialisation in the region, which had begun during the 1930s, received an enormous boost during the war. Hundreds of factories were disassembled and moved from the European regions of the Soviet Union to Central Asia. There they were reassembled and enlisted in the desperate war effort. The war also brought temporary relief from certain repressive policies. The campaign of the Soviet regime against Islam in Central Asia underwent a change during the war, when the regime made a peace of sorts with the Russian Orthodox Church. Certain schools and mosques, which had been closed, were allowed to reopen, and a Muslim Board of Central Asia was established as part of an effort to improve the government's relationship with Muslim leaders. These concessions, like others permitted by Stalin during the war, were rescinded after the war ended in 1945 (Ferdinand, 1994; Kort, 2004).

[8] The Basmachi Revolt was a largely Turkic uprising against the Russian Empire and Soviet Rule in Central Asia.

(f) Environmental issues

After Stalin's death in 1953, his successors agreed that the intolerable aspects of life under the dictator had to end. Consequently policy reforms were put in place. These included economic reforms designed to raise the miserably low standard of living. The Soviet people needed more food, especially grain. Party leader Nikita Khrushchev's programme to increase grain production was known as the Virgin Lands campaign. This campaign called for the ploughing up of millions of acres of land on the steppes of Kazakhstan and western Siberia (Bacon, 1980; Kort, 2004).

These areas had not been cultivated before for good reason – despite the fertile soil the rainfall in the area was too low and irregular to sustain agriculture on a long-term basis. The Kazakhs objected to the programme and were promptly replaced because of their opposition. During the next few years, almost 50 million acres of Kazakh steppe were ploughed up and planted with grain. The years that followed saw mixed results, some good harvests, and some very bad. Topsoil was blown away and millions of acres of farmland ruined. Entire towns were covered with silt. This was a major ecological disaster, but did not put an end to the Virgin Lands enterprise. Until the collapse of the Soviet Union in 1991, Kazakhstan produced one-third of the country's wheat. The influx of Russians and Ukrainians under the Virgin Lands programme also threatened to keep the Kazakhs a minority in their own republic This state of affairs led to a very high Kazakh birth rate in order to shift the population balance in their favour (Bacon, 1980; Glantz et al., 1994; Kort, 2004).

Ever since the 19th century, Russia had been promoting cotton cultivation in Central Asia, despite the demands of this thirsty crop on the resources of the region. Production rose dramatically from the 1920s onwards, resulting in the Soviet Union becoming self-sufficient in cotton as well as becoming an exporter by 1937. It was not, however, until the 1960s that the irrigation needs of the cotton fields began noticeably to affect the Aral Sea. The impact on the sea increased substantially when the Garagum and other new canals began drawing water from the Amu Darya and Syr Darya rivers after 1959. By the

late 1970s Central Asia was growing 95 percent of the total cotton production of the Soviet Union. However the toll was frighteningly high. The substantial loss of water became critical. As a result of poor construction and other inefficiencies, half the water that entered the Garagum canal leaked out before reaching the cotton fields. The Aral Sea was no longer fed by most of the water it had been receiving in the 1950s and began to dry up, with disastrous ecological consequences that have even now not been reversed (Bacon, 1980; Glantz et al., 1994; Kort, 2004).

The following statement most aptly describes the FSU's crimes against nature in Central Asia:

Nowhere has the link between the misuse of the land and filthy water been manifested more clearly than in Central Asia. There, a combination of unfiltered drinking water, untreated sewage, and large quantities of pesticides, herbicides, defoliants, and fertilizers has done massive damage to the population's health, not to mention causing severe economic losses (Powell, 1992).

(g) Economic inequality

In 1964, Nikita Khrushchev was replaced with Leonid Brezhnev who had been a Khrushchev protégé and party leader in Kazakhstan during the crucial early days of the Virgin Lands campaign. By 1964, Brezhnev and the rest of the Communist Party elite wanted security and stability above all else. This required raising the country's standard of living and easing tensions with the USA, both of which the Brezhnev regime made serious efforts to bring about. It also meant paradoxically that there could be no reforms that might threaten the good life enjoyed by the party elite. In effect this meant that many of the problems that beset the Soviet Union were left unchecked. One of the most serious of these problems was an overcentralised, increasingly inefficient economy, and widespread corruption.

By the 1980s these problems had reached crisis proportions. One dangerous consequence was the growing economic inequality. The Soviet Union

purported to be a socialist society of which the most important principle was that society wealth was distributed equally. This had never been the case, but under Brezhnev it became increasingly difficult to conceal the true situation. This was especially obvious in Central Asia, where the standard of living for ordinary people was the lowest in the Soviet Union, but where party leaders lived almost as the khans of old. Corruption in Central Asia ran deep (Bacon, 1980; Glantz et al., 1994; Kort, 2004).

(h) Reform, collapse and independence

Leonid Brezhnev died in 1982. His two immediate successors, both sick, elderly men, governed for a total of three years. In March 1985, Mikhail Gorbachev became the Soviet leader. At first his attempts to reform the Soviet system impressed many observers and raised hopes that the situation could be remedied. Instead it soon became clear that the rot was too extensive and too deep, and that efforts to fix the system were in fact causing the collapse of the system. As was the case with the rest of the Soviet Union, Central Asia was about to be swept up in unexpected changes that the Communist leaders, who once had seemed so powerful, were unable to control. The secrecy that pervaded Soviet society meant that not even its leaders knew how serious the situation was. Officials at all levels of government and administration commonly falsified reports. In addition, many officials at every level of the Communist Party hierarchy opposed meaningful reform because it might threaten their positions and privileges (Glantz et al., 1994; Kort, 2004).

Finally, when Gorbachev began his reform programme, which he termed “perestroika” or “restructuring”, he soon found that the limited changes he had in mind were not enough to solve the problem. For example, Gorbachev wanted to relax censorship under a policy he called “glasnost” or “openness”. He hoped that a freer flow of information would help expose corruption and energise a whole range of reform efforts (Goodman, 1994; Kort, 2004).

What in fact happened was that a little glasnost immediately brought demands for a greater relaxation of censorship, in fact, for the abolition of all censorship. Plans to democratise the Communist Party led to runaway

criticism of the party and demands for genuine multiparty democracy. By 1989 the process of change was accelerating and outstripping Gorbachev's desperate attempts to keep it under control. Restructuring had inadvertently become deconstruction. By 1991, chaos had replaced change and the Soviet Union had collapsed, leaving the Russians and the 14 minority nations of the non-Russian former union republics of the Soviet Union on their own as independent nations. Of all those republics those least prepared were arguably the five Muslim republics of Central Asia (Glantz et al., 1994; Kort, 2004).

During 1990 and 1991, Central Asia was forced along the road to independence as the Soviet Union careered toward collapse. Every republic in the region established the new and powerful post of president. While presidential elections were taking place the parliaments of the union throughout the Soviet Union were declaring what they termed sovereignty. In Central Asia, the declarations of sovereignty were clearly more limited in intent than in other parts of the Soviet Union. This was demonstrated in a referendum sponsored by Gorbachev in March 1991. Soviet voters were asked whether they wished the reformed Soviet Union to be preserved. Six republics refused to participate mainly out of a desire to secure independence. Of the nine that did participate, 76.4 percent voted to preserve a reformed union (Ferdinand, 1994; Kort, 2004).

The greatest support for the continued union came from Central Asia. No doubt the local ruling elite had a profound influence on these results, but the results also indicated a widespread conservatism and a reluctance to dismantle the Soviet Union. This outlook was reaffirmed in early August 1991, when Communist Party hardliners in Moscow attempted to overthrow Gorbachev. Their goal was to reverse his reforms and, as far as possible, to restore the Soviet Union to its pre-1985 form. Kyrgyzstan and Kazakhstan opposed the coup, while Tajikistan and Turkmenistan supported it, and Uzbekistan never made any public statement about the matter. In any event, the coup unleashed a chain reaction that ultimately doomed the Soviet Union. Every union republic declared independence, as did the Central Asian

republics, although they were the last to do so. A few days after December 16, the day on which the last of the republics (Kazakhstan) claimed independence, the five Central Asian republics joined with six others in the old Kazakh capital of Almaty to sign a declaration establishing the CIS (Ferdinand, 1994; Kort, 2004).

The declaration that established the CIS also declared the abolition of the Soviet Union. The official end of the Soviet Union came at midnight on 31 December 1991. The five former Soviet republics in Central Asia were now independent states, on their own, and burdened with enormous problems they were ill prepared to solve (Kort, 2004).

2.4 INDEPENDENT CENTRAL ASIA

2.4.1 The Kazakhs

In 1991 Kazakhstan was the only former Soviet republic where the indigenous ethnic group did not constitute the majority of the population. There were Russian and Ukrainian population majorities in eight of the country's eleven provinces. The Kazakh (40%) and Russian (38%) populations were approximately equal. Principally, Kazakhs populated the three southernmost provinces together with other Turkic groups, while there was a German and Russian majority in the former capital city, Almaty. Within a decade this situation had changed dramatically. According to the 1999 census 53.4 percent of the inhabitants were Kazakhs. This situation had come about as a result of the high ethnic Kazakh birth-rate and the emigration of many ethnic Russians and other Europeans. This emigration may well have suited those Kazakh nationalists determined to increase their share of the total population, but it cost the country a significant section of its best-educated and technically skilled workforce. Kazakhstan's ethnic composition was and still is the driving force behind much of the political and cultural life of the country (Olcott, 1996:60-62; Kort, 2004).

In most aspects the republic's two major ethnic groups, the Kazakhs and the "Russian speakers" (Russians, Ukrainians, Germans and Belarussians), might well have lived in separate countries. To the Russians, most of whom live in

northern Kazakhstan within a day's drive of Russia itself, Kazakhstan is an extension of the Siberian frontier and a product of Russian and Soviet development. To most Kazakhs, however, these Russians are usurpers. Of Kazakhstan's current Russian residents 38 percent were born outside the republic, while most of the remainder are second-generation Kazakhstani citizens. In the long term, the role of the Russians in the society of Kazakhstan will also be determined by a demographic factor – the average age of the Russian population is higher than that of the Kazakhs, while its birth rate is much lower than that of the Kazakhs. The Kazakh population is predominantly rural, while the Russian population is mainly urban (Olcott, 1996:60-62; Kort, 2004).

By tradition the Kazakhs are Sunni Muslims and the Russians are Russian Orthodox. Almost 50 percent of Kazakhs are Muslim. As elsewhere in the newly independent Central Asian states, the question of the role of Islam in everyday life, and especially in politics, is a delicate one in Kazakhstan. As part of the Central Asian population and the Turkic world, Kazakhs are conscious of the role Islam plays in their identity, and there is strong public pressure to increase the role that faith plays in society. At the same time the roots of Islam in many segments of Kazakh society are not as deep as in neighbouring countries. Since independence religious activity has increased significantly. The construction of mosques and religious schools accelerated in the 1990s, with financial help coming from Saudi Arabia, Turkey and Egypt. It is important to note, however, that the 1995 constitution of Kazakhstan stipulates that Kazakhstan is a secular state, thus Kazakhstan is the only Central Asian state of which the constitution does not assign a special status to Islam. National Islamic festivals, for example, have not been declared public holidays as is the case elsewhere in Central Asia (Olcott, 1997:60-62; Kort, 2004).

As in the other Central Asian republics, the preservation of indigenous cultural traditions and the local language was problematic during the Soviet era. The years since 1991 have provided greater opportunities for cultural expression, but striking a balance between the Kazakh and Russian languages has posed

a political dilemma for Kazakhstan's policymakers. The two official languages in Kazakhstan are Russian and Kazakh. Although Kazakh is the mother tongue of indigenous Kazakhs, at least 40 percent of the Kazakh population is not fluent in Kazakh. Even those who are fluent find Kazakh a difficult language to work with in science, business, and certain administrative settings because it remained largely a "kitchen" language in Soviet times, and did not develop a modern technical vocabulary. Nor has there been extensive translation of technical or popular literature into Kazakh. Thus, for many ethnic Kazakhs, Russian remains the primary "world language". It also remains the language of instruction in most subjects in schools despite efforts to increase the number of schools where Kazakh is the primary language of instruction. The President of Kazakhstan has proposed that Kazakh be the sole official language on the basis that decades of Russification have endangered the survival of Kazakh as a language (Olcott, 1997:68-69; US Library of Congress Annual On-Line, 2006).

The Kazakhs' nomadic lifestyle and their lack of a written language until the mid-19th century, has meant that their literary tradition relies upon oral histories. The Russian conquest did inestimable damage to Kazakh traditional culture by inhibiting the nomadic pastoralism upon which the culture was based. However, many individual elements survived the loss of the lifestyle as a whole. For the most part pre-independence cultural life in Kazakhstan featured the same plays, films, music, books, museums, paintings and other cultural features common in every other corner of the Soviet empire. The collapse of the Soviet system with which so many of the Kazakh cultural figures were identified left a difficult situation. Even more damaging has been the total collapse of public interest in most forms of higher culture. Thus, cultural norms have been determined predominantly by Kazakhstan's increasing access to global mass culture (Olcott, 1996:70-72; US Library of Congress Annual On-Line, 2006).

The constitution of 1995 specifies that education at secondary school level is mandatory and free between the ages of seven and fifteen, and that citizens have the further right to compete for free education in the republic's

institutions of higher learning. One of the most positive statistics when Kazakhstan became independent was its high literacy rate, a legacy of the Soviet system. According to the 1999 census Kazakhstan's literacy rate was 97.5 percent. Enrolment in both primary and secondary grades is above 90 percent while in the post secondary age group 34 percent of the population only is enrolled. Primary school constitutes a four year period, followed by five years of mandatory general secondary school. Two further years of specialised secondary school are optional. In view of the almost equal distribution of the population between ethnic Kazaks and ethnic Russians the language of instruction is a particularly sensitive and, as yet, unresolved issue. In the early 1990s the primary language of instruction was changed from Russian to Kazakh, although in 2005 many institutions were still instructing in Russian (Ferdinand, 1994:4; US Library of Congress Annual On-Line, 2006).

Serious shortages in funding and resources (due to budget cuts and the emigration of Russian and German scientific experts) have hindered efforts to revamp the education system inherited from the Soviet Union. Many preschools have been converted into offices or stores. Kazakhstani citizens may still enrol in what were once the premier Soviet universities, all of which are now in foreign countries, in particular, Russia and Ukraine. Despite the obstacles, efforts have been made to upgrade the education system, especially at the highest level. Existing universities have been upgraded and new private universities have been established, thus increasing regional access to higher education (Kort, 2004; U.S. Library of Congress Annual On-Line, 2006).

Kazakhstan is the most industrialised republic in the region. Its industrial and agricultural sectors are highly developed. However even this country is also a victim of the specialisation that was peculiar to the economy of FSU. About 33% of the finished goods consumed in the country are imported. By the same token, 75% of its total exports are intermediate goods and raw materials (Ahrari & Beal, 1996; US Library of Congress Annual On-Line, 2006).

2.4.2 The Kyrgyz

When Kyrgyzstan became independent only about 52 percent of the population was ethnic Kyrgyz. Russians, who numbered about 18 percent of the population, constituted the largest minority group, followed by the Uzbeks. However, by the 1999 census, ethnic Kyrgyz accounted for almost 65 percent of the population. Uzbeks, at 13.8 percent, had become the largest minority. In 2005 Kyrgyzstan's population was estimated to be 5 million with about 65 percent of the inhabitants being Kyrgyz. Substantial numbers of Tajik refugees entered the country in the 1990s, while in the early 2000s considerable numbers of Russians left the country annually. As with the other Central Asian republics, language was and still is a sensitive issue in Kyrgyzstan. One serious problem posed by the geography of Kyrgyzstan is that mountains isolate parts of the country. Over generations this mighty natural barrier has helped bring about noticeable cultural differences between the two regions. Today, northern Kyrgyzstan is highly Russified and secular, while in the south both Uzbek and Islamic influences are strong (Ferdinand, 1994:4-5; Kort, 2004: 6-10; US Library of Congress Annual On-Line, 2007a).

During Kyrgyzstan's first decade of independence several attempts were made by the government to prevent Russians from emigrating. One of these measures involved declaring Russian an official language in areas where Russian speakers predominated. In 2001 the legislature designated Russian as the country's second official language after Kyrgyz. Russian is the primary language of commerce and higher education. About 80 percent of Kyrgyzstan's population is Muslim, and 16 percent Christian. The Kyrgyz practise a version of Islam that is influenced by earlier beliefs and practices, and by the nomadic nature of earlier Kyrgyz society. This version is most prevalent in the north; while the Islam practised in the south-western population centres (where the Uzbek minority is concentrated) resembles more closely that form of Islam which is practised elsewhere in Asia. The majority of the Russian population are Russian Orthodox (Ferdinand, 1994:4-5; Kort, 2004: 6-10; US Library of Congress Annual On-Line, 2007a).

A number of factors distinguish daily life in Kyrgyzstan from daily life elsewhere in Central Asia. The most notable involves women. Women enjoy a far greater degree of freedom than women in neighbouring countries, with the possible exception of Kazakhstan. This is the result of two factors. Firstly, the nomadic Kyrgyz tribesmen who, historically, adopted a moderate approach to Islam did not permit this moderate approach to interfere with many pre-Islamic customs and traditions. The status of women in Kyrgyz was further improved by the secular government policies of the Soviet era. Furthermore, Kyrgyz women participate more actively in business, education, and other professions than do women in the other Central Asian republics which practise Islam. At the same time, however, old traditions that subordinate women to men do still persist (Ferdinand, 1994:4-5; Kort, 2004: 6-10; US Library of Congress Annual On-Line, 2007a).

In 2004 the literacy rate in Kyrgyzstan was 98.7 percent. Education is compulsory between the ages of seven and fifteen. The educational system offers two years of upper secondary school, specialised secondary school, or vocational/technical school. In primary and secondary schools the language of instruction is Kyrgyz, but in the higher institutions it is Russian. In 2001 enrolment in primary grades was approximately 90 percent. However this figure has since diminished.

The Kyrgyzstan economy is primarily agricultural. However, there is one uniquely important characteristic – a sizeable private sector. The economy is also largely dependent on imports, especially from the republics of the FSU (Ferdinand, 1994:4-5; Kort, 2004: 6-10; US Library of Congress Annual On-Line, 2007a).

2.4.3 The Uzbeks

Uzbekistan is by far the most densely populated of the five Central Asian republics, and has a population density of 63 people per square kilometre. Uzbeks make up 80 percent of the population, while Russians, who constitute 5.5 percent of the population, form the largest minority. Uzbeks also have a strong presence throughout the region of Central Asia, and they account for a

quarter of the population in Tajikistan. In the early 2000s the greatest population growth occurred in the rural areas, while in the urban areas emigration was taking place. About 62 percent of the people live in rural areas. The population is growing at a rate of more than 2 percent per year. The rate of population growth is dangerously high in terms of the burden it places on the country's limited resources, and on the government's efforts to promote socio-economic development and reduce poverty (Ferdinand, 1994:4-5; Kort, 2004: 6-10; US Library of Congress Annual On-Line, 2007c).

Before the Soviet era, Uzbeks identified themselves by clan and by khanate[9] rather than by nationality. According to the 1998 census 76 percent of the population was Uzbek. However, a substantial portion of the officially Uzbek population is of Tajik ancestry. Substantial numbers of Germans and Ukrainians left in mass emigrations during the 1990s. Approximately 74.3 percent of the population speaks Uzbek, 14.2 percent Russian, and 4.4 percent Tajik. About 88 percent of the population is Muslim and 9 percent Russian Orthodox. Most Uzbek Muslims practise the type of mystic Sufism[10] that is introspective and distinctly nonpolitical. Old cultural traditions still influence daily life in Uzbekistan. Older people enjoy a high status, especially older men (Ferdinand, 1994:4-5; Kort, 2004: 6-10; US Library of Congress Annual On-Line, 2007c).

Eleven years of primary and secondary education are mandatory with the school commencement age being seven. These eleven years of schooling include four years of primary school and two cycles of secondary school, lasting five and two years respectively. The rate of attendance in these grades is high, although the figure is significantly lower in rural areas than in urban areas. The official literacy rate is 99 percent. However, in the post-Soviet era educational standards have dropped. Funding and training have not been sufficient to educate the expanding younger generation of the population

[9] A Khanate is a region under the rule of a Khan/ruler.
[10] Sufism is a mystic tradition within Islam and encompasses a diverse range of beliefs and practices dedicated to divine love and the cultivation of the heart.
(http://www.nimatullahi.org/us/WIS/WIS1.html)

effectively. The three largest universities are all state-funded. Private schools have been outlawed since the establishment of Islamic fundamentalist schools in the early 1990s.

Agriculture, oil and mineral deposits dominate economic activities in Uzbekistan. Cotton accounts for 40 percent of the entire agricultural production (Ferdinand, 1994:4-5; Kort, 2004: 6-10; US Library of Congress Annual On-Line, 2007c).

2.5 GEOGRAPHY AND CLIMATE

2.5.1 Kazakhstan

Kazakhstan, located in the centre of the Asian continent, is by far the largest of the Central Asian Republics of the former Soviet Union. It is also the world's ninth-largest nation in terms of geographic area (see Appendix 4). With an area of about 2 717 300 square kilometres and about 14.8 million people, it is more than twice the combined size of the other four Central Asian states. It is, moreover, by far the largest landlocked country in the world. The country borders Turkmenistan, Uzbekistan and Kyrgyzstan to the south, while Russia forms its entire northern border – one of the longest borders in the world. Its only coastline is the landlocked Caspian Sea to the west, with China's Xinjiang Uygur Autonomous Region to the east. The population density of Kazakhstan is one of the lowest in the world, partly because of the large areas of inhospitable terrain. The proximity of unstable countries such as Afghanistan, Tajikistan and Azerbaijan to the west and south further isolates Kazakhstan (Ferdinand 1994:4-5; Kort, 2004).

There is considerable topographical variation within Kazakhstan. Only 12 percent of Kazakhstan is mountainous with most of the mountains located in the Altay and Tian Shan ranges of the east and northeast. Many of the peaks of the Altay and Tian Shan ranges are snow capped throughout the year and their run-off is the source of most of Kazakhstan rivers and streams, almost all of which form part of landlocked systems. The rivers and streams either flow into isolated bodies of water such as the Caspian Sea, or simply disappear into the steppes and deserts of central and southern Kazakhstan. Many rivers,

streams and lakes are seasonal, evaporating in summer. The three largest stretches of water are the landlocked Lake Balqash, a partially fresh, partially saline lake in the east and the largest lake in Kazakhstan (situated near Almaty – former capital city until 1997), and the Caspian and Aral Seas, both of which are partially situated within Kazakhstan. Lake Balqash is fed by three main rivers, the largest of which flowing westward out of China is the Ili River. Aside from the Ili, Kazakhstan's two main rivers are the Syr Darya and the Irtysh. The Irtysh is very important to Kazakhstan. It is the main source of water for several cities in the north and for more than 4 million people, – about a quarter of the country's population. About 9.4 percent of Kazakhstan's land is either mixed prairie and forest or treeless prairie, found primarily in the north or in the basin of the Ural River in the west. More than three-quarters of the country, including the entire western region and most of the south, is either semi-desert (33%) or desert (44%). The terrain in these regions is bare, eroded, broken uplands with sand dunes and desert. Most of the country lies between 200 and 300 metres above sea level (Ferdinand 1994:4-5; Kort, 2004).

As a result of the fact that Kazakhstan is situated so far from the ocean the climate is harshly continental with hot and very dry summers and cold winters. Rainfall in the mountains of the east averages as much as 600 millimetres per year, mostly in the form of snow, but most of the republic receives only 100 to 200 millimetres of rain per year. The shortage of rainfall makes Kazakhstan a predominantly sunny country in which temperatures vary widely due to a lack of moderating amounts of water. Average winter temperatures are -3^0 C in the north and 18^0C in the south. There are extreme differences within areas and temperatures may change very suddenly. The winter air temperature may fall to -50^0C, while in summer the ground temperature may reach as high as 70^0C (Ferdinand 1994:4-5; Kort, 2004).

2.5.2 Kyrgyzstan

The second smallest (the smallest is Tajikistan) of the five Central Asian states, Kyrgyzstan (see Appendix 5) has an area of 198 500 square kilometres of which 7 100 square kilometres is water. Kyrgyzstan is located

along the eastern border of the Central Asian region, south east of Kazakhstan, west of China, east of Uzbekistan, and north of Tajikistan. The population (5.2 million) is concentrated in small areas in the north and southwest in the valleys. About two-thirds of the population live in rural areas, but this figure is rising as the predominantly urban Russian population decreases (Ferdinand, 1994:4-5; Kort, 2004:6-10; U.S. Library of Congress Annual On-Line, 2007a).

Sharp mountain ranges, constituting about 95 percent of the country, and valleys dominate the topography of Kyrgyzstan, and glaciers cover considerable areas. The only relatively flat regions are the valleys. The major climatic influences are the mountains and the location of the country at the centre of the Eurasian landmass – far from any body of water. As a result Kyrgyzstan experiences a very harsh continental climate with very cold winters and hot summers. Rainfall in the mountains to the west averages as much as 2 000 millimetres per year. The country's only port is Balykchy, which is a fishing port on Lake Issyk-Köl. The Chu River arises in the mountains of northern Kyrgyzstan and flows northwest into Kazakhstan. The Naryn River arises in the Tien Shan Mountains of eastern Kyrgyzstan and crosses central Kyrgyzstan before meeting the Kara Darya River to form the Syr Darya River in the Uzbek part of the Fergana Valley. None of these rivers is navigable and there are no canals (Ferdinand, 1994:4-5; Kort 2004:6-10; US Library of Congress Annual On-Line, 2007a).

2.5.3 Uzbekistan

Uzbekistan (see Appendix 6) is located in Central Asia east of the Caspian Sea, directly south of Kazakhstan, north of Turkmenistan, and on the western borders of Tajikistan and Kyrgyzstan. With an area of 447 440 square kilometres it is the third largest (second largest is Turkmenistan) of the five Central Asian Republics. The topography of Uzbekistan is diverse. Almost 80 percent of the country is desert or arid steppe, and there are no significant forested areas. In the northeast the fertile Fergana valley, which is the centre of the country's population, agriculture and industry, is surrounded by mountain ranges, and is intersected by the Syr Darya River. All of the rivers of

Uzbekistan flow from other countries across a small stretch of Uzbekistan (Ferdinand, 1994:4-5; Kort, 2004:6-10; US Library of Congress Annual On-Line, 2007c).

The climate of landlocked Uzbekistan is continental, with hot summers and cool winters. Summers are long and hot with temperatures reaching 40^0C. Winters, while short, are often very cold with temperatures dropping as low as –38^0C. Rain falls mainly during the winter and spring. The average rainfall varies between 100 millimetres per year in the northwest and 800 millimetres per year in the Tashkent region. As has been suggested, the Aral Sea, half of which is in Uzbekistan, has been severely desiccated by the overuse of its tributary rivers, a situation acknowledged as one of the world's worst environmental disasters (p.34). Enormous overdrafts on these rivers are caused by the extremely low efficiency of irrigation systems in Turkmenistan and Uzbekistan. Vozrozhdeniye Island in the Aral Sea, now connected to the shore as a result of the shrinkage of the sea, contains the lethal remains of a Soviet anthrax weapons testing laboratory, most of which lies in Uzbekistani territory (Ferdinand, 1994:4-5; Kort, 2004:6-10; US Library of Congress Annual On-Line, 2007c).

2.6 SUMMARY

This chapter briefly sketches the socio-historical and socio-political context of the Central Asian Republics under Imperialist Russia and the Soviet Union. Thereafter, a short account of the post-independence state of the three Central Asian Republics focused upon in this study is outlined including their respective geographies and climates. With this as background, chapter 3 is concerned to unpack the relatively recent demographic changes that have taken place in Central Asia.