

I. INTRODUCTION

Helmand is the largest province by area in the country, located in southwest Afghanistan roughly between latitudes 30 and 33 degrees north and longitudes 63 and 65 degrees east. The province includes an estimated 62,337 square kilometers or about 10 percent of the country 1/

The area is mostly clay or sand desert in the south, and dry rocky mountains in the north with an estimated 2,846 square kilometers of cultivatable land (4.5 percent) and 1,589 square kilometers irrigated (2.5 percent) in the late 1960's 2/

Nearly all agricultural land is irrigated in the province because of limited precipitation, and most of this land lies in the flood plain of the Helmand River. Rainfall ranges between 2 and 9 inches per year; virtually all occurring in late winter and early spring. This rain supplies a marginal part of the moisture required for spring crop production, while all the water for summer and fall crops must come from irrigation. Evaporation rates are between 80 and 188 inches per year 3/

Most irrigation in the province originates from the Helmand River, the largest river in Afghanistan, with a watershed of about 40 percent of the country's total runoff 4/ The irrigation systems vary in size and include the major diversion structures and canals like the Boghra.

1 /A provisional Gazetteer of Afghanistan, ADS/CSO, Kabul 1975.

2 /Summary of statistics on livestock population in Afghanistan Ministry of Agriculture 1969

3 / Helmand River Basin Soil and Water survey report, Part-I USAID/Kabul 1976, pp 2-15

4 / Lloyd I.Z. Baron, The Water Supply Constraint: An Evaluation of irrigation projects and their role in the Development of Afghanistan, Ph.D Dissertation, Dept. of Economics, McGill University, 1975.

(120 kilometers in length with a 2,550 cfs capacity) and Darweshan (50 kilometers in length with a 1,000 cfs capacity). Both were constructed with heavy equipment and foreign technical advice. There are also irrigation systems fed from the small traditional brush and stone intakes and ditches rubuilt and maintained yearly by the farmers themselves and there are a limited number of small locally owned diesel water pump station drawing water from the river. Irrigation from pumped wells is rare. In the foothill and mountainous regions of the province there is also irrigation from traditional Karez systems (gravity-flow systems for bringing ground water to the surface via a series of wells connected by subterranean tunnels).

The Helmand River rises in a westerly extension of the Hindu Kush mountain range near Paghman about 40 kilometers west of Kabul, and run southwesterly for about 536 kilometers into the desert plain where it joins the Arghandab river below the city of Lashkar Gah. The combined Helmand and Arghandab rivers continue in the same southwest direction for about 430 kilometers, turning back north to be absorbed in the marshes and inland sink of the Sistan or Chakhansur Basin known as the Hamun. This area straddles the border between Iran and Afghanistan. The altitude varies from 460 meters above sea level in the Sistan Basin to about 950 meters at the base of the mountains surrounding the upper part of the valley. Most of the river water comes from rainfall at the intermediate elevations in the winter and spring and from melting snows in the high mountains which rise to elevations of 4,000 meters or more.

The general topography of most of the irrigable desert is extremely flat with slopes ranging from 0.5% along the river flood plain to about 0.1% in the Nad-i-Ali and Marja areas and 0.25% in Chakhansur. These flat gradients combine with poor soil, high evaporation rates and farmer misuse of water to aggravate the salting/drainage problems of the area and make maximum agriculture production difficult to achieve. At the same time, however, such gradients lend themselves ideally to land levelling and irrigation. Alluvial or old river terrace soils of moderate to low

fertility dominate the Helmand area. Subsoils are frequently underlain by impermeable conglomerate. Waterlogging is a problem in some areas and has either adversely affected farming or taken land out of production because of salinity. This is particularly a problem in Nad-i-Ali and Marja.

The hot days and relatively cool nights of summer, the mild climate of winter, and the long growing season with good light intensity are all favorable factors for plant growth in Helmand. The summers are hot and dry with daily temperatures commonly ranging well over 100 F. With an average daily temperature of 87 F. The winters are mild with average temperatures above freezing but the number of sub-freezing days eliminates the growing of tropical crops and fruits 1/ major sand and dust storms occur in the spring and sometimes in the fall. The quality of the irrigation water is good to very good. The total salt content of the Helmand River water ranges from 200 to 250 parts per million at Kajakaj Dam to almost 600 ppm at Char Burjak, the approach to the Chakhansur Basin.

In total, the conditions for irrigated farming in Helmand are good, and, while there are some obstacles to overcome to reach maximum production, particularly in terms of farmer water utilization, production levels and farmer income continue to increase.

Region descriptions

Nowzad:

This is a foothills region about 60 kilometers of Girishk. The area is situated 1180 meters above sea level and lies on latitude 32° 24' north and longitude 64° 28' east. The total area is estimated about 4560 Square kilometers. It is a water-short region dependent upon very old Karez systems for irrigation. The landholdings are small and fragmented. While there is considerable traffic

1/ Helmand River Basin Soil and Water Survey Report, Part-I USAID/Kabul 1976 pp. 2-14, 2-15

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into the area, the road can be described as an underdeveloped desert track. The potential irrigable land in the region is difficult to estimate in the face of continuing ground water shortages and population losses (out-migration through the mid-1970's). In 1956 however the Morrison-Khudson Afghanistan (MKA) estimated the net irrigable area to be 3035 hectares (7500 acres) in their report S.W. Afghanistan land and Water Resources. HAVA reported total registered farm land for tax purposes in 1971 at 7,150 hectares and total cropland in 1969/70 at 2,860 hectares (1970 FES). Cropland in 1975 is estimated to be 4,42 hectares based on this survey findings.

Musa Qala:

The area is situated 1015 meters above sea level and lies on latitude $32^{\circ} 21'$ north and longitude $64^{\circ} 45'$ east. The total area is estimated about 1362 square kilometers. This is a foothill region to the east of Nowzad and receives its irrigation water from indigenous intakes off the Musa Qala River and Karez systems. The landholdings are small and fragmented. The desert track into the region is a branch off that to Nowzad, but another connection is through Kajakai during the winter when the Musa Qala River cannot be crossed. The real potential for irrigable land in this region is also difficult to estimate, again due to the long term ground water shortage. MKA estimated the irrigable area at 8093 hectares (20,000 acres) in 1956 and interestingly classed the water supply as 'surplus' if the area were fully developed. In 1969/70 crop land was estimated at 4,800 hectares and in 1975 at 4,125 hectares.

Kajakai - Zamin Dawar:

This area is situated 1000 meters above sea level and lies on latitude $32^{\circ} 19'$ north and longitude $65^{\circ} 06'$ east. The total area is estimated about 1939 square kilometers. It includes the area sometimes known as West-Kajaki or Zamin Dawar to the north and west of the Kajaki Dam which is watered by Karez systems and springs. The land holdings are small and fragmented. This is an extension

of the Musa Qala hills area, water short and losing population over the past few years. MKA estimated the potential irrigable area at 3,250 hectares and in 1969/70 cropland was estimated at 1800 hectares. The total region for this survey's purpose also includes a section of the Helmand flood plain south of the Kajakai dam which receives irrigation water through traditional intakes from the Helmand River. There are no available past estimates of size for this area alone. It is estimated that the total cropland for the region is 1,631 hectares in 1975.

Sanguin:

This region is on the left bank of the Helmand River, the market center about 40 km, north of Girishk. The area is situated 900 meters above the sea level and lies on latitude 32°04' north and longitude 64,50' east. The total area is estimated about 219 square kilometers. This region stretches from Garm Ab (south of the Kajakai area) to Haiderabad. The area as far as the Kajakai Dam, is served by a good, all-weather, gravel road from the main highway at Girishk. It is in the Helmand flood plain and gets adequate irrigation water through traditional river diversions. The holdings are generally very small and fragmented. The 1970 FES estimated cropland to be 6020 hectares but this also included the Kajakai area. The potential irrigable land in the area was estimated at about 7000 hectares, i.e. there is little room for expanding the agricultural lands in the region. In 1975, the more strictly defined region of Sanguin is estimated to include 6,317 hectares of cropland.

Girishk:

This area mostly rests in the Helmand River flood plain and stretches between Qala-i-Gas in the east and Malgir in the west on the right bank of the river, and from Haiderabad to Yakhchal on the left bank. The market center of Girishk is 48 km northwest of Lashkar Gah which connected by two good all-weather gravel roads, but Girishk is also located on the paved Kandahar-Herat highway and is

the centre for many government services(e.g. health, agricultural extension) for the larger region north of the highway. The area is situated 825 meters above the sea level and lies on latitude 31 39' north and longitude 64 34' east. The town has electricity from the Boghra Hydro-electric generators. Irrigation water for the region is furnished by the Boghra Canal and several other older indigenous diversions off the river. The region is considered to have a surplus of water. The landholdings are small and fragmented. About 9,200 hectares were in cropland in 1969/70(1970 FES). The area is highly populated and intensively cultivated, characteristics shared with the Sanguin region just to the north. Cropland in 1975 is estimated at 16,156 hectares.

Central:

This is a large and complex region in terms of soils, water sources, and land use. It stretches along the left bank of the Helmand River from Yakhchal in Girishk to the village of Karez at the confluence of the Helmand and Arghandab Rivers. This left bank area includes the desert step soils watered by the old silting up Seraj canal and some area along the Arghandab flood plain. On the right bank, the area is in the Helmand flood plain and includes Babaji and the fertile areas of Bolan and Aynak watered from the Shamalan canal via the Boghra i.e. a water surplus area. While the Seraj area has suffered a loss of population over the years, the Helmand right bank is heavily populated and intensively cultivated. Landholdings are small and fragmented but productive. Lashkar Gah is the central market for the region and the provincial capital with a wealth of government service. The region is well served by a network of all-weather gravel roads(many along the banks of the canals and drains) and desert tracks. This region also includes Chah-i-Anjir, the home of Helmand Construction Company HCC which employs large numbers of the local population. Since the Central Region includes many areas, the potential irrigable area is difficult to estimate or compare with other survey figures. Cropland in 1975 is estimated at

12,247 hectares.

Nad-i-Ali:

This region, located on a previously unfarmed desert step, is a product of the construction of the Boghra Canal and came into existence in the early 1950's. The area situated 800 meters above the sea level and lies on latitude 31 ,39' north and longitude 64, 15 east. It lies on the right bank of the Helmand Eiver, 17 km west of Lashkar Gah and is served by good all-weather gravel roads. Although the region has a surplus of water, drainage is poor and is complicated by an impermeable layer of conglomerate lying about 2 meters or less below the surface. The population is comprised of settlers, and landholdings are relatively equitable; about 30 jeribs or 6 hectares. Potential irrigable land has been estimated at about 9000 hectares (1970 FES), and 7500 hectares (MKA-1956) Over the years, suggestions have been made to take much of the region out of normal agricultural production because of the poor soils and drainage problems. In 1969/70, cropland was estimated at 6700 hectares. The 1975 cropland is estimated at 11, 432 hectares.

Marja:

This region is another product of the construction of the Boghara canal and the resulting land developments. Its characteristics in terms of roads, soils, drainage problems settlement, and landholdings are similar to Nad-i-Ali. The potential irrigable land is estimated at 8,100 hectares (1970 FES) and 10,800 hectares (MKA. 1956). Again, real potential must be based on costs of a complete and adequate drainage system. Cropland was estimated at 6,300 hectares in 1969/70. In 1975 cropland is estimated at 8,961 hectares.

Shamalan:

This region is on the right bank and in the flood plain of the Helmand River and is considerably smaller than the area so named in the 1970 FES(Aynak, Bolan and frequently Basheran are normally included in the Shamalan region).

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The area is situated 740 meters above the sea level and lies on latitude 31 ,23' north and longitude 64,18 east. The region is irrigated from the Shamalan canal via a network of indigendus laterals and ditches. The southern reaches are water short, but the long term farming areas near the canal can generally be classed as surplus water area. The all-weather road system which parallels the banks of the canal and numerous major drains, is extensive. There has been considerable resettlement activity in the region since 1973 but some of this is on marginal land and with holdings of only 10 jeribs (2 hectares). Cropland in 1969/70 was estimated at 14,900 hectares(1970 FES) but this includes the areas in North Shamalan of Bolan and Aynak. In 1975, cropland for the more limited area is estimated at 14,768 hectares.

Darweshan:

This region begins some 55 km, south of Lashkar Gah, just south of the last Shamalan district of Sorkhduz but on the left bank of the Helmand River in the flood plain, and ends with the area of Benader Oilia in the south. This area is situated 710 meters above the sea level and has an latitude 31,08' north and longitude 64 12' east. The total area is estimated about 20257 Square kilometers. The road network is limited to the canal and major drainage banks but is generally passable in all weather, the southern reaches of the region depend on desert tracks. Irrigation water is served through a major diversion structure in the river and a large canal constructed in the 1950's. The ditches and laterals are farmer constructed and the water supply is generally considered adequate if not in surplus. Since 1973 considerable resettlement on 10 jerib(2 hectares) plots has occupied in the region(indigenous land holdings tend to be somewhat larger in total average 9.2). The potential irrigable area was estimated at 20,3000 hectares (MKA 1956) and cropland in 1969/70 estimated at 11,400 hectares (1970 FES). In 1975 cropland is estimated at 17,671 hectares.

Khanishin:

This region is probably the least accessible of the area surveyed, resting in the Helmand River flood plain and extending from the end of the Darweshen region at Benader Olia to the last village in Helmand River at Palalak. Parts of the regions are on both sides of the river and motor transport is via underdeveloped desert tracks. This area is situated 600 meters above the sea level and lies on latitude 30, 46' east. The total area is estimated about 17196 square kilometers. The irrigation systems are indigenous and much of the area cannot be irrigated because of lack of water through these limited systems. The water shortage generally precludes the use of high-yielding varieties of wheat, which require large doses of fertilizers. While average landholdings are large (38.25 hectares), the amount of land planted each season amounts to a fraction of this. The total irrigable area was estimated at 18,000 hectares (MKA 1956) but this included an area of unknown size in Nimroz Province. In 1969/70 cropland was estimated at 11,400 hectares. Estimated cropland in 1975 is 7,241 hectares.

Helmand in the past- prior to 1946

Helmand is mentioned in some history books as Helmand or Elmand. The Halmand valley was one of the prosperous areas in the region even 3000 years ago. The valley is situated between Kajakai and Rudbar. Nimroze, known also as Siestan, was also included in the Helmand valley some years ago. The records and historic mounumnts of the area shows that cities and towns existed along both sides of the Helmand River with dense populations. Zoroaster came to the Helmand valley, which was a prosperous area at that time (about 3000 years ago) and chose this area in which to stay and preach. This is why the Helmand River became a sacred river among the Zoroastrians. Helmand River is mentioned, several places in the holy book of Zoroastrians as Hetomand. Heto meant much water or dam of water and mand meant the owner 1 /Thus, the Helmand meant the owner of

1 /Mand is a suffix in Pashto and Persian languages and bears the same meaning as 3000 years ago 'owner'

much water.

The Greek historians have mentioned the Helmand River in their writings as Erymanthus. They have written that the people of the Helmand Valley fought Alexander the Great fiercely. During the fight, they were riding on fast running horses with sharp spears at their hands. This is why the Greeks called the Helmand valley 'the place of the fast horse-riders.

The last king of the Sassanid dynasty in Persia, Yazd Gurd, who was defeated by the Arabs in mid-seventh century AD came to the Helmand valley to remobilize himself against the Arabs. Helmand valley was a prosperous area at that time. Bilazari 1 /writes that 'Rabi Bin Ziad Al-Harithi went to Bost and Zabul, through Siestan and Dawar, and conquered these areas in 30 AH(651 AD). One can understand that Bost, Dawar and Siestan were famous areas in that time.

Lashkargah, today's center of the Helmand valley project, was erected in 392 AH(1013 AD) during the reign of Sultan Mahmood and Sultan Masood of the Gaznavide dynasty. Lashkargah, means army-place, was a major center of the arm force of the Gaznavidvnasty and was their winter capital. Lashkargah, Bost and other major cities of the Helmand valley were destroyed by Sultan Alauddin Jahan-suz(World Burner) in 545 AH(1150 AD) as a revenge taken against the Gaznavid dynasty.

The Helmand valley was reconstructed by its people and rulers. It became a prosperous area again. Chengiz Khan attacked the valley in 1221 AD, destroyed its cities and killed its inhabitants. Some of the population of the area fled and thus the whole area was abandoned.

After some time, the people of the area returned the valley and reshaped their living there. The Helmand valley was not yet fully recovered from the destruction received from Chengiz Khan, when Tamer-Lane invaded it in 784 AH (1383 AD). Fierce fighting took place between Tamer and the people of the Helmand. Tamer was injured and became lame. He was called here-after Tamer-lame. As a revenge he not only killed the inhabitants of the valley and forced them to leave their homes but also destroyed the whole

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infrastructure and the irrigation system of the area in such a way that the people of the valley were not able to rebuild it again. Thus the valley remained quiet for centuries.

Harsh weather and moving sands from one hand and the huge work required for the rehabilitation of massive destroyed area on the other had made it impractical for the people of the Valley to return and reshape their living there. Thus, the Helmand Valley remained in the form of ruins and gradually changed to a barren desert. Only a few spots of cultivated land with scattered population could be seen, and the Helmand river flow silently through the vast deserts of South West Afghanistan for centuries (from 1383 AD to 1946 AD) without any substantial use of its water. Thus, the Helmand valley which once was supposedly the 'bread basket' of Central Asia was, by the 20th century a vast barren or scantily vegetated land affected to varying degrees by salts, alkaline, and erosion.

In order to give fresh breath to the Helmand valley, the Afghans began to develop part of an old canal system around Seraj area in 1910-1914() The Seraj canal named after the king of the time Seraj-ul-Millati-Wa-Deen Amir Habibullah Khan, getting its water from the Helmand River in Sanguin area, extended southwards and eventually some of the branches reached the Arghandab River above Kala Bis (in some literatures Qala Bost) Seraj canal irrigated about 4000 hectares of land 1 /

The Helmand valley attracted the attention of ~~the~~ the Afghan Government in 1933. The Governor of Kandahar, Mr. Mohammad Gul Mohmand, went to the valley to see the area himself. He travelled the area by horse along with his technical staff. Mr. Mohmand was impressed by his observation in the Helmand valley and, therefore, prepared a report and submitted it to the Central Government in Kabul. He reflected the wish of the people of the valley in his proposal along with his own opinion about the development of the area.

1 / Sardar Mohammad Osman Khan was the Governor of Kandahar at the time and my grand father, Brig. Noor Mohammad Khan was in charge of the construction work of the Seraj canal.

In 1934 Mr. Ghulam Farooq Osman was appointed as Governor of Kandahar Province. He was also urged by the people of the Helmand valley(Grish area) to visit the site. The Governor went to Sanguin area where the water intake of the Seraj Canal was located. He saw the Seraj Canal was not efficient due to erosion and silt. Since Seraj canal was constructed at the time of his father Sardar Mohammad Osman Khan who was Governor of Kandahar in 1910's,therefore he wanted to improve the Seraj canal in order to keep the work and memory of his father alive. He began to improve the Seraj canal. Two engineers, one Japanese and another Afghan, were assigned to this job. Some parts of the canal were improved but the direction of the canal remained unchanged and major improvements in the canal did not occur. May be the engineers were thinking that the direction of the canal should be changed but its intake should remain the same. This is why they improved the intake but left the other parts and structures of the canal unimproved.

In 1937 another Japanese engineer was despatched to Grish area to conduct a comprehensive survey of the area Under the old Baghra canal. In 1939 the construction of the canal began. Its intake was decided to be in Charkh-Andaz. The canal was designed to irrigate the Malgir and Babaji areas which consisted of about 32000 hectares of land.

In 1940 the Ministry of Public Works wanted to conduct a comprehensive survey of the Helmand valley to find out which area should be developed and how. For this purpose, a team of Japanese engineers under Mr. Kobayashi went to the Helmand valley. The team made a survey and came with new proposal, the construction of Boghra canal The intake of the Boghra canal was considered in Zambuli village 6.5 kilometers above Charkh Andas. When Kobavashi plan was studied in Kabul, the Minister of Public Works, Mr. Rahimullah Khan, himself decided to see the valley. He took with him four engineers, two Germans, one Polish and one Dutch. In Kandahar they met the Japanese engineers and exchanged their views. After long discussion they preferred the Kobayshi plan and decided to expand the

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Boghra canal from 13.5m width to 31 meters width. This was a huge work, Workers were attracted from the surrounding areas to construct this 70 kilometers long canal. Since the surrounding areas were not capable of providing enough man-power for the construction of the Boghra canal therefore workers were brought from remote areas like Kandahar Oruzgan and Farah. World War II interrupted this program after some 15 kilometers of the canal had been dug with hand labour.

In 1942 a joint British-Russian ultimatum forced the Germans and Japanese to cease work and leave Afghanistan. The Afghans continued the work without foreign help. After some time, such an idea came up that some parts of the area which were under the construction plan were not worth of irrigation due to conglomerate and salty soils. A team of agronomists under the supervision of Mr. Mohammad Zaman Khan was appointed to make an organic survey of the area. Since there was no agricultural laboratory in the area, the team conducted field tests. The construction of the Boghra canal continued according to the Kobayashi plan and 25.7 kilometers of the canal were completed by 1946.

The nineteenth century was the most difficult period in the history of Afghanistan. Russia was advancing towards south to reach warm water, while Britain was advancing towards north to reach the Hindu Kush mountain ranges in Central Afghanistan to defend British India against Russia. Iran was creating trouble, through the support of British government to have influence on the western parts of Afghanistan. On March 4, 1857 there was an agreement between Iran and Britain giving the British government the right of arbitration at the time when any dispute arose between Iran and Afghanistan on their common border. Since Britain was supporting Iran, thus Iran wanted to take advantage from the opportunity and asked Britain to settle the border dispute between Iran and Afghanistan.

In 1872 General Sir F. Goldsmith was appointed as arbitrator to draw a border line between Afghanistan and Iran. He put the Helmand River delta under the Iranian control. This arbitration which was submitted to both governments

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of Iran and Afghanistan on Aug.19,1872 was accepted by these two countries. Since Afghanistan was under pressure as discussed before, and at the same time this arbitration dealt only with the border issue not with the Helmand River water, therefore, it became the source of water disputes between Iran and Afghanistan after wards.

In 1896 wild flood, caused by heavy rain, changed the course of the Helmand River near the Iranian border. A branch of the Helmand river made a headway into the Iranian territory. This new situation brought up new problems between the two countries. The case was referred to Britain in 1902. The British government appointed Sir Mc Mahon as arbitrator and asked him to go to the area and make a proposal on the Helmand River water distribution between Afghanistan and Iran. Mc Mahon came up with his arbitratory proposal on April 10.1905. Iran did not accept this arbitration and Afghanistan also rejected it partially.

The dispute between Afghanistan and Iran over the Helmand River water remained unsettled for many years. Delegations were sent to each other capital several times to find a just solution to the problem, but no permanent settlement of the problem was achieved till 1973.

In 1938 the two governments of Iran and Afghanistan signed an agreement that the Helmand River water should be shared equally by the two countries, after the Kamal Khan check post. But the parliament of Afghanistan rejected this agreement. Thus, the Helmand River water dispute remained unsettled.

In 1946, Shah Mahmood Khan the Prime Minister of Afghanistan, went to Helmand valley to see the construction of the Boghra canal. When he saw that a large irrigable desert was lying at the right bank of the Helmand River while plenty of water was available without any use, he was urged to see more area irrigated compared to the amount proposed in Kobayashi plan. In the same time, the government was getting reports that Iran was trying hard to expand the irrigation network in the Siestan area. In order to take more water from the Helmand river, Afghanistan was worried about this Iranian intention and was thinking that

the more time was passing the more complicated would be the Helmand water problem. Since Iran was getting better economic position day after day, due to her oil revenue and was able and willing to develop as much land in Siestan as she could, it caused the Government of Afghanistan a great deal of concern. Iranian authorities were expanding and developing the area very rapidly for two reasons (a) Helmand River waters were not used in Afghanistan in large amounts and thus were going in volume to Iranian soils straight away. Iran wanted to use this free water as much as possible (b) in the use of more land development in Siestan would give the Iranians a strong hand in any negotiation over the Helmand water problem. This attitude of the Iranian forced the Afghan Government to give serious consideration to the use of Helmand river water. All these factors together motivated the Afghan government work in the Helmand valley substantially in order to take more water from the River. This large irrigation work was requiring a modern planning and the construction of a such larger diversion dam alongwith many reinforced concrete outlets and drop structures. All these would require the use of modern equipment and engineering techniques far beyond the scope that the Afghans themselves could supply.

The defeat of Germany and Japan in World War II ruled out approaches to either nation which had hitherto provide most of Afghanistan's engineering services, of the victorious allies, both Russia and Britain had long been considered foes of Afghanistan. The Americans appeared sufficiently remote and well equipped to meet the need. So, the Afghan government asked an American firm, the Idaho firm of Morrison-Kundsen, to make a proposal for the construction of major roads, electrification and irrigation projects throughout the country including the Helmand valley.

The M.K. Engineers~~xxx~~ arrived in 1946 and carried out many surveys in Kabul and many parts of Afghanistan. In the Helmand and Arghandab areas, the cost estimated were reasonable. The low costs alongwith previous experience in the area brought the Afghan authorities to the conclusion that they should sign a contract with M.K. for the

construction of the Helmand valley project. From this stage the present modern stage of the Helmand valley begins.

Purpose of the study

Helmand was a prosperous valley in the past and was known as breadbasket of the region. After so many successive raids and invasions from outside powers, the irrigation system of the area was destructed such badly that the people of the Helmand valley were not able to rebuild it. Thus, the Helmand valley remained barren and almost uncultivated for centuries.

In early twentieth century, the Afghan government decided to develop and rehabilitate the area. This time heavy equipments were required for its construction. Since Afghanistan did not have such machinery, therefore, she had to ask another country which could provide such a help. The Americans, due to many reasons discussed earlier were in the position to be asked to help the development of the Helmand valley.

The involvement of Americans on one hand and the construction of the project itself on the other, made the neighbours of Afghanistan, Iran and the Soviet Union, very angry. Iran was angry because the amount of water which she was taking from the Helmand River was much more than the right of her water she should take. Thus, the Iranians tried direct and indirect to stop the project. The Soviets were angry because the presence of Americans in the area was a matter of their concern, the Soviet Union was considering Afghanistan in the sphere of her influence. Thus, the Soviets also wanted to stop the project. However the Afghan government of the time was quite aware of these difficulties and was determined to continue the project work.

Thus, there are two groups of people, one who support the project and another the opponents. Each group has its own way of thinking and justification. Since no study or research has been conducted so far to see the project impartial, therefore, many Afghans and foreigners are in

ignorance about the project at the time they judge. This is why such a study as the present one is very necessary to present the project as it is, to all interested people and concerned bodies.

The hypothesis of the present study is whether the Helmand valley project is successful. It is studied here what are the shortcomings and weaknesses of the Helmand valley project and what are its strengths and successes? what the project had prior to its execution and what it possesses now? How much money has been spent so far in the project and what is its return?. In the light of all these information, analysis and evaluation a ~~conclusions~~ conclusions will be made alongwith necessary recommendations and suggestions.