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The Economic Importance and Self-Sufficiency of QOSH TEPA Irrigation Canal

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ABSTRACT

The Qosh Tepa irrigation canal stands as a significant project in Afghanistan, poised to transform thousands of hectares of arid land into self-sufficient sources of agricultural products.

This canal ranks among the largest in the region, diverting water from the Amu River to the Kaldar district of Balkh province. It spans 285 kilometers in length, with a width of 108 meters and a depth of 8.5 meters, extending to the Faryab Andakhoi district. The canal boasts a capacity of 6,500 cubic meters of water per second and 20 billion cubic meters annually, intending to convert 550,000 hectares of dry land into fertile farmland.

The canal's completion is planned in three phases. The first phase covers 108 kilometers from the Amu River in Kaldar district to Daulat-Abad district in Balkh province. The second phase spans 177 kilometers from Balkh's Daulat-Abad district to the Faryab Andkhoi district. Finally, the third phase involves supplying water to agricultural lands.

Upon the successful implementation of this project, Afghanistan will achieve not only agricultural self-sufficiency but also become an exporter to other countries. This article discusses the Qosh Tepa canal in two parts: the first section focuses on identifying the canal, while the second emphasizes its economic value and importance.

Keywords- Agricultural Products, Economic Importance, QOSH TEPA Canal, Self-Sufficiency.

I. INTRODUCTION

Until the beginning of the 20th century, traditional agricultural and livestock practices prevailed in Afghanistan. The presidency of Sardar Mohammad Dawood Khan marked a shift towards modernization and mechanization in these sectors. Despite initial progress, conflicts and insecurity thwarted further advancements. By 1978, Sardar Muhammad Dawood Khan had established around 4,000 agricultural promotion centers, implemented water dams, imported improved seeds, and provided specialized training for farmers. Unfortunately, the Soviet Union's invasion in 1979 inflicted significant damage on the agricultural sector, leading to the destruction of irrigation systems, research centers, and a decline in production.

In the subsequent years (1978–2004), Afghanistan's agricultural output declined by 3.5 percent annually. The government led by Hamid Karzai aimed to revitalize agriculture, focusing on canals, cooperative societies, and mechanization. However, the efficiency of these efforts was limited due to incomplete fundamental projects. Despite some increase in wheat cultivation after 2011, addressing the sector's core challenges required the establishment of infrastructure projects, notably irrigation canals, to cultivate arid deserts.

Notably, Afghanistan possesses significant water resources, with an annual capacity of 69 billion cubic meters, including 53 billion cubic meters of surface water and 16 billion cubic meters of underground water. Despite this potential, the country has underutilized these resources, leading to the outflow of water to neighboring nations. Establishing infrastructure projects, such as the Qosh Tepa irrigation canal, is essential for harnessing this untapped potential

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and addressing the agricultural needs of the population. (Jamali, A. 2023)

II. PROBLEM STATEMENT

Agriculture holds vital importance in Afghanistan's economy, serving as a key element of economic growth. This is evident in Afghanistan contributing approximately 22.12% of the total value of domestic products. Consequently, fluctuations in Afghanistan's economic growth, whether positive or negative, are predominantly attributed to the agricultural sector. Moreover, a significant portion of Afghanistan's population relies on agriculture for employment and income. According to data from the Central Statistics Agency of Afghanistan, at least 40 percent of the workforce engages in agriculture to earn their livelihood.

Afghanistan boasts 9.61 million hectares of arable land, yet only 5.324 million hectares are currently under cultivation, leaving 4.286 million hectares of arable land uncultivated. Over the past four decades, factors such as wars, migrations, and internal displacement have led to an increase in the extent of dry and uncultivated lands compared to previous periods.

III. IMPORTANCE OF RESEARCH

In this research, detailed information was collected from various printed, audio and videos national and international media reports, interviews and articles, and after analysis, they were arranged in the form of a special article, so that the general public, governmental and non-governmental organizations, and international aid organizations get information about the Qosh Tepa irrigation canal and understand the value and importance of the mentioned canal and as a result, be encouraged to take an active part in similar infrastructure projects in Afghanistan and thereby reach out to the Afghan people in order to reduce the level of poverty and unemployment in the country should be reduced.

Nowadays most Afghans, especially the young, generation is suffering from with poverty and unemployment and escape to other countries. It should be understood that only with the completion of this infrastructure project, millions of people will be able to work, food items (grains, vegetables, dry and fresh fruits) will become cheaper, and in this order, not only Afghanistan will be self-sufficient in terms of agricultural products, but the economic situation will also be strengthened and other infrastructure projects will be made possible.

IV. RESEARCH OBJECTIVES

1- Obtaining information about Qosh Tepa Irrigation Canal.
2- Pointing out the economic importance of Qosh Tepa Canal.
3- Getting attention of the international organization, government and people to the infrastructural projects in Afghanistan.
4- Preventing the reduction of poverty and unemployment in the country.
5- Improvement of the economic situation of the citizens and self-sufficiency.
6- Avoiding the escape of educated and young generation from the country.
7- Facilitating other infrastructure projects.
8- Pointing out the importance of Afghanistan's rivers.

V. RESEARCH QUESTIONS

What is the economic importance of Qosh Tepa Canal?
How useful is Qush Tepa Canal in terms of self-sufficiency?
How many people will be provided job opportunities with the start and completion of Qosh Tepa irrigation canal?

VI. LITERATURE REVIEW

Recently, the issue of the Qosh Tepa irrigation canal has gained significance, attracting attention from both domestic and foreign social media. However, despite this attention, no comprehensive specialized research has been conducted on this subject. Instead, various short reports, interviews, audio, and video materials have been published on internet websites, social media, TVs, and radios, providing brief information about the nature of this canal.

This article comprehensively discusses the condition, economic value, and income of the Qosh Tepa canal from various sources. It also covers information about existing waste, agricultural lands, water, their economic importance, work opportunities, and challenges in the country. Relevant data about this project has been collected and compiled into a special brief study, allowing readers to easily obtain comprehensive information about the Qosh Tepa canal.

VII. RESEARCH METHODOLOGY

This study employs both analytical and descriptive research methods, utilizing library resources for information and data collection. The sources include a diverse range of printed, audio, and electronic materials from national and international media reports, interviews, articles, magazines, and the internet. Data is gathered from these sources and, following analysis, organized into a cohesive article.

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VIII. INTRODUCTION OF QOSH TEPA IRRIGATION CANAL

The Qosh Tepa irrigation canal was initially designed during the reign of Sardar Muhammad Dawood Khan for the years 1973 and 1978. The plan was to complete this project within five years, but due to conflicts and instability, it was not implemented. In 2021, AECOM, an international company, signed a $3.6 million feasibility study contract, funded by USAID for one year to complete the studies. The initial work on this canal began in 2020 but was halted due to severe wars, instability, and political changes. After a year, the project officially recommenced on March 30, 2022, led by the economic assistant of the Islamic Emirate, Mullah Abdul Ghani Baradar, and other high officials in Balkh's Kaldar district. One year later, the first phase has been completed.

The Qosh Tepa irrigation canal originates from the Amu River in Kaldar District of Balkh Province, stretching 11,266 kilometers through the Pamir Mountains and passing through Afghanistan, Tajikistan, Uzbekistan, and Turkmenistan, forming a natural border between neighboring countries.

The Amu River, one of Central Asia's most water-rich rivers, has historically benefited neighboring countries, with Afghanistan only experiencing damages such as the destruction of Kaldar and Shortepa districts of Balkh province. Currently, 5.1 billion cubic meters of water from the Amu River flow to Uzbekistan, 49.6 billion cubic meters to Tajikistan, and 1.5 billion cubic meters to Turkmenistan.

The Qosh Tepa irrigation canal, one of the largest in the region, spans 285 kilometers in length, 108 meters in width, and 8.5 meters in depth, carrying water from the Amu River in Kaldar district to the Andakhoi district of Faryab province. The canal transfers 6,500 cubic meters of water per second and 20 billion cubic meters annually, irrigating 550,000 hectares of land. The canal's completion is planned in three phases, with the first stage covering 108 kilometers from the Amu River in Kaldar district to Daulat-Abad district of Balkh province. The second stage spans 177 kilometers from Daulat-Abad district of Balkh province to Andkhoi district of Faryab province. In the third phase, water will be distributed to agricultural lands through sub-canals. Upon completion, Afghanistan is expected to achieve self-sufficiency in agricultural products and export surplus to other countries.

The canal's construction, scheduled to be completed in three stages over five years, incurs a cost of 60 billion Afghanis. The National Development Company, along with 124 small domestic construction companies, provides all resources and technical works for the project. Currently, 3225 machines and approximately 5000 people are working at 120 different points of this project. Initially planned to excavate 360,000 cubic meters of earth per day, this amount later doubled. The National Development Agency has budgeted 8.2 billion Afghanis to complete the first phase, with costs for subsequent phases covered by revenues from the Balkhab coal mine in SariIpul province.

IX. ECONOMIC IMPORTANCE OF QOSH TEPA IRRIGATION CANAL

With the construction of the Qosh Tepa irrigation canal, Afghanistan's economic growth will significantly increase, especially in the field of agriculture. Due to its high-quality and fertile land, suitable geographical location, and favorable climatic conditions, this area is poised to supply good agricultural products for export not only to Afghanistan but also to the region.

According to experts, Afghanistan can benefit from this canal, enabling self-sufficiency in wheat production and facilitating exports to other countries. The water from this canal reaches the Andkhoi district of Faryab province, spanning from Khalm, Nahrshahi, and Daulat-Abad districts of Balkh province to Aqche, Mardan, and Khawaja Dokoh districts of Jawzjan province. Several water transfer dams and irrigation systems have been planned along this canal.

Upon the completion of the Qosh Tepa Canal, 600 thousand hectares of dry land will be transformed into irrigated land. This area will witness the widespread cultivation and production of cotton, grapes, melons, soybeans, almonds, pistachios, and similar products, benefiting around 200 thousand people and providing a conducive working environment. The construction of this canal is expected to significantly improve the economic situation of the northern provinces of Afghanistan, particularly in agriculture.

Anticipated opportunities arising from this project include:

1. Thousands of job opportunities will be created until the completion of this project.
2. Approximately 3,000 technical workers, including engineers, managers, designers, operators, architects, and technicians, will be engaged in various capacities.
3. Indirectly, 150,000 to 250,000 local people will be involved in agriculture.
4. The canal has the potential to build a power station generating 1000 megawatts, contributing $300 to $400 million annually to Afghanistan.
5. By 2031, 80% of the electricity needs of the North and Northeast provinces will be met.
6. Upon completion, 500,000 to 700,000 hectares of dry and loamy land will be irrigated.

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7. The land around the canal is suitable for breeding animals, fish, and poultry, providing at least fifty percent of the meat production capacity to the residents of the northern and northeastern provinces.
8. Over 30 thousand families will directly and indirectly benefit from this project.
9. Approximately 10,000 people will be permanently employed in various projects resulting from this initiative.
10. Environmental protection will also play a crucial role in the overall impact of this project.

X. MAJORS FINDINGS

As a result of this research, we conclude that the internal economy of Afghanistan is primarily based on agriculture, and most people rely on the agricultural sector for work and income. Afghanistan has millions of hectares of arable land, almost half of which remains uncultivated. With the improvement of the irrigation system, these barren and dry lands will become fertile. In the short term, thousands, and in the long term, hundreds of thousands of people will gain job opportunities. In the same way, through this research, we will understand the construction of the Qosh Tepa irrigation canal, which will lead to a significant increase in the economic growth of Afghanistan, especially in the field of wheat production to achieve self-sufficiency.

XI. DISCUSSION

If we examine Afghanistan's historical background, we understand that its economy was predominantly based on agriculture, livestock, and handicrafts. It was self-sufficient in terms of agricultural products and even exported most of its domestic products to other countries in the region. Unfortunately, due to the consecutive wars of the past four decades, not only have social, cultural values, and economic infrastructures been seriously damaged, but agricultural lands and water channels have also suffered.

Furthermore, the introduction of this study revolves around two essential topics. In the first part, the Qosh Tepa irrigation canal, its brief history and introduction, agricultural, dry and barren lands, products, water capacity, and the problems facing them are highlighted. In the second part, the value and importance of the available agricultural lands and water resources in the country, in addition to the Qosh Tepa irrigation canal, have been explained. In the same order, the job opportunities that reduce poverty and unemployment have been identified.

XII. SUGGESTIONS

- It is suggested to the government to consider the current situation of the country, control the water of the rivers, and assert its own rights in accordance with international principles, taking into account internal expenses.
- It is proposed to establish a special competent authority for the construction of similar canals and water management for other barren and dry lands in the country (like the Qosh Tepa Canal).
- It is proposed to reduce the levels of poverty and unemployment in the country through infrastructure projects such as the Qosh Tepa irrigation canal. In this way, prevent the outflow of human resources due to unemployment.
- It is suggested that a sufficient budget should be allocated for infrastructural projects, and special attention should be paid to this aspect.

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