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Policy Brief

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EVALUATION OF BALOCHISTAN'S KACHHI CANAL PROJECT

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INTRODUCTION

Kachhi Canal Project (KCP) envisioned to transform the socio-economic livelihood of local populace by developing the Kachhi plain of Balochistan. KCP originates from Taunsa Barrage, Punjab, and enters Dera Bugti District of Balochistan and extends to Jhal Magsi District by irrigating a total of 713,000 acres of CCA. It has a total length of 500 kilometers with 194 kilometers of culturable command area (CCA) in Balochistan province. It aims to provide an annual benefit of PKR. 19.66 billion to the national economy by enhancing the cropping intensity from 4.68 percent to 88.50 percent. The project has been executed by the Water and Power Development Authority (WAPDA) and funded through the public sector development program.

The project has been revised twice due to multiple snags, including time and cost overruns. As per the original PC-1, the initial total allocated budget for the project was PKR. 31.204 billion and was expected to be completed by 2007. However, the project delays and revisions have raised the cost effect from PKR. 31.204 billion to PKR. 80.352 billion with the revised deadline by the end of 2018 for phase 1 only. As per the second revision, the project has been divided into three distinct phases. KCP phase 1 has been further divided into two parts. Phase 1 (Part A) has been inaugurated by the Prime Minister of Pakistan, Shahid Khaqan Abbasi, while development work is in progress on Phase 2 of the project.

KCP is a major undertaking from PSDP on which substantial resources have been expended over the past two decades. As per the envisioned plan, Phase 1 (part A) of the project, operational since 2018, was planned to irrigate 72,000 acres of CCA, providing an annual benefit of PKR. 3 billion to the national economy and improving the socio-economic landscape of the region. Despite initial promise, the project has failed to live up to its true potential due to delays and lack of planning. Our study aimed to study the impact on socio-economic indicators of the local populace and its utility in enhancing the agriculture output.

After its delayed completion, Phase 1 of the project did improve upon the socio-economic indicators of the local population. However, the flooding in 2022 has substantially damaged canal infrastructure at multiple places, rendering it non-operational. At present, a massive restoration effort is required to reinvigorate the project.

METHODOLOGY

The primary objective of the study is to carry out an impact assessment of phase 1 (part A) and evaluate the impact on the socio-economic profile of the region. The perspective of the WAPDA has been incorporated in initial field surveys that were conducted to derive an idea about the situation of the Kachhi Canal. The perspectives of farmers and landowners are incorporated through focus group discussions (FGDs). The FGDs included those farm owners/farmers that have access to and benefited from irrigated water from KCP in the Sui region of Dera Bugti, Balochistan. A total of 6 FGDs were conducted with farmers and landowners in different Mouzas. Quantitative analysis has been conducted using data obtained from the agriculture extension department of Balochistan. Economic and financial analyses were conducted to ascertain the viability of the project using benefit-cost ratios, net present value, and internal rate of return. To derive the findings from FGDs, a reflexive thematic framework was used.

FINDINGS

The themes devised based on the focus group discussions fall into three main categories, i.e., Pre-KCP Time (T-I), KCP Phase I Operational (T-II) and KCP Post-Flood 2022 (T-III).

Pre-KCP Time (T-I)

In the pre-KCP time, the local population was dependent on rain-fed agriculture. Most of the land was barren and desert. Water scarcity was one of the major impediments that led to low crop production, productivity, and yields. Traditional farming methods were employed. Cropping intensity and land utilization were significantly lower due to water scarcity. The socio-economic conditions were marked by minimal economic activities, limited employment, sparse population, and frequent occurrence of social & armed conflicts.

KCP Phase I Operational (T-II)

In the operational phase of KCP, farmers and landowners are highlighted by the growth and widespread prosperity in the region. Barren and sandy lands were cultivated. The cropping intensity increased significantly, crop varieties were historically higher, agriculture output and yield significantly increased. FGDs participants revealed that the socio-economic landscape of the region improved altogether. There was a reduction in social and armed conflict, however these conflicts were present in the region. Income levels significantly increased in the region.

KCP Post-Flood 2022 (T-III)

The severe rains in the DG Khan & Rajanpur districts damaged the Kachhi Canal, damaging at least six structures partially or completely with 129 major breaches. The lack of restoration of the canal turned a prosperous region into a desert, which profoundly deteriorated the socio-economic conditions of the area. The conditions become even worse than the rain-fed agriculture system due to the leveling of land water, which rendered the rain-fed system impractical as it disrupted the

natural ability of land to store and use water. Participants of FGD unanimously endorsed the presence of severe water scarcity even for drinking and other purposes, migrations from the region to other areas/provinces, and worsening of agricultural output. Another important finding was that the land has become infertile, sandy, and barren. The social and armed conflict increased in the region.

Findings of Focus Group Discussions

At present, there is an urgent need to restore the canal. Most of the participants indicated that urgent rehabilitation of the canal plunged the local populace into despair, as the majority of the population is dependent on agriculture. The current state of socio-economic conditions is very bad due to extreme water scarcity, even though drinking water is not available to the local residents.

Findings of Economic and Financial Analysis

The viability of KCP phase-1 (part A) was conducted employing net present value, benefit-cost ratio, and internal rate of return. Different scenarios were conducted to check the financial viability of the project. These scenarios were compared with estimates at the time of project appraisal and estimates of the agriculture extension department of Balochistan. The sensitivity analysis of these scenarios was also carried out. The findings indicate that the project is financially viable if restoration of the canal starts in 2024-25 and is completed within the next three years. Other scenarios provide mixed results.

POLICY IMPLICATIONS

Canals have historically been a substantial contributor to improving socio-economic indicators. The KCP project was conceived with the right intent to transform the socio-economic landscape of the population of Balochistan. However, cost overruns and project delays have substantially enhanced the cost effect and delayed the promised returns. Even after its completion, the project has suffered a major setback due to flash flooding, making the project non-operational. Being an agriculture-based economy, Pakistan is likely to undertake numerous such initiatives in the future as well. Cholistan Canal is also in the offing as part of the Green Pakistan Initiative. Therefore, it is imperative to take the right policy decisions in the future before the commencement of such major undertakings. The gist of a few policy implications from our study is as follows:

1. In order to keep KCP financially feasible, the restoration work needs to be completed on a priority basis. There should be special emphasis to make it climate resilient to subsequent flash flooding by devising flood control and resilience strategies, for instance, the construction of protective structures, embankments, and floodwater diversion systems.
2. Before initiating any future project, expected impact of climate change should be studied in detail and sufficient safeguards should be taken to make them climate resilient.
3. KCP is a classic case of project mismanagement, as the project costs were increased considerably and timelines for completion have been delayed by almost two decades. Although the reasons for these delays were not deliberated as they were out of scope of

study objectives, there is a need to identify the root cause of these delays for future reference.

4. The raison d'etre for KCP was to reduce the backwardness of the area by improving upon socio-economic indicators, which is yet to be materialized. GoB should undertake socio-economic support programs in the region, for example, financial aid, subsidized inputs, and interest-free loans to encourage farmers and landowners to invest in tubewells and rehabilitate their lands.
5. Offer skill development programs, training, and alternative livelihoods options to attract farmers and reduce the outflow of farmers and mitigate economic distress.
6. Upon completion of the project, land disputes between tribes are likely to emerge as a major challenge in the future, which may result in a conflict situation. Therefore, there is a need to address the issue of social and armed conflicts by promoting dialogue among stakeholders and involving law enforcement agencies and tribal leaders.