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The Impact of Project Management Practices on the Success of the Qosh Tepa Canal Project: A Qualitative Study

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Abstract
This paper examines how project management practices have affected the success of Phase One of a significant national infrastructure project in Afghanistan, the Qosh Tepa Canal. As the research is resource-driven, it is guided by the Resource-Based View (RBV), which explores the effects of the managerial capabilities, allocation of resources, and coordination of stakeholders on the execution of the project. The qualitative methodology was used, comprising a series of semi-structured interviews with project managers, engineers, policy makers, and local stakeholders and documentary analysis.
Results indicate that effective leadership, proper planning, coordinating team activities, consistency in monitoring and participation in the community played a crucial role in the achievement of Phase One goals. Nevertheless, the current issues of technical difficulties, environmental hazards, logistics, and institutional restraints were revealed as the continuous problems that might influence future stages.
The research will assist in comprehending the role of project management practices in influencing the infrastructure outcomes in weak contexts, which will be applicable to policy-makers, project managers, and development practitioners who are interested in enhancing implementation and sustainability of large scale projects in a complex setting.

Keywords: *Project Management, Infrasructure Development, Irrigation Projects, Qosh Tepa Canal, Qualitative Research, and Afghanistan.*

INTRODUCTION

BACKGROUND

Project management has been seen as an international concern as organizations continue to be under pressure to produce projects efficiently and effectively. It is the implementation of knowledge, skills, tools, and techniques to project activities to deliver project requirements alongside balancing initiatives to long-term organizational goals, as well as addressing risk, and value creation (PMI, 2017). Project management is not only associated with economic growth and development of

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infrastructure but also increased efficiency of the resources and minimized expenses and long-term effects like job creation and investment opportunities (ElHamahmy, Gohar, and Galal, 2025).

Such massive infrastructural projects as dams and irrigation canals need strict management since they involve large financial resources and take an extended duration of time and stakeholder relations. Malpractices tend to lead to time wastage, budget overruns, and low quality results (FAO, 2017). The latter are especially acute in developing nations, where project success is hindered by scarce financial and human resources, the undeveloped institutional frameworks, insufficient bureaucracy, and political interference (Ahmeti, 2015; Dang and Phemal, 2015). Any trust is also destroyed by corruption, nepotism, and unclear procurement procedures, which compromise quality outcomes (Aladwani, 2015; Ofori, 2013).

Such problems are observed in Afghanistan. Infrastructure results have been limited by the consistent budget deficits, misuse and insecurity despite allocations amounting to almost 50 billion in the reconstruction of post 2001 (Affleck and Freeman, 2010). One of the largest and most ambitious development activities in Afghanistan is the Qosh Tepa Irrigation Canal that is 285 kilometers in length and is supposed to supply water to up to 600,000 hectares. The canal was inaugurated in 2022 and is projected to cost approximately $684 million and to boost agricultural output, achieve wheat self-sufficiency, generate more than 200,000 jobs and have regional implications through the diversion of large quantities of water on the Amu River (Mushtaq, 2024; Sarbiland & Stanikzai, 2024).

However, the canal has potential, and the project management is the key to its success. The development of infrastructure in Afghanistan has been plagued by a lack of organizational capability, lack of supervision and institutionalized governance problems. Delay and cost overruns are the most common consequences of limited budgets, unskilled staff, bureaucratic inefficiencies, and politicized decision-making, and the quality of projects and stakeholder confidence are often compromised by corruption and lack of transparency in the procurement process (Affleck and Freeman, 2010; Ahmeti, 2015; Dang and Pheid, 2015; Aladwani, 2015; Ofori, 2013). Current studies have been very silent on how these challenges can be addressed by use of project management practices, especially leadership, communication, and coordination of stakeholders, to improve performance of the project.

- There is limited empirical evidence on the part played by project management in the large scale infrastructure projects in Afghanistan. Previous research is technical, financial, or political in its nature and is most often placed in stable governance settings (Beckers et al., 2013; Xue et al., 2018; Waris et al., 2022). Very little is known on how theoretical frameworks like the Resource-Based View (RBV) and the PMBOK guide interrelates with practical implementation in the context of insecurity, institutional weakness and political uncertainty. Also, the internal management structures, decision-making processes, and coordination processes, which define the project success, are seldom considered in most of the literature on the Qosh Tepa Canal in terms of technical, environmental, or

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geopolitical aspects (Kakhramonov, 2025; Mushtaq, 2024; Crosslin, 2025; Kuchins et al., 2024).

This research paper is filling these gaps by examining the impact of project management practices on the success of the Qosh Tepa Canal project. It discusses the practices that add to project performance, the difficulties encountered in the implementation process as well as the strategies that the management team used to address these difficulties. The research would fill the empirical, theoretical, and contextual gaps, thus contributing to the knowledge about the possibility of improving the delivery, sustainability, and transformative potential of the largest infrastructure project in Afghanistan through effective project management.

Literature Review

It is well known that infrastructure is one of the foundations of sustainable development, but the developing world continually experiences hindrances in the provision of the projects. Urbanization, population, and migration increase the needs of transport, power, and irrigation systems (McDermot et al., 2022). India and China have shown that it is possible to reduce poverty directly through infrastructure that is target-focused, which may be rural roads and irrigation, whereas Latin America still faces the problems of inadequate public investment, dependency on foreign capital, and weak governance.

The major issues of developing contexts are poor planning, lack of skilled human capital, poor cost and time estimations, poor stakeholder communication, and bureaucracy (McDermot et al., 2022). This has a tendency to cause project delays, increase cost and poor performance. These problems are to be solved by better governance, risk mitigation, and involvement of stakeholders to improve the project outcomes and add to the sustainable development.

One of the key limitations to infrastructure delivery is the lack of financial and human resources. Different developing countries usually do not have experienced engineers, technical managers, and qualified labour, and their financial ability is limited to invest in large scale projects (Debrah and Ofori, 2006; Oyedele, 2015). Capacity gaps are also caused by poor motivation, opportunity to be trained, and emigration of professionals to deter competitiveness and sustainability in the construction industry.

Lack of institutional and governance effectiveness also sabotages effectiveness of the project. Institutional efficiencies are constrained by weak organizational structures, lack of coordination and proper planning of policies (Ebohon, Field, and Ford, 1997; Dang and Low, 2015). Corruption and lack of transparency are widespread especially in procuring and construction resulting in high costs, low quality work and lack of trust amongst stakeholders (Sohail & Cavill, 2008; Wells, 2015). The productivity and project efficiency are also limited by technological and innovation gaps, which are low investment in R&D and low technical knowledge and institutional support (Ali, Ullah, and Khan, 2009; McKinsey Global Institute, 2017).

These challenges are aggravated by security threats and political instabilities. Civil wars, insecurity, and instability of governments negatively affect the continuity of the project, deter investments, and deter long-term sustainability (Oyedele, 2014;

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Iregbenu & Uzonwanne, 2015). Political instability and the ineffectiveness of governance are further contributors to corruption which further hampers efficient delivery of infrastructure.

The case of Afghanistan is a case in point. Huge government-funded infrastructure has been supported by foreign capital since 2001, most of it going to transport corridors, electricity transmission lines, irrigation schemes, and fiber-optic networks, but local financing has been minimal (Karimi, 2020; Fayez, 2012). Development assistance and security support have been received by Afghanistan between 2002 and 2018 in the amount of about 73 and 70 billion respectively, which indicates a high dependency on foreign funding. Although this support facilitated reconstruction, it also brought dependency and lack of alignment with the domestic needs and governance issues especially in agriculture and infrastructure in the rural areas.

The technical and environmental challenges experienced in Afghanistan are difficult terrain, inadequate building materials, primitive practices in the locality, and low standards of documentation that make it difficult to implement projects (Affleck and Freeman, 2010). The problems in institutions and culture that make planning, oversight, and accountability more difficult include fragmented authority, poor coordination, and tribal. Corruption is a significant impediment, which causes cost inflation, project slackage, and project quality (Meng, Ghafoori, and Yolchi, 2025; Sopko, 2018). Insurgency, lack of knowledge of governance and complex land claims have all been security threats and political instability that threaten the implementation and sustainability of the project (Amiri and Clarke, 2021; Zaland, 2025).

The Qosh Tepa Canal is one of the largest infrastructure projects in Afghanistan, which should irrigate about 550,000 hectares of land in Northern provinces, decrease the dependence on food imports, and enhance the sustainable livelihoods of rural areas (Kakhramonov, 2025; Sarbiland & Stanikzai, 2024). The 285-kilometer canal was launched in 2022 and covers a variety of landscapes, with both national and regional interests and influence on the water-sharing dynamics with the rest of the countries. The goals of the project involve improving agricultural production, food self-sufficiency, the creation of rural jobs, the affirmation of Afghanistan's fair share of equitable water rights, and economic development in other ways (Khujanazarov, Touge, and Tanaka, 2024; Isar, 2025).

Project management is an important element in the success of the canal. The major dimensions are the ability to monitor and control with the help of remote sensing and geospatial analysis, adaptive planning and scheduling, environmental and social management, security and risk mitigation, transboundary governance, and transparency mechanisms (Crosslin, 2025). The financial constraints, poor institutional capacity, and regional hydropolitical tensions are combined with technical issues, such as soil instability, seepage, and maintenance requirements, making the delivery of the project difficult (Mushtaq, 2024; Kuchins et al., 2024). The sustainability of the management is further re-emphasized by environmental hazards that include the possibility of desertification and salinization.

The situation in Afghanistan can be discussed as correlated with the literature in the field of infrastructure governance since it portrays that the success of projects in

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fragile states is determined by the combination of technical capacity, financial resources, institutional strengths, governance quality, transparency, and stakeholder involvement (Sohail and Cavill, 2008; Wells, 2015; Bizhan, 2018). The Qosh Tepa Canal is a good example of all these factors coming together to point out how change management of the project, evidence-based planning and governance reforms are the necessary measures to ensure sustainable results in complicated and politically sensitive areas.

Methodology

The paper takes a qualitative, case-based design in order to investigate The Impact of Project Management on the Success of the Qosh Tepa Canal. The qualitative inquiry was chosen due to the ability to thoroughly research the complex managerial, institutional, and socio-political processes with emphasis on the impact of project management practices on the success of the project as opposed to quantitative measurement. The study relies on the interpretive paradigm, in which it prefers the insights of the stakeholders, company processes, and contextual variables, which aligns with the conceptual framework of Goundar (2012), Snyder (2012), and Islam and Aldaihani (2022).

The research employed a semi-structured interview and documentary analysis to gather data. Key informants were selected through five in-depth interviews of the key informants who include the Project Manager, Chief Engineer, an official of the National Development Corporation, and two local residents who are subject to the canal effects. The three other views were noticed using documentary materials that contained a top-level official with the Ministry of Agriculture, a water resource analyst, and a hydrology expert. The policy documents, government reports, technical publications, and the credible media articles were all used as documentary sources. Such triangulation approach was chosen to provide analytical richness and plausibility especially on a setting that had limited access to participants.

The interviews were conducted through phone or written communication, depending on the security and accessibility. Informed consent was given by all the participants and the interviews were transcribed, translated and cleaned in order to be consistent. Documentary content was tagged with metadata in order to facilitate traceability and incorporating interview data. Such multi-source design enabled the checking of results and increased methodological rigour.

Thematic analysis based on NVivo software was used in data analysis with a grounded-theory approach. This was done through open coding to determine relevant units, axial coding to classify codes into categories and selective coding to determine core themes in the context of project management, project governance, technical implementation and contextual issues. Reflexive memoing was implemented in all directions to record an analytical decision, track bias in the researcher, and be transparent. Interpretation and triangulation of interviews and documentary data served to enhance credibility, dependability and confirmability of the findings.

The study centered on ethical issues. The participants were told about the purpose of the research, the research scope, and the procedures and the confidentiality was

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assured. Reflexivity and methodological transparency were encouraged by means of responsible data processing and the rigor of documentation, whereas triangulation reimbursemed barriers of access and guaranteed content-rich and dependable information.

This methodological framework offered sufficient foundations to the exploration of the impact of processes of project management, institutional capacity, environmental constraints, and socio-political dynamics on the success and sustainability of the Qosh Tepa Canal in combination. With the combination of qualitative interviews, documentary evidence, and grounded-theory coding, the study provides a holistically-based, contextually-focused insight into the attributes that influence the outcome of large-scale infrastructure projects in a weakly-knit environment.

Findings

It was successful due to effective leadership, operational planning, specialized and coordinated teams, a constant supervisor, an active communication channel, evidence-based technical decision-making, and community involvement. Interviews and documents also brought forward the fact that there was support and the leadership being on-the-ground, planning on national and international standards and teams being organized to do the jobs efficiently. Participatory and community employment also helped to implement it smoothly.

The challenges encountered in the project involved technical, environmental, logistical, social, and project-specific challenges. Significant challenges were increased ground water, challenging topography, shortage of materials, intermittent funding, transportation, community disturbances and situation-specific complexities. These issues influenced the implementation of projects and necessitated the need to adopt dynamic management approaches.

To avoid these issues, management team utilized proactive identification of risks, adaptive technical solutions, effective allocation of resources, multi-layer supervision, good inter-team coordination, community involvement, disciplined financial management and supportive leadership. This had provided continuity, responsiveness and efficient problem-solving at project lifecycle.

Overall, the Qosh Tepa Canal experience shows that the combination of effective leadership, technical skills, community participation, and responsive planning allows implementing major infrastructure development projects even under the conditions of complex and dynamic nature.

Thematic Findings from Mind Map Analysis

Qualitative analysis of interviews, documentary information, and other forms of supporting material led to the formation of a list of interconnected themes that describe how the practice of project management made the successful implementation of Phase I of the Qosh Tepa Canal Project possible. The data were analyzed using qualitative data analysis software and categorized and coded systematically into themes and sub-themes which are represented in two mind maps. These thematic

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frameworks offer a combined insight on management practices, issues, effects, and consideration of the project on a long term basis.

Figure 1: Thematic structure of project management practices, quality control mechanisms and challenges in Phase I of the Qosh Tepa Canal Project.

1. Successful Management Practices (Phase I)

The initial significant theme shows the management practices that were directly applied in the successful accomplishment of Phase I. The results reveal that technical and operational management was in the spotlight which was evident by the strict observance of engineering standards, proper supervision at the site, and strict implementation of the demands of the design. Accountability was taken care of through strong leadership and supervision within the different teams, planning, and coordination ensured easy interaction between engineers, contractors, and the supervisory bodies.

Proper management of the resources such as the allocation of materials, machinery and human resources ensured continuity of work in a difficult geographical environment. Simultaneously, the risk management process, including the active recognition of technical and operating risks, contributed to the minimization of disruptions during implementation. All of these practices indicate established project management capacity in Phase I.

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2. Quality Control (QC)

The theme of quality control appeared to be very specific and urgent. The results demonstrate the strict compliance with accepted technical specifications, which is enhanced by the consistent cooperation with supervisory teams. Technical instructions were made available and well clarified at the construction sites and all field staff had a common understanding.

A technical group was to be involved in gathering material samples (e.g., stone, rebar, cement), and the samples were to be subjected to laboratory testing. Materials to construction sites were moved only after approval. Transparency and accountability were strengthened by submission of data sheets and technical reports to the client on a regular basis. All these steps contributed to the enhancement of quality construction and minimization of the risks of structural shortcomings.

3. Challenges and Mitigation Strategies

Although it turned out to be a success, the project had to face a number of challenges that needed to be managed in an adaptive way. These obstacles were categorized as technical and design-related, logistical and resource-based and environmental and climatic. The long distance to transport, rough terrain, and weather conditions were a challenge to operations.

Mitigation measures entailed flexible time scheduling, reinforcement of logistics coordination and localized technical modifications. The results have shown that the ability to make decisions responsively and coordinate the efforts of management teams played a critical role in reducing the effects of these issues during Phase I.

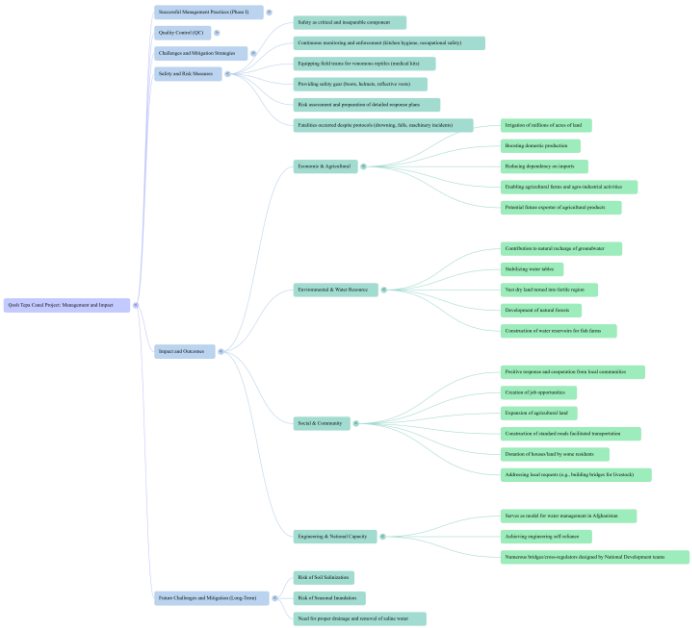

Figure 2: Thematic structure of Safety & Risk Measures, Impact & outcomes, and Future Challenges & Long-Term Mitigation in Phase I of the Qosh Tepa Canal Project.

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4. Safety and Risk Measures

The issue of safety was considered as a central and non-negotiable part of project management. The results indicate the continuous `safety control and prevention, such as workplace safety, and general health precautions. The field crews received protective equipment like helmet, boots and reflective vests on which medical kits were also supplied in case of risks caused by venomous reptiles in the desert regions.

The emergency response plans and risk assessment were made necessary but despite all these, there were certain cases of fatal accidents (e.g., drowning, falls, and machinery-related accidents). This highlights how risky it is to implement large scale construction of infrastructures and the importance of enhancing the safety measures in subsequent stages.

5. Impact and Outcomes

The Impacts of Phase I are not limited to construction performances but are divided into economic and agricultural, environmental and water resources, social and community, and engineering and national capacity aspects.

The canal also led to the economic growth of millions of acres of land, domestic agricultural production, and a decreased reliance on imports. The results also indicate that there is tremendous possibility of exporting agriculture products and development of agriculture industry in the future.

Environmentally, the project helped in ground water renewal, water table stabilization, and conversion of deserted lands into agricultural fields, natural forests and the building of water reservoirs where fish can be reared.

Locally, there was excellent cooperation and support which included land and housing donations in certain places. The standard road construction across the canal enhanced movement, helped in transport and generated job opportunities.

On a national scale, the project enhanced self-reliance in engineering, with national teams being used to design and construct large-scale structures like bridges and cross-regulators. This is an indication of increased institutional and technical capacity in Afghanistan.

6. Future Challenges and Long-Term Mitigation

The last theme is on the long-term risks and sustainability issues. Such aspects as the threat of soil salinization, seasonal flooding, and effective drainage systems to eliminate saline water are among the crucial concerns. The results underline that in order to maintain agricultural productivity and environmental stability in the command area of the canal, these risks will need to be mitigated.

It is noted that the long-term planning, constant control, and combination of drainage and soil management strategies are the key priorities that should be observed in further stages of the project.

Generally, the thematic results reveal that quality management practices, structured project management practices, adaptive mitigation measures, and high stakeholder engagement levels played a key role in the successful execution of the Phase I of

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Qosh Tepa Canal Project. The mind maps allow a holistic representation of the way the management processes were converted into tangible economic, environmental and social results and also indicate the areas that should be given strategic focus during the latter stages.

Discussion

This paper has explored the role of project management practices in the successful implementation of Phase I of Qosh Tepa Canal Project in a weak and resource-restrained environment. The results have been discussed against the backdrop of the existing literature on the topic of infrastructure delivery in the developing and conflict based nations with specific emphasis on the governance, institutional capacity, risk management and stakeholder engagement.

The results show that formal project management behaviors, especially planning, coordination, leadership, resource allocation, and risk management, have decisively contributed to the successful execution of Phase I. It is consistent with the rest of the literature that pinpoints weak planning, unrealistic scheduling, and poor coordination as some of the most significant factors leading to ineffective infrastructure performance in developing nations (McDermot et al., 2022). Unlike a lot of the reported incidents of delays and cost overruns, the Qosh Tepa Canal indicates how effective management and operational control can help reduce systemic constraints.

The high level of focus on technical and operational management we see in Phase I is indicative of the value of internal organizational capabilities in breaking the contextual constraints. This observation confirms the arguments of Debrah and Ofori (2006) and Oyedele (2015), who note that human capital and managerial competence are essential success factors in organizations with low levels of financial and institutional resources.

It became one of the pillars of project success to have quality control mechanisms. Compulsory compliance with acceptable technical specifications, laboratory test of materials and deployment of materials with approvals-based technique covered typical failure of governance pointed out in the literature. Earlier research has associated corruption, ineffective monitoring and transparency as a reason behind poor quality in developing nations (Sohail and Cavill, 2008; Wells, 2015). The results of this paper imply that procedural discipline and documentation standards can go a long way in mitigating these risks, even in an institution that is as weak as possible.

This is contrary to previous facts in Afghanistan where poor records, lack of cohesion of power and responsibility hampered the delivery of infrastructure (Affleck and Freeman, 2010; Karimi, 2020). The Qosh Tepa Canal Phase I shows that these traditions were partially abandoned, which proves that there are certain mechanisms of governance that may improve performance despite more global issues.

As it is consistent with the literature, the project had to deal with technical, logistical, environmental, and climatic issues (Mushtaq, 2024; Kuchins et al., 2024). The results however indicate that the adaptive mitigation measures, including adjustable schedules, technical modifications on a local scale, and better logistics planning proved successful in curbing disruptions. This confirms the thesis that fragile states

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can become successful in terms of infrastructure development only when they are able to cope with emerging challenges with the help of adaptive management, yet not because they do not appear (Bizhan, 2018).

On-going risk assessment and safety measures mitigated the security risks and uncertainty of the environment, which are again classified as some of the biggest obstacles in conflict-prone areas (Oyedele, 2014; Amiri and Clarke, 2021). Despite a number of incidences, the existence of organized precautionary and risk actions indicates a stage of institutional maturity compared to the reports that are normally reported in similar Afghan projects (Meng et al., 2025).

The effects found in the findings, especially in agriculture, the employment sector, the restoration of the environment, and the capacity of the country to develop its engineering, are in line with the international evidence reported of irrigation infrastructure to alleviate poverty, promote rural growth, and increase food security (McDermot et al., 2022; Sarbiland and Stanikzai, 2024). The case of converting barren land to fertile agricultural land shows results that have been achieved in other circumstances of successful irrigation projects by other developing countries.

Notably, the results also show high levels of cooperation and social acceptance of the community, unlike in the literature that focuses on stakeholder conflict and institutional fragmentation in Afghanistan (Ebohon et al., 1997; Dang and Low, 2015). It indicates that social legitimacy and sustainability of the projects can be enhanced through inclusive engagement and sensitivity to the local needs including solving the livestock mobility and access issues.

On the national level, the development of the engineering capacity locally and a decrease in overdependence on external actors are reactions to the anxieties expressed by Fayez (2012) and Karimi (2020) about Afghanistan being dependent on foreign aid and expertise. Phase I of the Qosh Tepa Canal is therefore the indication of movement to a higher technical self-dependence even in the most rigid environment.

Although there are positive results, the findings also highlight the risks in the long term, such as salinization of soil, seasonal flooding, and lack of drainage. Such issues are in line with the environmental threats found in the literature such as desertification and water mismanagement (Khujanazarov et al., 2024; Isar, 2025). The research provides a strong evidence on the argument that infrastructure success has to be measured, not only by the delivery in the short run, but also by the long run environmental and institutional sustainability.

The proposed work addresses the gaps outlined in the literature, specifically the absence of empirical and practice-based research on project management of the large-scale infrastructural projects in Afghanistan (Sopko, 2018; Karimi, 2020). The study sheds some light on context-specific situations of management practice under conditions of limited resources, political insecurity and environmental risk by concentrating on the Phase I of the Qosh Tepa Canal.

Although the results are restricted to Phase I only and could not be applied to the later phases without additional evidence, the results provided important lessons to the policy makers, project managers, and development practitioners of the later phases of the canal and other such large scale development projects in the fragile states.

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Conclusion

This paper has explored the contribution of project management to the success of the Qosh Tepa Canal, one of the largest strategic infrastructure projects in Afghanistan, to the contribution that managerial practices, institutional capacities and realities of the situation had on the implementation and initial success. Based on the interpretive paradigm, the qualitative research design was used, and the data collection was performed using semi-structured interviews with the project officials, engineers, policymakers, and representatives of the local community with the support of documentary sources such as technical reports, government publications, and media reports. Synthesis of the findings was done through thematic coding and qualitative analysis software.

It is revealed that Phase One of the Qosh Tepa Canal was successful because of a mix of planned project management activities, flexible leadership, community involvement, and the institutional capacity of the National Development Corporation (NDC). Such key practices were integrated planning and staged scheduling, effective communication and coordination systems, multi-layered monitoring and evaluation, quality assurance and laboratory-based controls, active risk identification and adaptive decision-making. The interaction with the local communities also helped establish a social support, which guaranteed easier implementation and cooperation with the locals.

The project had numerous challenges, which were majorly associated with the environmental factors, technical uncertainty, logistical challenges, and occasionally institutional coordination obstacles. These were the instability of the soils, absence of predesign data, severe seasonal factors, soil sedimentation, distant location, and the lengthy transportation paths. Nonetheless, the management team was able to keep the project on track with gradual implementation, immediate changes to design, greater coordination in the center field, proper quality control, risk mitigation and constant contact with the stakeholders.

Using the Resource-Based View (RBV) perspective, the project was successful because of physical resources, as well as because of the ability of the NDC to mobilize valuable, rare, inimitable, and non-substitutable capabilities. These were skills in engineering know how, hydrological, community engagement skills, national experience in mega- projects management in sensitive environments, organizational routines, informal networks of coordination and technical administrative skills working together under dedicated leadership.

Although the case study focuses on the Phase One of the Qosh Tepa Canal, the lessons learnt provide realistic advice to project managers, policy-makers, and or development practitioners. The lessons may be used by the management of Phase Two and transferred to other large-scale infrastructure projects in Afghanistan and other fragile settings, which will help in proving the central role of structured, adaptive, and context-aware project management to the success of the outcomes.

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Recommendations for Future Research

- Research effects of Qosh Tepa Canal on agriculture, including effects on crop production, efficiency of irrigation, and alterations in agricultural practices.
- Carry out a comparative analysis of the level of export of agricultural produce in Afghanistan prior to and after the complete realization of the canal, to determine its national economic impact.
- Test the livelihood transformation among people of the Balkh, Jawzjan and Faryab using qualitative research in terms of income, employment, and social wellbeing in the post-canal operation period.
- Determine the environmental conditions of sections around the canal such as soil quality, water table, biodiversity and possible ecological hazards.
- Carrying out longitudinal research of all stages of the canal project.

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