ISSN (ONLINE):2710-0308 www.irjmss.com ISSN (PRINT):2710-0316

Assessment of Stakeholder Engagement in Construction Project: A Case Study of Keenjhar Lake Project

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Received on: 26-01-2024 Accepted on: 01-03-2024

Abstract

This research investigates stakeholder engagement in the Keenjhar Lake Water Project, a construction project facing challenges like delays. Employing a mixed-methods approach with surveys and interviews, the study identifies critical stakeholders and analyzes their preferred engagement methods. The findings suggest that 'interviews' are the most effective approach, followed by workshops and collaborative meetings. Despite project delays caused by natural disasters, scope changes, and financial limitations, stakeholder perceptions reveal a successful project outcome. This highlights the importance of effective stakeholder engagement in construction project management, fostering solid relationships, and informing successful project strategies.

Keywords: Assessment of Stakeholder, Construction Project, Keenjhar Lake

INTRODUCTION

BACKGROUND

Karachi is the most populous city of Pakistan comprising of 14.9 million (PBS Report, 2017). It is capital of Sindh province and largest city in Pakistan. The megacity receives bulk supplies from Hub Dam in Balochistan and Keenjhar Lake in Thatta, Sindh (NESPAK, 2018). The Hub Dam depends on the rainfall while most of water supply to Karachi depends on Keenjhar Lake through Dhabeji pumping station (The Nation, 2019).

Presently, Karachi faces an acute water shortage and most of the population is suffering from water scarcity. The climatic change in the country has also impacted the environment as well water problem in mega city. In addition, Pakistan is one of the vulnerable countries to climate change. This vulnerability is mainly due to its geographic location, demographic and diverse climatic conditions. Building resilience and adaptation to climate change is becoming indispensable for Pakistan (Pakistan Today, 2019).

Keenjhar Lake Water Project was proposed by Government of Sindh in the year 2005 for the purpose of supplying water to Karachi. In addition to this, it was approved by government of Sindh for three years period and approved PC1cost estimate Rs. 3422.782 Million (Revised) PC1, 2005 (NESPAK, 2018). After the approval, a contract was signed with consultants and contractors for providing professional services in the project. The project aims to provide sustainable water supply to Karachi through Keenjhar lake system that will help out the biggest population facing water scarcity, industries that face acute water shortages as well as providing sustainable agriculture benefits to Thatta district. However, the banks of Keenjhar Lake embankments were deteriorated (NESPAK, 2018) and normal supply level of KB Feeder (upper) which flows into Keenjhar Lake was 9100 cusecs, but due to damaged section and buildup of silt has disrupted flow of water has maximum flow of 8500 cusecs (Atta Muhammad, 2010). Accordingly, keeping in view all the project works were required relating to Keenjhar Lake and KB Feeder upper and lower were very important for proper storage of water in the lake that will be used to supply water to Karachi through Keenjhar-Gujjo canal (NESPAK, 2018).

STAKEHOLDER ENGAGEMENT

Freeman (1984) defined stakeholder as an individual or group that can give affect or influence for achievement of organizational goals. Project stakeholder management comprised of several functions of management: Planning, Organizing, Motivating, Directing and Controlling. (PMI, 2017) defines different stakeholder management approaches such as identifying stakeholders, planning stakeholder engagement, managing stakeholder engagement, and controlling stakeholder engagement.

Stewart (2019) defined the process of stakeholder engagement is a continual process of phases including schedule, execution, assessment, meeting, development and progress. More to the point, institutions engaged on projects provides a plan to negotiate, coordinate and resolve issues through effective engagement processes (Durham *et.al,* 2019). These approaches help in coordinating and managing stakeholders that obviously lead project to successful delivery.

Engagement is the process to learn, listen from stakeholder and process to change the information. Stakeholder engagement is creating a good understanding among all participating stakeholders on one platform regarding project issues and develops a good relationship. More to the point, stakeholder engagement in organization can play an important role in understanding expectation and different stakeholder interest in projects.. It helps organizations that involve people in achieving organizational goals and objectives through broader understanding, influence and implementation of decision making through

mutual understandings and that help in achieving project objectives.

AIM & OBJECTIVES

The aim of this research study is to assess the level of stakeholder engagement in Keenjhar Lake Water Supply Project.

Objectives:

i. To identify project stakeholders in Keenjhar Lake Water Project
ii. To identify the level of stakeholder's engagement in Keenjhar Lake Water Project
iii. To ascertain the perception of stakeholders pertaining to success/failure factors of the project

RESEARCH METHODOLOGY

This research is based on mixed methods. However, the topic of the research is to assess the stakeholder's engagement in construction project (Keenjhar Lake).
This research consists of four stages:

i. Stage I Review of literature regarding stakeholder engagement in public Sector projects
ii. Stage II Data Collection
iii. Stage III Data Analysis & Interpretation
iv. Stage IV Recommendations & Suggestion based on results

LITERATURE REVIEW

PROJECT MANAGEMENT

Nowadays, the project management tools and techniques in public sector projects are gradually widening its scope and becoming important field in developing economies widely used in every field of life and organizations around the globe. (PMBOK, 2013) defines project management as ''the application of knowledge, skills, tools, and techniques to meet project requirements''. Moreover, it's role is expanding in organizations day by day and providing services in several fields such as agriculture, industry, natural resources, arts, media, construction, highways, building, towers, stadiums, energy, engineering, technology, fashion, design, finance, business, health, education, disaster management, space, human services, hospitality, tourism, manufacturing and products development; private education, public service, transportation and information technology.

PROJECT MANAGEMENT IN PAKISTAN

Nowadays, public sector is playing a very transforming role in society. Public sector organizations are operated by government and provide services in various sectors. Besides, they are generally providing and supporting government initiatives, ideas and services in various fields and helping government to achieve desired objectives and often involve private initiatives to deliver services for the organizations. Mahmood (2001) concluded that Project Management is one of weakest area in public sector organizations, however; he emphasized that capacity building measures are needed to strengthen employees' motivation in working

with public sector projects and helps in growing public sector development areas. Moreover, public sector organizations are growing slowly but also sustaining various challenges from government as well bureaucratic and political influences which break the concentration that obviously separates the chain of command (Spitteler and McCracken, 2014). These organizations have complex organizational environments, objectives, structure, managerial values and different characteristics from other private sector organizations (Walker& Boyne, 2009)

PROJECT STAKEHOLDERS IN CONSTRUCTION PROJECT

(PMI, 2017) define stakeholder as, "an individual, group, or organization, who may affect, is affected by, or perceive itself to be affected by a decision, activity, or outcome of a project". Generally, stakeholders have several responsibilities and interests that can create differences with the project (Karlsen, 2008). The theory of stakeholder is supported by social pact, legality, moral, stop other organizational theories, however, the discussion in the stakeholder theory centers around who is a stakeholder, which stakes they are pursuing and how management could take appropriate strategies to listen and resolve stakeholder's concerns. Several studies were conducted to identify and distinguish stakeholder groups (Freeman, 1984; Clarkson, 1995; Donaldson and Preston, 1995; Mitroff, 1983). This determines whether stakeholder theory provide a helpful

STAKEHOLDER ENGAGEMENT IN CONSTRUCTION PROJECT

Stakeholder engagement is activity whereby an organization will give affect in organization. It help organizations in achieving project objectives and get support from others. According to Naresh Chappidi (2008), there are two main elements that best illustrates stakeholder engagement: stakeholder analysis and stakeholder planning. Stakeholder analysis is a major technique used to classify people who have major stake in the project. Besides, participation and mutual cooperation helps project managers to ensure project succeed. On the other hand, stakeholder planning is applied to gather support from different stakeholder that lead project success.

RESEARCH METHODS & MATERIALS

RESEARCH METHODOLOGY

Research methodology is a complete framework for conducting research comprised on different stages. Several authors have defined research methods that best describes specific methods for conducting research. Burel and Morgan (1979) and Sekran (2003) explained research methods and steps used in conducting research that provide research outcomes. Figure 3.1 describes research flowchart.

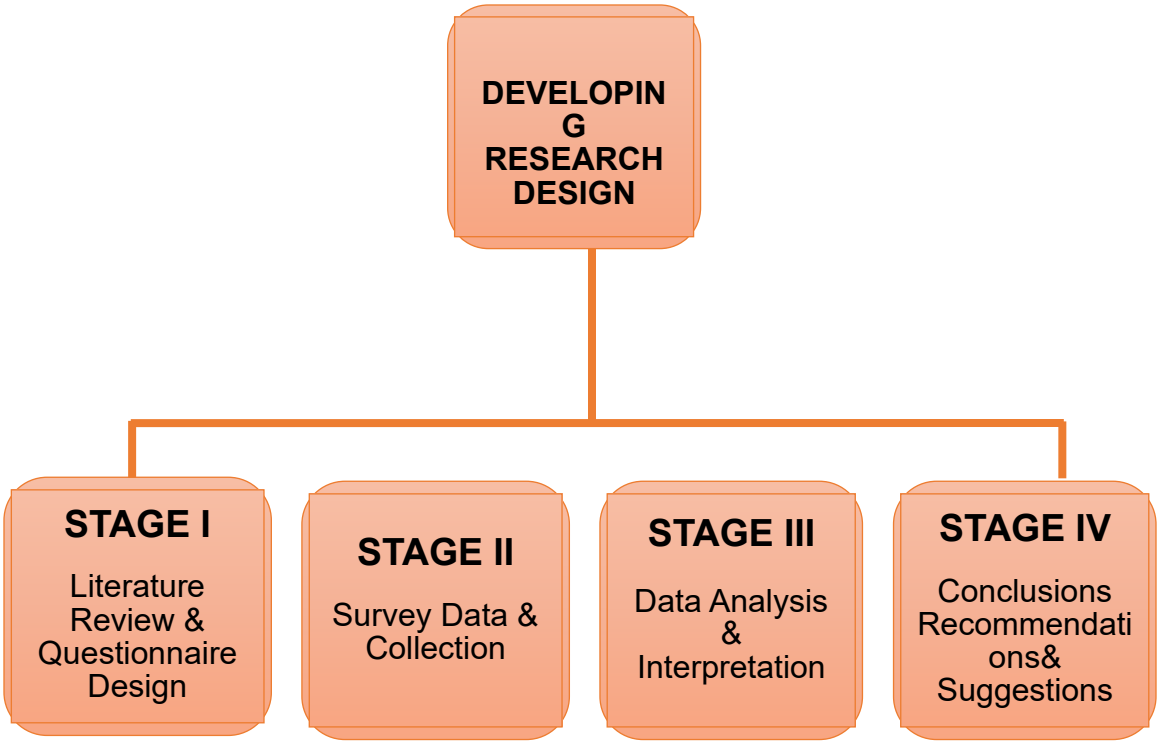

Figure 3.1 Diagram of Research Flowchart

Research methodology has been divided into four stages:

i.Stage-I (Review of Literature)

RESEARCH APPROACH

For conducting this research, both quantitative and qualitative approaches are applied in conducting of this research. Moreover, these approaches were used in this research and considered significant tools that help in finding research objectives. It is an appropriate method used in pursuing research and acquires results. Following approaches were applied in research work to conclude findings.

Secondary approach

For objective 01, secondary approach was used to collect data from project stakeholder's i.e. client & consultant based at Hyderabad and Thatta district. The gathered data was based on agreements between parties, PC1 document and progress review Reports etc. However, information was important to assess project stakeholders attached with KLWP.

Qualitative Approach

For objective 03, semi structured interviews were carried out from key persons of project organizations i.e., Project Managers, Resident Engineers, Designers & Field Engineers.

Content Manifest Analysis was used to analyze qualitative analysis and produce findings. The interviews were conducted in (April 2019 May 2019).

Study Sample

(Naoum, 2015) explained the term "sample" that signify sampling a part of whole people. The expression "test" signifies an example or part of an entire populace. However, sampling is more beneficial and lower costly than to collect data from all population.

It consists of Irrigation officials, Chief Engineer, Superintending Engineers, Executive Engineers, Assistant Resident Engineers and Supervisors, Directors, Deputy Directors, Professional Engineers, Project Managers and Supervisors, Field Engineers and community members.

Stakeholders Sample Populace

S.No.	Stakeholders	Professional Engineers	Supervisors	Local Residents	Others
1 2 3 4	Client, Consultant, Contractor and Community	49	36	16	13
Total		85		29	

DATA ANALYSIS AND INTERPRETATION

Stakeholder analysis

According to the studies of (Varvasovsky & Burgha 2015; M.S Reed 2008) defined three steps for analysis of stakeholder: i) identifying stakeholders and their interest, ii) analyzing their relationship, iii) assessing their influences. Figure 4.1 shows project stakeholders of KLW

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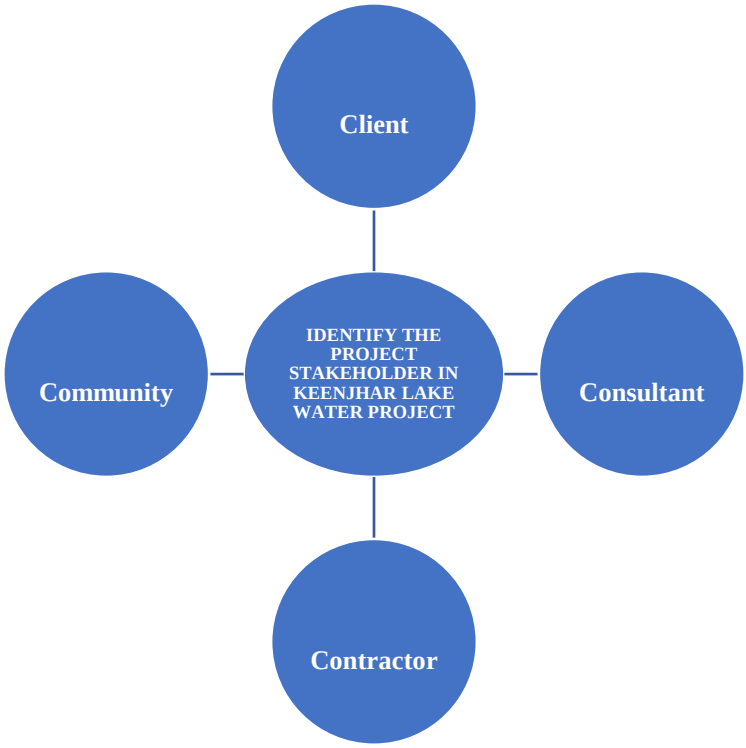

Cronbach's Coefficient Alpha

Cronbach's alpha is applied in quantitative research to determine internal constancy ("reliability") whether the range of scale is consistent or not. (SPSS) Statistical Package for Social Sciences (SPSS) software was exercised to estimate the Cronbach's Alpha that present reliability. However, each stakeholder's reliability was analyzed to produce reliability statistics. Table 4.2 shows reliability statics.

Reliability Analysis

	Cranach's Alpha	No. of Items
Client	.729	30
Consultants	.709	27
Contractor	.840	28
Community	.779	27

Findings

- It was found that after conducting interviews from key persons, they pointed out brief description of project outline and expressed views regarding achievements of project and said that project was delayed. The analysis of interviews was conducted through content

manifest analysis which shows that project was delayed but successfully completed after project authorities expressed the desire to complete it because forthcoming project of K-IV was also linked with completion of project works. However, project was successful due to following factors: project planning, project monitoring, proper utilization of scarce resources, proper communication, fulfillment of project expectations, projects goal achieved, schedule & cost, social & economic benefits and stakeholders support. Hence, project was delayed but successful as per the investigations suggested.

- It was found after conducting interviews from key persons, according to their opinion the project was obviously delayed for years. They further pointed out key major obstacles project faced during project's lifecycle and expressed views regarding project constraints for which project was delayed. The analysis of interviews was conducted through content manifest analysis which shows that project faced financial constraints, occurring of natural floods of 2010 and few additional works in the project schemes which entirely changed the project scope. However, the project authorities collaboratively engaged with other stakeholders specially project manager of consultants for speedy completion of project. Here, some respondent's elaborated project worries i.e. scarce financial resources which were major obstacle in project's completion. However, project was delayed due to following reasons: Additional works in project, natural disaster, ineffective communication and involvement between Stakeholders of project, management Issues, Natural disaster, financial issues, and weak work progress. Hence, project was delayed but not a failed project as per the investigations suggested.

Conclusion

This investigation explored the factors surrounding a project that experienced delays but ultimately succeeded. Key informant interviews revealed mixed perspectives. While acknowledging the project's completion, interviewees also highlighted significant delays.

Content analysis of the interviews identified reasons for both the delays and the eventual success. Delays were attributed to:

- **Financial constraints:** Scarce resources could have improved progress.
- **Natural disasters:** Flooding in 2010 caused unforeseen disruptions.
- **Project scope changes:** Additional works significantly altered the initial plan.
- **Communication and stakeholder issues:** Collaboration between project authorities, consultants, and other stakeholders could have been more effective.

Despite these challenges, the project ultimately succeeded due to:

- **Project planning and monitoring:** Existing plans provided a framework, and monitoring ensured adjustments were made.
- **Resource management:** Despite limitations, resources were utilized efficiently.
- **Communication and stakeholder support:** Collaborative efforts, particularly with consultants, helped expedite completion.
- **Fulfillment of project expectations:** Goals regarding functionality and benefits were achieved.

This study highlights the importance of proactive planning, communication, and stakeholder engagement in project management. While unforeseen events can cause delays, effective

resource management and collaborative efforts can still lead to successful completion. The project under investigation serves as a case study for navigating challenges and achieving success despite setbacks.

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