

Construction Planning and Management of Airport: A Case Study of Purandar Airport

Tamboli Asifraza Mahamood¹, Ashish P. Waghmare²

¹M.E. Student, Dept. of Civil Engineering, Dr. D. Y. Patil School of Engineering and Technology, Pune, India

²Assistant Professor, Dept. of Civil Engg., Dr. D. Y. Patil School of Engineering and Technology, Pune, India

Abstract: Challenges and difficulties of managing construction project increases when the context is related to an airport environment. Consequently, there is a need for holding bodies of airports to change their procedures and practices in order to accommodate the unique and complex construction environment. Within an airport environment, different strategies play a significant role in achieving organizational success through an effective and efficient delivery of various construction projects. Those strategies are influenced by project management strategies and human-related competencies. This is, in turn, requires strategic competence and ability at both functional and operational levels. Several researchers have shown a growing interest in operating strategies and human-related studies within the construction industry; however, an integrated study of these two factors has been lacking, particularly in an airport context. This paper reports the initial work of a research project which seeks to integrate the theories associated with project and human resource strategies within the construction industry. Its aim is to develop a theoretical framework for airport operators to implement in order to cope with an airport environment and enhance business operations when managing and controlling construction projects

Keywords: construction, construction industry, airport project management strategy, human resource strategic management.

1. Introduction

The construction industry is one of the major industries in terms of both size and impact. It is considered not as a single industry but one where several market sectors integrate to form the industry. Indeed, there is no obvious agreement on the classification of construction sectors or on how the industry can be broken down into different Construction plays a significant role in the overall economy of both developed and developing countries in terms of economic growth. Its various activities and related projects also have a great impact on different key factors of a country's overall development aspects. Therefore, it is essential for construction activities to be accomplished successfully in an effective and efficient way. This requires various strategic and management capabilities.

Among the different types of construction sectors and their numerous types of construction works, airport projects, in particular, are very complex and have unique characteristics. In an airport, a number of significant and diverse activities are performed, whether within the airside, terminal or landside

zones. Airport owners or statutory bodies/operators need to manage both air transport operations and also real estate investments and various construction projects.

A. Objectives of project planning

Following are the objectives of construction project planning.

- Planning of each activity
- Construction Methods
- Planning for Construction Equipment's and Machinery
- Procurement of materials
- Planning for employee skills

2. Methodology

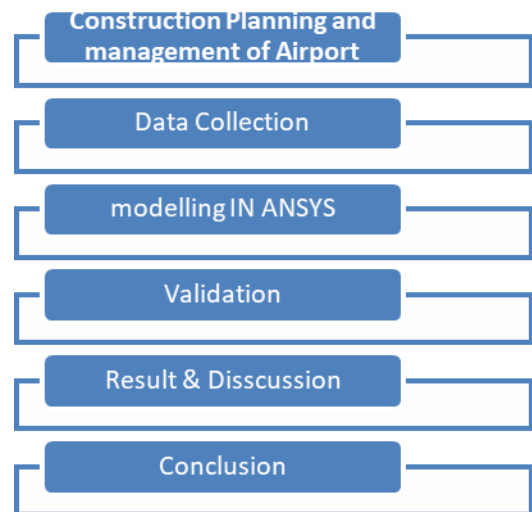


Fig. 1. Methodology

3. Case study

A. Site selected-purandar dist.-pune

Why AIRPORT is proposed to purandar?

Initially a site near Chakan was fixed for the airport. But due to opposition from local farmers and the mountainous terrain, the government decided to set the new airport in Purandar taluka as it was a flatter region compared to Chakan. The proposed airport in Purandar will be spread over 2,400 hectares. Connection of proposed purandar airport Initially a site near

Chakan was fixed for the airport. But due to opposition from local farmers and the mountainous terrain, the government decided to set the new airport in Purandar taluka as it was a flatter region compared to Chakan. The proposed airport in Purandar will be spread over 2,400 hectares.

Latitude and longitude: 18.2825° N, 73.9735° E

1) Project details

In July 2018 that Maharashtra state government gave a major push to plans for a new airport in Purandar. The Maharashtra Airport Development Corporation (MADC) was appointed as the special planning authority, bestowed with all the powers of a Planning Authority for land acquisition on the area notified for the airport. MADC declared 2,832 hectares of land as a notified area to be acquired for the project, an area spread across seven villages: Pargaon, Ekhatpur, Munjvadi, Kumbharvalan, Vanpuri, Udachiwadi and Khanvadi. With notification of the land area the boundary of the proposed airport was confirmed and a copy of the plan made available to the public

The airport project is headed by Maharashtra Airport Development Company (MADC) and the investment is estimated at US\$2.1 billion. The airport is to be called Chhatrapati Sambhaji Raje International Airport, named after the second ruler of the Maratha kingdom. An airport with two parallel 2,400 meters length runways is planned. In October 2016, when the airport at Purandar was announced, the land requirement was 2,400 hectares. But by July 2018 the required land area had increased to 2,832 hectares. In a major push to the international airport project at Purandar, the state government has appointed the Maharashtra Airport Development Corporation Ltd (MADC) as the special planning authority (SPA) for it and notified the 2,832-hectare land to be acquired for the development of the airport. In its notification, the state government said MADC had been appointed as SPA for the airport area to ensure its planned development.

The proposed airport at Purandar has been named Chhatrapati Sambhaji Raje International Airport. The area proposed by MADC for the construction of the airport has been declared as notified area after consulting with the Town Planning Directorate and is spread across the villages of Vanpuri, Kumbharvalan, Udachaiwadi, Ekhatpur, Munjavdi, Khanavdi and Pargaon in Purandar taluka. "Any planning authority functioning in the said area prior to this notification, shall cease to function in relation to the notified area," it stated.

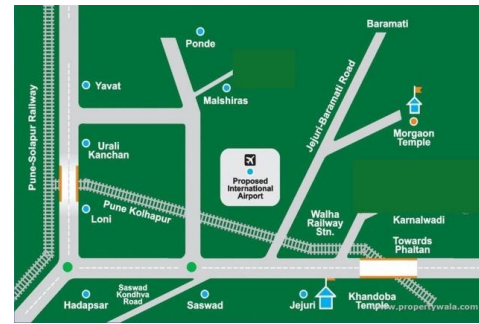


Fig. 2. Location map

4. Conclusion

In this project the planning of each activity is done with the MSP software because of which proper construction methods are implied to do the work simultaneously as well as effectively. Planning is done in such a way that the machinery and equipment's are handled and used effectively to optimize the cost as the materials and equipment's carry a huge amount of cost in construction industry. Also with the help of economic order quantity (EOQ) as well as ABC analysis materials and equipment's can be managed properly. Construction of Airport requires high skilled employees so they should be properly trained for their particular work and should utilize the skills of employee to gain the optimization.

References

- [1] Frederic R. Harris, "A Look into the Future of Airport Planning, Design, and Construction by Analyzing Current Issues."
- [2] Nasser Alnasseri, "Managing and Controlling Airport Construction Projects: A Strategic Management Framework for Operators," *Journal of Advanced Management Science* Vol. 1, No. 3, September 2013.
- [3] Hasan Wahab, "Design Process and Stakeholders Management in Airport Construction," *The British University in Dubai*, 2011.
- [4] Maha Mousavi Sameh, "Environmental Sustainability Measures for Airports," *Occasional Paper Series: Sustainable International Civil Aviation*, July 2016.
- [5] Jayant Mishra, and Ajay Swaroop, "Review of literature on rural road Improvement," *International Journal of Engineering and Applied Sciences*, vol. 4, no. 12, pp. 72-73, December 2017.
- [6] K. Swarna Kumari, "A Study On Resource Planning in Highway Construction Projects," *International Journal of Engineering Research and Applications*, vol. 2, no. 4, pp. 1960-1967, July-August 2012.
- [7] Sanghyeok Kang, and Jongwon Seo, "GIS-based Roadway Construction Planning," 2014.