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

TAMBOLI ASIFRAZA MAHAMOOD [1], PROF. ASHISH P. WAGHMARE [2]
[1] *Student M.E. Construction management, Dept. of Civil Engineering, Dr. D. Y. Patil School of Engineering and Technology, Pune*
[2] *Assistant Professor & PG co-coordinator, Dept. of Civil Engineering, Dr. D. Y. Patil School of Engineering and Technology, Pune*

Abstract -- As the construction is of new airport it is necessary to plan and schedule the activities properly 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. 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

Indexed Terms: construction, construction industry, airport project management strategy, human resource strategic management

I. INTRODUCTION

Airports, with the facilities and services they provide, are considered as one the most important parts of the infrastructure required for the regular operation of aircrafts. Airports considerably contribute to local economy and employment. However, together with the socioeconomic benefits they offer, environmental costs and impacts are the inseparable results of the operation of airports. Following the increasing demand for air travel of passengers and cargo, aviation industry is anticipated to grow further and this means more incentives and driving forces for building new airports or expanding the existing ones, and this will intensify the significance and complexity of environmental and sustainable development concerns. Some of the main environmental and sustainable development concerns raised with respect to the operation of airports are emissions, noise issues, land use by airports and energy consumption. The challenge ahead of airport authorities is to find a balanced approach for maximizing the capacity of airports and the possibilities and potentials for future growth in one hand, and minimizing the accompanying negative impacts on the other hand.

II. AIRPORT MODEL

Airports' authorities, in response to communities' concerns, public awareness of environmental issues of aviation activities and regulatory measures of local authorities and governments, have been trying to apply strategies and procedures to diminish the

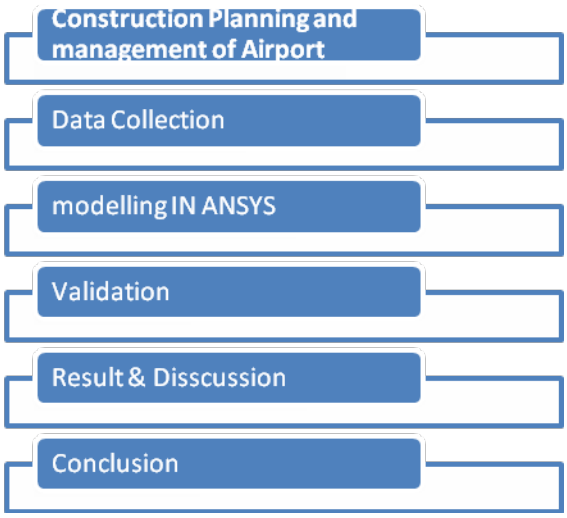
adverse effects of their activities on the environment. By having appropriate and effective

A) Objectives of Project Planning:

Following are the objectives of construction project planning.

- To study the activities and work accordingly.
- To identify effective Construction Methods as they can optimize the cost.
- To plan for the management of materials and equipments.
- To study the procurement of materials through ABC analysis and EOQ analysis.
- To solve the problems arising, while the execution of work because of local parties by giving proper ideas.

III. METHODOLOGY



IV. CASE STUDY

A. SITE SELECTED-PURUNDAR 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 airportin Purandar taluka as it was a flatter region compared to Chakan. The proposedairport 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

- 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, Udhachaiwadi, 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.

V. FIGURES

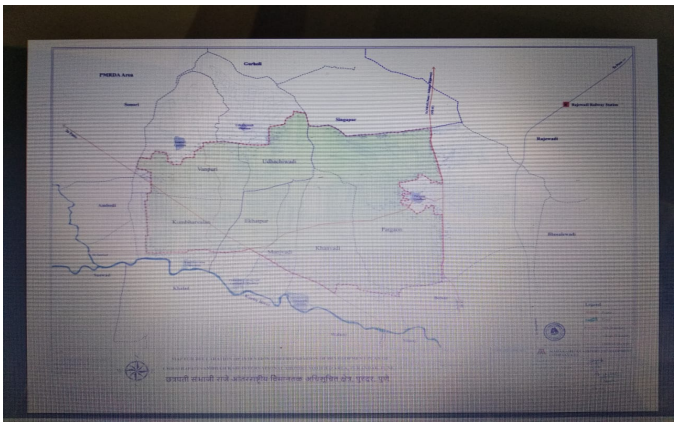


Fig. 2: Location Map

VI. 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 equipments are handled and used effectively to optimize the cost as the materials and equipments which 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 equipments 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.
- For solving the disputes, proper compensation for the land should be given and employment for the local people by hiring them.
- Effective use of sound absorption panels should be done.

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