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Project Monitoring and Scheduling of Water Supply Project Using Primavera P6

Ravi Patel[1], Anudeep Nema[2]
P.G. Scholar[1], Associate Professor[2]
Department of Civil Engineering, Eklavya University Damoh, Madhya Pradesh, India

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ABSTRACT

Water is of fundamental importance for human life and plays an important role in many biological and chemical systems. Only 0.3% of the water resources in the world are usable.Scarcity of water has become widespread all over the world. Current methods for water scarcity assessment are mainly based on water quantity and seldom consider water quality. Population growth and urban development aspect dramatically alter natural watershed ecosystem structure and functions and stress water resources. The demand of time is review water quantity and water quality issues, as well as water supply challenges in an urban environment.So that more than a billion people in the developing world lack safe drinking water. About three billion people live without access to adequate sanitation systems necessary for reducing exposure to water-related diseases.Water is a valuable fundamental asset for life. Availability of sufficient water resource in any region effects socio economic development as well as better quality of life. Lack of water resource is determinant the poor quality of life.

This research is based on secondary as well as primary data. This investigation highlighted the status of water resource and supply system in the Bhopal city and investigation of scheduling and resource allocation of water supply using Primavera p6. This research find out the spatial and temporal distribution of water supply system via narmada water supply as well as quality and quantity. Research also analysis the issues and challenges about water resource and satisfaction level of Bhopal city.

Keywords : Water Resource, Supply, Quality, Quantity, Satisfaction level, Primavera p6

I. INTRODUCTION

In the developing world more than a billion people are facing a lack of safe drinking water. Approximately three billion people live without access to adequate sanitation necessary for reducing exposure to water related diseases. Poor water quality continues to be a major threat to human health. Approximate 4.1 percent of the total global burden of

disease due to Diarrhea and is responsible for the 2 million people deaths of every year. Water and water resources are very important for maintaining a productive environment for all living organisms. Due to human populations and economies grow; global water demand has been increasing rapidly. Global population increase and lifestyle changes are growing pressures upon water resources leading to widespread water stress in many countries. As a result there is urgent need to conserve water for future. Actually water influence living standard as well as health status. Water is crucial substance for all living thing not only human beings.

Primavera P6

The history of project management software is perhaps as old as the history of the computer. Artemis, can plan, Hard Hat Manager, Microsoft Project, Primavera Project Planner, Primavera Sure Trak Project Kick Start and Scitor's Business Solutions-PC suite are some of the project management software available in the market, besides Microsoft Excel, which is also used by managers Primavera system, Inc. is the world's leading provider of project, program and portfolio management software solutions. It provides the software foundation that enables all types of businesses to excel in managing their portfolios, programs, projects and resources. Primavera help companies make better portfolios investment decision, improve governance, prioritize their project investments and resources, and deliver tangible results back to the business. Primavera has product solutions specific to certain industries like construction, aerospace, manufacturing and power.

Resource Allocation

A resource is a physical variable, such as labour, finance, equipment, and space, which will impose a limitation on time for the project. When the resources are limited and conflicting demands are made for the same type of resource, a systematic method for the allocation of resources becomes essential. Resource allocation usually incurs a compromise and the choice of this compromise depends on the judgement of managers. There are basically two approaches in solving such a problem. Although their nomenclatures are so far not standardized, they may be called resource smoothing and resource levelling. In resource smoothing, the total project duration is maintained to the minimum level. In resource levelling, the main constraint would be on the resources. The project duration time consequently is exceeded.

II. LITERATURE SURVEY

Archana Sen et.al (2022) objective of the research paper was to investigate the status of water resource and water supply system in Bhopal city in order to analyse the quantity and quality of water supply and further investigate the issues and challenges about water resource in the city. Area wise survey has been conducted with the help of a structured interview schedule along with purposive random sampling technique used here, from different areas of Bhopal city like slum and non-slum 42 sampling points are selected for primary survey. Sample size was 400, sample distributed in two major parts 144 slum and 256 non slum according to basis of slum and non slum household proportion.

The paper elucidates that water bodies are being polluted which needs great concern to its protection. The main problem found in quality of water of colour smell taste and also in the quantity of water. There should be different arrangement of sewage line so that sewage water will not enter in the freshwater body because it affects both aquatic as well as human life. As per the study the slum are suffering to much because the drainage system and water supply system are passing through the same channel in case of leakage in supply line the drainage water gets mixed and makes the water contaminated and prone to diseases. Government authority should keep eye on

the status of water body so that in the future we may not made water crises.

Roma Silawat and Rajendra Chauhan (2021) research paper aimed to evaluate water quality of "Kaliyasot River '' for a period of one year 2018-19 in summer, monsoon and winter seasons. The samples were collected from different sampling points. The parameter detected were temperature, turbidity, pH, electrical conductivity, total solids, TDS, SS, nitrate, phosphate, chloride, alkalinity, total hardness Ca-H, Mg-H, DO, BOD, COD, K, Na , sulfate and fluoride all physico-chemical parameters.

The analytical result of different physico-chemical parameters stated that Kaliyasot river water was affected by various anthropogenic activities. Results concluded that the value of some parameters were beyond the permissible limit while some others were within the limit. The river is polluted but can be used for irrigation purpose.

III.OBJECTIVES

- To study the importance of resource used in this project.
- Detailed integrated planning of the project tasks to be accomplished, developing realistic schedules of water supply throught different sources
- Presenting the effect of the of present progress on the project completion time and taking any corrective action required in time.
- To study the effects of resource on project.
- To study how to find out the over allocated resource and how to balance it.
- To study PRIMAVERA software, its features and benefits of primavera.
- Identify the reasons behind the delay in Narmada Pipeline Project in Bhopal.

Steps of Analysis

A. Plan Iteration

Iteration implies doing the same thing more than once. In planning, iteration implies returning to an analysis when more information is available, when a different level of detail is necessary, or when new evaluation techniques have emerged. The planning process is one that is improved when it is performed more than once. This not only implies that reviews improve evaluations, but that the level of detail of evaluations is likely to change during the planning process. Planning is not a simple linear process.

Any process that encourages feedback from stakeholders will naturally require some degree of iteration. Feedback typically creates new information or helps to identify new priorities or areas of increased interest. Incorporating this information improves the quality of a plan if it is considered.

B. Screening

Screening is a basic systems engineering concept. Screening is the process of iteratively examining alternatives to select those which will receive further consideration and those that will not. A principal goal of screening is to effectively reduce the quantity of detailed analysis that is necessary, without eliminating alternatives which should be evaluated fully.

Screening does not imply full evaluation and ranking, it implies making use of expertise and sound judgment to use one's time effectively. Without some form of screening, almost any water resource planning effort would become too complex and intricate to accomplish. With screening, promising alternatives are provided an opportunity for full evaluation and inferior alternatives are excluded from further evaluation.

C. Scoping

Scoping is also another basic systems engineering concept. Scoping identifies the boundaries of the

problem to be addressed and the boundaries of the solutions to be considered. Scoping is particularly important in evaluating water resources planning because the National Environmental Policy Act defines scoping as a required process. In that act, scoping is defined as "an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action." Scoping has been used in many studies as a formal procedure to ensure the input of stakeholders in the planning process.

D. The Seven Step Planning Process

The seven step process described here is an example of a "disciplined, iterative process." This implies that all steps must be performed and recognizes the natural feedback that exists between all steps. The number of steps and their boundaries are less important than the general planning philosophy, that is, good water resources planning involves carefully defining the challenges faced, defining the planning environment and including all those that might impact or be impacted by the plan, creating a comprehensive and creative set of alternatives for addressing the challenges, selecting among those alternatives the one plan that best addresses the objectives and constraints of the challenge, and creating an comprehensive approach to implementing that plan. Each of the seven steps is described below.

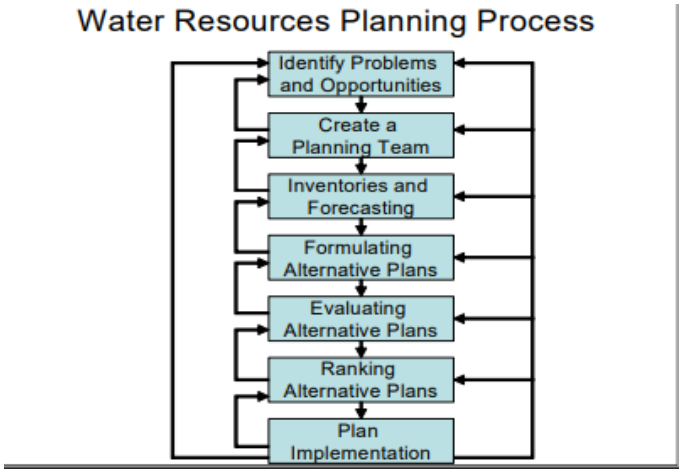

Fig 3.1 Water Resource Planning Process

Step 1 - Identify Problems and Opportunities

One of the most important and most neglected aspects of planning is a careful consideration of the problems presented and the opportunities to address it, and the translation of these into planning objectives. Good planning begins with well defined planning objectives. A planning objective is a concise, formally structured statement that defines what a plan should accomplish, describes the geographic and temporal scope of the plan, and identifies who the plan will impact. Planning objectives are created to focus the study on the problems of greatest concern, ensure that multiple goals are explicitly considered throughout the process, help create a common vision of the process, and allow evaluation of the effectiveness of the plan. Planning objectives help direct study resources (time, dollars, talent) to the challenges and opportunities of greatest importance. Without accurate and well formulated planning objectives the planning process loses its focus, important interests are ignored, important problems are not addressed, effective alternatives are not formulated, plans cannot be evaluated, and implementation becomes impossible.

Initially, it would appear that defining problems and opportunities and translating them into planning objectives should be a simple process. Many planning objectives in practice have proven to be poorly conceived and a lack of attention has resulted in failed planning efforts.

Step 2 - Create a Planning Team

No plan can be created without participants, and the participants of a water resources plan will, to a great extent, determine the quality of the plan. Developing an appropriate and effective team to perform planning can be challenging. Team members must possess both individual skills and be able to work effectively in groups. It is important to remember that a diverse perspective broadens the view of the problem and results in better plans. Also, broad stakeholder representation is required if the plan is to be

implemented. In addition, good chemistry between team members is invaluable.

When creating a team, it is important to carefully determine who can best contribute to the success of the planning process. This requires not only the area of expertise of the members, but their role in plan implementation. When considering a potential team member, one can ask: Will their endorsement of the plan be required? Will they play a role in enacting the plan? Will they be impacted by the plan? Can they impede the plan? Do they possess skills, expertise, or a perspective that is needed in the planning process? Although creating a planning team has been listed as the second step of this process, planning teams help create planning objectives. Likewise, it is difficult to assemble an appropriate planning team without knowing the study objectives. These two steps illustrate the type of feedback and iteration that is common in water resources planning.

Step 3 - Create Inventories and Forecasts

This step in the planning process requires a careful definition of the "status quo" and forecasting future conditions. In this setting, the status quo is defined as the existing and anticipated conditions of a water resources system if the planned policies, system configurations, regulations, and management strategies remain unchanged. The purpose of creating inventories and forecasts is to create a shared and accepted understanding of the physical, technical, regulatory, management, and policy attributes of the system; create a statement of important problems facing the region; identify the uncertainties and discrepancies in information available; and catalog, to the extent possible, the polices governing system operation.

a) Inventory

There are a variety of components in a system inventory, including a facilities inventory, resource inventory, economic inventory, management inventory and demand inventory. Facilities inventories catalog all of the major facilities in a basin including reservoirs, distribution facilities, treatment plants, pumping facilities, diversions and water-related structures, such as boat ramps, docks, and locks.

Resource inventories include all of the natural features in the study and might be characterized as physical features and aquatic/terrestrial features. Physical features include the study area's climate, hydrology, unregulated streamflow, gaging station locations, local flows, precipitation, snow fall, evapotranspiration, and groundwater resources. Aquatic and terrestrial features include all fish and wildlife, threatened and endangered species, water quality, fish needs, and locations of effluent discharge. Legal inventories include authorized purposes for all existing projects; existing water rights and priorities; instream flow requirements; water quality regulations; and other federal, state, and local law impacting the management of the system.

Management and policy inventories include operating policies for existing or planned facilities, rule curves for reservoirs, triggering mechanisms for management operation, management preferences, societal preferences, and political concerns. Economic inventories include facility capital and operating costs, recreational benefits, marginal cost of resources, and past benefit/cost analysis.

Demand inventories include explanations of water uses (instream, offstream, consumptive, nonconsumptive), current and forecasted demand levels, demand patterns, driving factors, cost of water, conservation strategies, curtailment measures, and revenues generated.

b) Forecasts

Forecasts are necessary to evaluate the effectiveness of water projects in the future. If conditions in a study area are stable, sometime forecasts can be made with great confidence. More often, however, forecasts must be made in rather dynamic conditions knowing that

the parameters being forecasted (rate of population growth, future environmental regulations, response of endangered species to increases in instream flows) are based on an artful combination of expert judgment and incomplete information. This does not diminish the value of forecasts, as reasonable forecasts based on sound analysis of limited information are certainly superior to planning with no forecasts. It is important, however, to acknowledge the uncertainty inherent in forecasts and to make every attempt to propagate this uncertainty through any quantitative assessment that is made.

Step 4 - Formulate Alternative Plans

The formulation of innovative solutions to water resource challenges is one of the most difficult and complicated components of the planning process. All too often creative, novel and effective solutions to problems are left undiscovered while inferior and routine alternatives are chosen. A balancing act is required between the cost and time needed to develop a variety of appropriate solutions, recognizing that each potential alternative will require time and resources to evaluate.

A first step in formulating alternative plans is the process of creating measures of performance for evaluating alternatives. (This step could be considered a separate step entirely, as important as the seven steps presented here.) Performance measures must be clearly defined, easily understood, directly related to planning objectives, relevant to decision makers and stakeholders, and capable of addressing risk and uncertainty. There are typically two types of performance measures: performance accounts (describing the overall effect of an alternative in a specific area) or metrics (describing statistical or numerical measure of system performance). For federal projects, four categories of performance measures are used: National Economic Development (NED), Regional Economic Development (RED), Environmental Quality (EQ), and Other Social Effects (OSE - effects that are not reflected in the other three categories). Often defining measures of performance is helpful in beginning the alternative formulation process.

The general alternative formulation process is an iterative one. Alternatives should be presented initially as general concepts or approaches without too much detail. This provides the opportunity to explore alternatives and to adjust and modify them freely before they progress into more formalized concepts.

Step 5 - Evaluate Alternative Plans

An alternative plan should be evaluated based upon its success in addressing planning objectives effectively. Infeasible alternatives should be discarded when they are proven to be impossible or impractical. Inferior alternatives should be identified, although not discarded immediately in the early stages of planning, as during the alternative generation process some constraints identified as impinging on an alternative may be later relaxed. Promising alternatives should be noted and analyzed in greater detail as the planning process proceeds.

Typically, a top-down approach is used in the evaluation process that includes iteratively screening and selecting projects for further analysis. This process is applied with increasing concentration on increasing the detail of the analysis and evaluating the project's effectiveness, efficiency, and acceptability.

Plan evaluation involves not only exploring the impacts of a plan, but evaluating how changes in a plan impact its effectiveness. Essentially, the analyst is required to perform trade-offs of both the assumptions of the plan and of the goals of the plan. Within other fields of planning and analysis this analytical process is termed "trade studies" analysis. This suggests parametrically exploring the response of a system to changes in input or transformations. In these studies, it is extremely important to emphasis the life-cycle of the project and to ensure that a consistent period of evaluation is used for comparisons.

Step 6 - Rank Alternative Plans

In the process of ranking alternative plans, the analyst incorporates preferences into the analysis. These preferences reflect the relative importance of the planning objectives of the study and the planning constraints. It is not the role of the analyst to incorporate his/her preferences in the evaluation process, but rather to ensure that the preferences of the decision makers and the stakeholders are incorporated. In addition, a full range of potential preferences should be included to ensure that those making the decisions have identified "Pareto optimal" solutions. When ranking alternative plans, it is important to recognize that both analytical and subjective comparisons are important. In analytical evaluations, quantitative scores based upon how well the alternative can meet a planning objective can be calculated. By their nature, subjective evaluations are less amenable to quantitative analysis, although a variety of quantitative techniques have been used to bring some level of quantitative analysis to subjective evaluations.

Throughout the ranking process, it is important to recognize that the goal of this process is to develop a ranking of alternatives or group of alternatives that can be displayed, debated, adjusted, and in the end adopted. This process involves not only the analytical evaluation of plans, but the process of seeking consensus among those who will eventually implement the plans, the ability to modify plan alternatives to address concerns that arise, the ability to incorporate new information as it becomes available during the planning process, and full recognition of all of the planning objectives and constraints and their relative importance.

The process of ranking alternative plans requires equal portions of communication, cooperation, compromise, and ingenuity among those engaged in the ranking process. It is at this stage in the planning process that deficiencies in all of the previous stages of planning become obvious. Although planning is an iterative process, it is important that the other stages of planning be revisited and more analysis be performed only if this significantly changes the ranking of projects and thus the selection of a different preferred planning alternative.

Step 7 - Plan Implementation

Once a planning alternative is chosen, the next step is implementation. Implementation is the cornerstone of plan success, as a plan can truly only be successful if it is implemented. It should be noted that a strategy for implementing a planning alternative must be part of the plan. As through all of the planning steps described here, implementation is iterative and interlinked with the other planning steps.

Plan implementation requires a commitment to success, as the process if often long and difficult. Successful plans are technically and politically viable; they contain a clear definition of the roles of agencies and individuals, and have a clear mechanism of formal and informal endorsement. Successful plans also address clear mandates, are not based upon "wishful conditions" that do not reflect reality, include careful interagency coordination, have sufficient resources and have broad based endorsement.

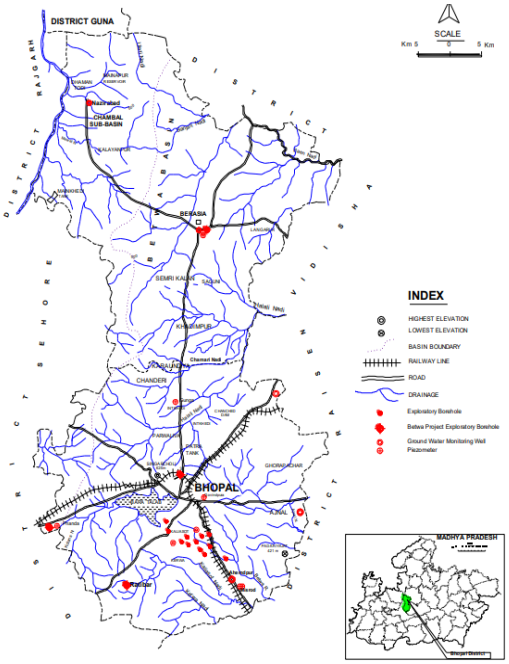

Fig 4.1 Index Bhopal Map

Bhopal Water Supply

Sustainable water supply of desired quality in adequate quantity catering to growing need is one of the main issues of Bhopal city. It includes 56 municipal wards spread over an area of 296 km2 . The population has increased from 1,85,000 in year 1961 to 14,82,718 in year 2001 indicating an increase of 800 % over a period of 40 years. The major requirement of drinking water supply in Bhopal city is met from surface water sources, namely Upper Lake and Kolar reservoir. Besides, more than 400 tube wells and few large diameters dug wells also meet the requirement. In addition, unaccounted privately owned dug wells and bore wells installed in individual house holds, housing colonies, industries and business complexes also cater the requirement. A quantity of approx 241 MLD (108 MLD from Upper Lake + 133 MLD from Kolar Dam) is released from surface water sources and 22 MLD is available from groundwater sources. After accounting for distribution and generation losses the net water supply of 210 MLD is available from surface water sources. The total water supply available from both the sources is 232 MLD against water demand of 350 MLD. Thus, the present water supply falls short of about 120 MLD.

Rainfall and Climate

The climate of Bhopal district is characterized by a hot summer and well distributed rainfall during the southwest monsoon season. The year can be divided in to four seasons. The winter commences from the middle of November and lasts till the end of February. The period from March to about first week of June is the summer season. May is the hottest month of the year. The southwest monsoon starts from middle of June and lasts till end of September. October and middle of November constitute the post monsoon or retreating monsoon season. The climate of the Bhopal district is classified by the Thornthwait precipitation effectiveness method. It is based on the assumption that total monthly rainfall and temperature determine the climate. The annual precipitation effectiveness of the district is 63.7, which indicate that the climate in the district is humid and forest type vegetation.

The temperature starts rising from the beginning of February and reaching maximum in the month of May. The normal daily mean monthly maximum temperature is 40.70C and daily mean minimum temperature is 25.30C. The individual day maximum temperature in May goes up to 440C. The individual day minimum temperature is recorded 10.20C in the month of January. The summer season is the driest period of the year. The humidity comes down lowest in April. It varies between 26 % and 88 % at different time in different seasons. The wind velocity is high during the monsoon period as compared to pre and post monsoon. The wind velocity is highest in June around 18.9 km/hr and lowest is 7.0 km/hr in November.

There are nine rainguage stations in the district. One is maintained by IMD at Bairagarh, one by revenue department at Berasia, one by agriculture department at Bhopal and 6 other by irrigation department. All these stations are having long-term rainfall data. On the basis of Bairagarh and Berasia rainguage stations data, the average annual rainfall of Bhopal district is about 1126.7 mm, while based on IMD station at Bairagarh; the annual normal rainfall of Bhopal is 1260.2 mm. Bhopal receives maximum rainfall during southwest monsoon period. About 92 % of the total rainfall takes place only during the monsoon period. The maximum rainfall (about 39 %) takes place during the month of July. In winter occasional rainfall of about 6 % takes place. During summer only about 2 % of the annual rainfall takes place. Thus, from October to middle of June only about 8 % of the annual rainfall takes place.

Geomorphology and Soil Types

Bhopal district forms the part of Malwa plateau with generally an undulating topography. The Vindhyan hill range occupies the eastern part of Phanda block, including a major part of Bhopal city. In ancient days

the range was known as Vindhyyandri, forming the southern boundary of the Madhy Desha or middle region. The highest elevation of 622 m amsl in the district is recorded at Singar Choli, a hillock of Vindhyan range near Bhopal airport. The lowest elevation in the district is recorded about 421 m amsl near village Padariya Jat in Phanda block.

The district covers part of two river sub-basins. Betwa river sub basin covers 82 % of the area and lower Chambal basin covers 18 % area of district. The district is drained by river Betwa with its main tributaries like Kaliasot, Kerwa, Ajnal, Bah, Halali and Kolans. River Parwati forms the northwestern boundary of the district and its main tributaries Mawal and Ulti drain the area.

Table 4.3 Summarized data of main drainage in Bhopal district

S.no	Name of river	Catchments area in Bhopal district (Km2)	% Area of basin in Bhopal district	Length of river in Bhopal district (Km)
A. Betwa Basin				
1	Kaliasot	18.16	8.2	27
2	Kerwa	12.75	5.7	30
3	Ajnal	17.62	7.9	24
4	Halali	68.56	30.9	33
5	Bah	66.75	30.1	37
6	Kolans	36.52	16.15	19
7	Betwa main River	1.64	0.7	-
B. Lower Chambal Basin				
8	Mawal	11	22.5	29
9	Ulti	6.1	12.5	16
10	Parwati main river	31.9	65	-

Resource Assessment

Resource assessments assessed from contextual analysis assessments reveal a comprehensive structure of the asset board that is recognized and part of the assets in the development area. This test is done in two phases. For the most part, all the information and information that is expected to inspect the goods is collected. Work to improve the use of tested assets was stopped in the primavera system and the necessary equipment for the entire organization was organized. The pinnacle units required by the step-by-step point appear. In the second phase, the actual

assets available in this project are investigated by apportionment. Timecost cost proposals have been investigated to intimidate management.

Table 5.3 Resources Required for Project

Human Resource	Contractors	Machinery	Materials
PM	Plumbing	JCB	Cement
JE	Electrician	Shuttering	Sand
Labor	Water proofing	Vibrator	Aggregate
Fitter	Carpenter	material Lift	Steel
Carpenter	Painter	Motor	Tiles
Mistri	Lift	Concrete Mixer	Brick

An asset transfer occurs when the allocation of a larger number of functions than your asset can be met or rationally fulfilled within the appropriate eight-week operation. At the point where an organization has a lot to do, shared property is dangerous, especially if your property is small and you are committed to a variety of tasks. When this happens, take into account the fact that your progress and asset profit affect the parties.

A further part is in the process that will occur when there are various sectors in the organization or when the system is applied to the installation of assets in assets. Much of the distribution that ensues is when the bosses are urged to meet the unreasonable demands. Unsupported supervisors at the time were running their own transaction quotes in the past to meet enforcement and expenditure plans. Several offers put a hefty weight on assets and can increase with the costs of overtime and depreciation. Resource management software with primavera software - In this way, the operations manager can manually measure the assets (available, however they can be more robust) or use a product program, for example, Primavera P6 to measure your assets. This strategy requires the task manager to be above their game, and to identify areas of concern before they become dangerous

IV.CONCLUSION

In this case study, the Government authorities has not followed any of the DATs to claim for extension of time. The contractor has been found revising construction schedule and the project duration started from 2009 till date and still there are scope of improvement too. The revised construction schedule and maintenance should be adopted using Primavera P6 to link real time activities and attached personals associated with it. The use of Impacted as planned method will enhance the project. This method is conventional method and relatively easy.

Latest Developments with Bhopal Water Supply

- With the increase of the limits of Municipal Corporation, Bhopal, now 85 wards have been made. So with the newly included area for water supply the scheme has been planned for the strengthening of water distribution in the former Municipal area.
- Under JNNURM and Citizen Plan, the work of laying the water distribution system in the entire 70 wards of Bhopal city is being done.
- Under the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Scheme, water supply schemes IN Bhauri area and changing of Kolar Gravity and feeder main has been proposed.
- In order to prevent the water supply problem, the Government of Madhya Pradesh has sanctioned Rs.52.10 crore based on Kerva Reservoir Water Supply scheme. 85% of the said work has been completed and it is targeted to complete the entire work by June, 2018.
- It is proposed to supply water from all the 144 available tanks in Bhopal city, out of which, water supply has been started from about 118 tanks. Upon completion of the plan, it will be possible to supply 475 MLD of water for the estimated population of 27.5 lac of Bhopal city

for the year 2025 which will be sufficient as per norms for use of 150 liter per person per day.

- The Corporation has developed MAS – Municipal Administrative System. It is a centralized, online and integrated information system where Self Assessment of Property Tax, Payment of Property Tax / water tax, Registration of Death / Birth. In the second phase services like Trade Licensing, Transfer of Title, Tax Assessment, Sanitary Certificate, Advertisement Licensing, Payment of Water / Utility Bills, New Water Connection Application, Building Permission services are being provided online.
- BMC has also started the facility of Tele samadhan call center for grievance handling which helps in tracking the complaints and fast disposal of the complaints.
- Project UDAY, Narmada Water Phase IV has also been completed and Narmada water is being supplied to the citizens of Bhopal.
- With the rise of world construction, the work of the construction process as it rises dramatically is miraculous. Effective resource management therefore minimizes time losses.
- In addition to research Research appropriate resource management research provides project clarity.
- The nature of a development business is most notable when it is illustrated by a complex example of an asset that poses a risk and potential damage during each successful life cycle. In fact the important material for cutting the board is essential to the development of development in terms of satisfying its performance objectives. The allocation of exercise equipment is important in the development area to complete the exercise within the allotted time. Asset balances are required in development activities to maintain the artistic distance from problems related to major types of asset use.
- Resource utilization and resource planning problem is one of the most important issues in project implementation and has been addressed by the project manager.
- In today's developing nation, it is necessary to establish our knowledge to learn a variety of resource management techniques.
- Assignment and multi-skilled staff who can be translated forward with Primavera software.
- Skilled workers should first be selected and used as part-time workers to achieve the best results.
- Due to the efficient and effective use of resources, time and cost must be well managed.
- The main purpose of this study was to understand the role of monitoring and control in the continuous and timely completion of construction work. This objective is achieved through a review of the literature and methods involved in monitoring and management.
- In order to get productive feedback the board plans and manages development work it is very important to use a management system. This study discusses the importance of acquiring assets on board in a major development discourse. Just because of the right assets the board is the Primavera P6 which regularly mentions the cost of development which is already rising due to the response spill and is controlled by a deficit at the same time it is declining. The analysis of the situation has shown that it is legal in the context of private business development and development. Organizations that do not use primavera planning tools need to increase their interest in preparing and educating their deployed teams.

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