



**Welcome to  
Presentation on  
Project Management**







# **PRESENT SCENARIO**

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- **IMAGE OF MES HAS IMPROVED OVER THE PAST FEW YEARS ON MAINT SPECIALLY IN AF AND NAVY STNS.**
- **WE HAVE FAILED MISERABLY IN TIMELY EXECUTION OF MAJOR PROJECTS ,WHERE AS DEPARTMENTS LIKE RAILWAYS, CPWD, NHAI, CC R&D AND P&T HAVE STARTED DELIVERING PROJECTS AHEAD OF US.**
- **OUR USERS HAVE STARTED THINKING OF WAYS AND MEANS OF EXECUTING MAJOR PROJECTS WITHOUT MES INVOLVEMENT. CREATION OF AUTONOMOUS BODIES LIKE DGMAP, DGNP, CC R&D, AWHO,AFNHB ETC. , THOUGH MOSTLY STAFFED FROM MES, INDICATES THIS TREND.**

***“We know that projects fail. We also know how to control their failure? But why do they still fail ?”***

***..... Martin Cobb’s paradox***

***Ottawa University - 1994***

***Only 31% of all global projects come within 10% of budget***

***and***

***only 25% come within 10% of original completion date.***

***Source: KPMG International - Global Construction Survey***

<b>Date</b>	<b>Nos of Projects</b>	<b>Nos of projects under time overrun/%</b>	<b>Average Time overrun (months)</b>	<b>Nos of projects under cost overrun/%</b>	<b>Value of cost overrun (Rs lac Cr)</b>	<b>% Average cost overrun</b>
<b>Oct 2017</b>	<b>1263</b>	<b>297 (23.51%)</b>	<b>1-261 months</b>	<b>350 (27.71%)</b>	<b>2.65</b>	<b>16.90</b>
<b>Dec 2018</b>	<b>1417</b>	<b>317 (22.37%)</b>	<b>NA</b>	<b>362 (25.54%)</b>	<b>3.39</b>	<b>19.55</b>
<b>01.7.19</b>	<b>1405</b>	<b>381 (27.11%)</b>	<b>43.17</b>	<b>340 (24.40%)</b>	<b>3.30</b>	<b>18.25</b>
<b>20.7.20</b>	<b>1692</b>	<b>552 (32.62%)</b>	<b>39.71</b>	<b>401 (23.70%)</b>	<b>4.02</b>	<b>19.41</b>
<b>23.3.21</b>	<b>1736</b>	<b>547 (31.50%)</b>	<b>44.59</b>	<b>449 (25.47%)</b>	<b>4.29</b>	<b>19.22</b>
<b>28.11.21</b>	<b>1680</b>	<b>539 (32.08%)</b>	<b>47.16</b>	<b>438 (26.07%)</b>	<b>4.34</b>	<b>19.97</b>
<b>23.1.22</b>	<b>1673</b>	<b>557 (33.30%)</b>	<b>45.69</b>	<b>445 (26.60%)</b>	<b>4.40</b>	<b>19.82</b>
<b>21.11.22 (till Oct 22)</b>	<b>1521</b>	<b>642 (42.20%)</b>	<b>42</b>	<b>380 (24.98%)</b>	<b>4.58</b>	<b>21.63</b>
<b>Jan 2023</b>	<b>1454</b>	<b>871 (59.90%)</b>	<b>&gt; 36 months</b>	<b>NA</b>	<b>4.46</b>	<b>21.67</b>

**Status of infrastructure projects costing more than Rs 150 Cr in India**  
**(as per MoSPI Flash Reports for different years)**

## ❑ PROJECT:

- A PROJECT IS CONCEPTUALISED DUE TO THE NECESSITY FELT ON GROUND.
- A PROJECT IS AN ENDEAVOUR THAT IS UNDERTAKEN TO PRODUCE RESULTS THAT ARE EXPECTED FROM THE REQUESTED PARTIES.
- A PROJECT IS A SINGLE, NON-REPETITIVE ENTERPRISE. (Even twins born from same mother are non-repetitive)
- EACH PROJECT IS UNIQUE, ITS OUTCOME CAN NEVER BE PREDICTED WITH ABSOLUTE CONFIDENCE.
- A PROJECT CONSISTS OF 3 COMPONENTS:
  - (i) SCOPE (QUANTITY & QUALITY)
  - (ii) BUDGET (COST)
  - (iii) SCHEDULE (SEQUENCING & TIMING).

## ❑ PROJECT MANAGEMENT:

➤ MANAGEMENT = MAN + AGE + MEN + T

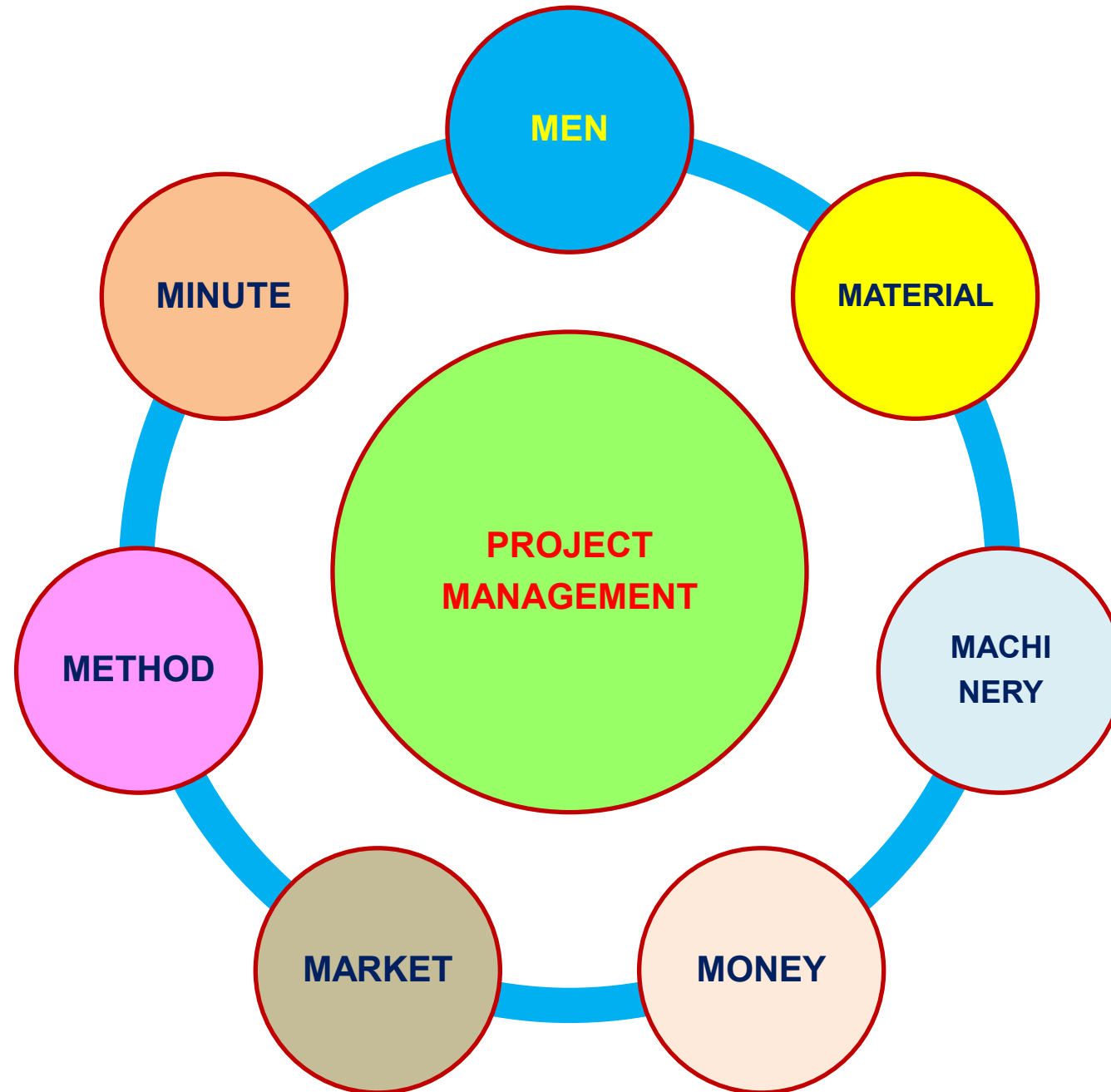
➤ 'AGE' IS SUM TOTAL OF PHYSICAL AGE, KNOWLEDGE, EXPERIENCE, MATURITY and WISDOM

Information ➔ Knowledge ➔ Experience ➔ Maturity ➔ Wisdom

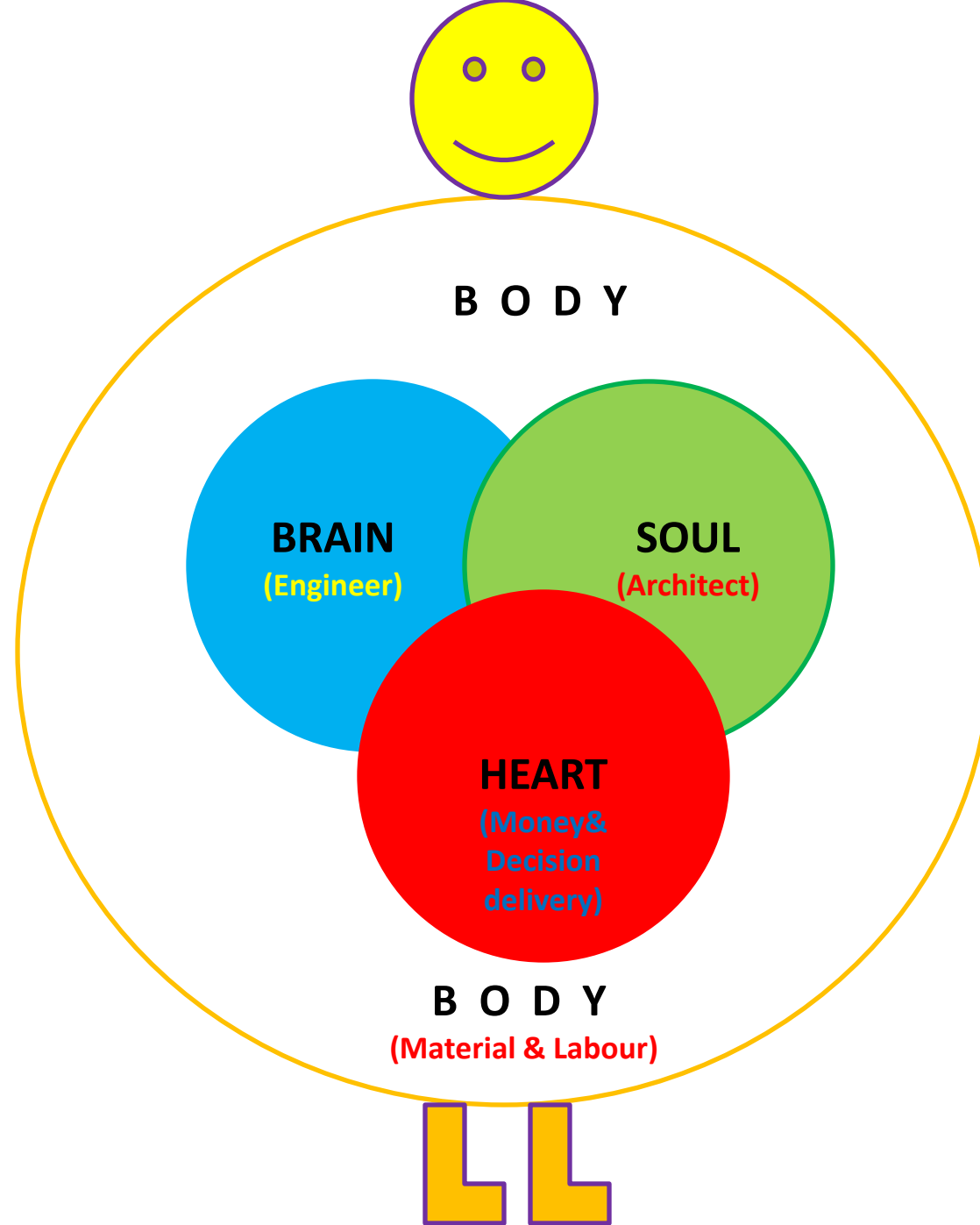
➤ THEREFORE, THE ART / SCIENCE WHEREIN, A MAN/ WOMAN WITH HIS/HER 'AGE' IS CAPABLE OF CONTROLLING MEN/WOMEN AND TIME IS MANAGEMENT.

➤ IN CONSTRUCTION PROJECTS, CONTROL OF MEN AND TIME CAN NOT BE ACHIEVED WITHOUT CONTROL ON MATERIAL, MACHINERY, MARKET, MONEY & METHODS.

➤ THUS, MANAGEMENT TERM IS ALL INCLUSIVE OF 7 "M" i.e. MEN + MATERIAL + MACHINERY + MONEY + MARKET + METHOD + MINUTE.

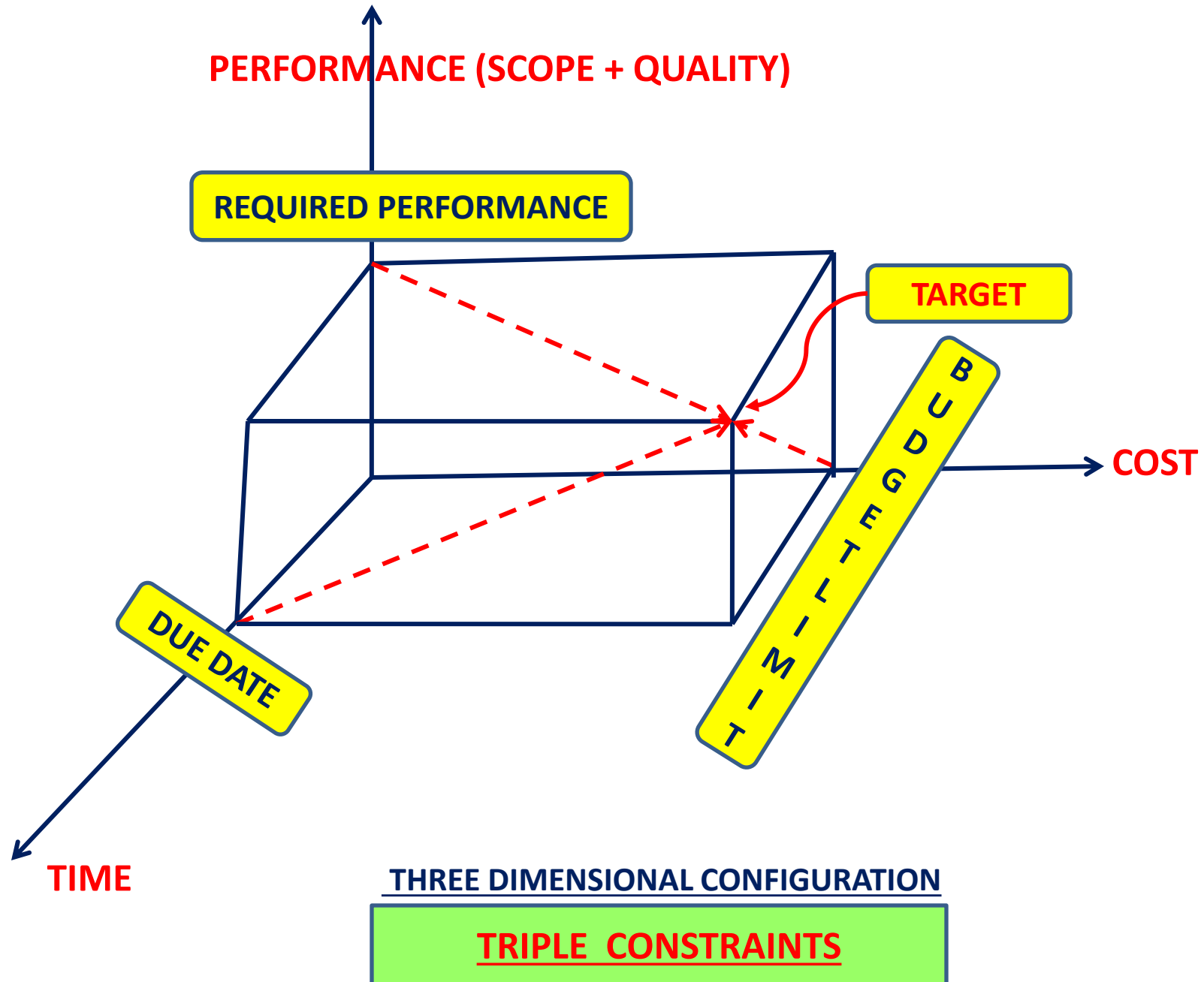


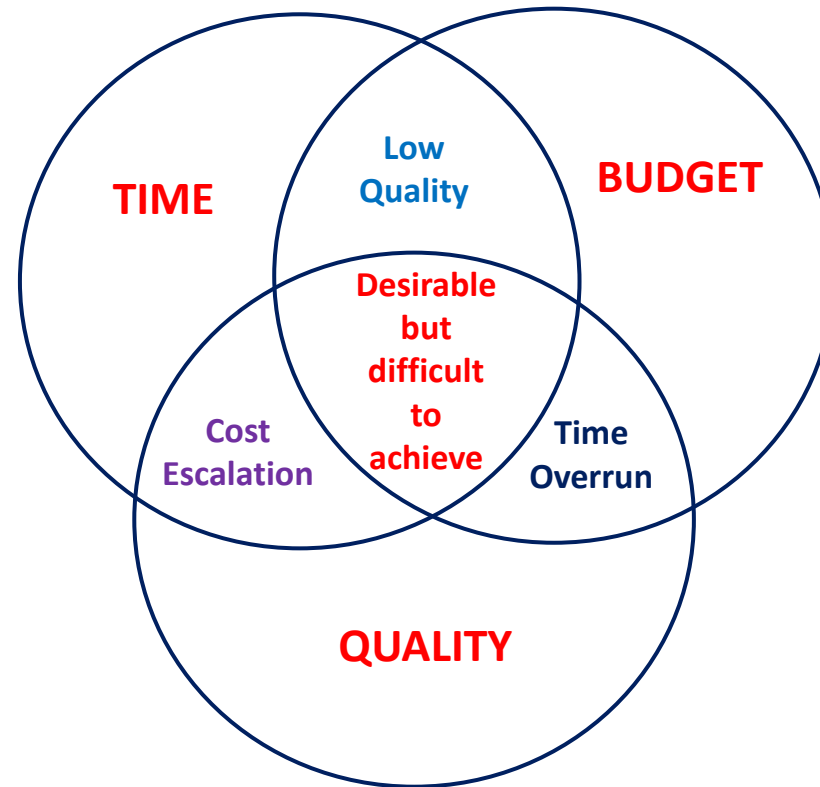




## **PROJECT MANAGEMENT:**

- **THE ART AND SCIENCE OF CO ORDINATING MEN, MATERIAL, MACHINERY, MONEY, METHOD, MARKET AND MINUTE TO COMPLETE THE SPECIFIED PROJECT (SCOPE) ON TIME (SCHEDULE) WITHIN APPROVED COST (BUDGET).**
- **PROJECT MANAGEMENT REQUIRES TEAM WORK AMONG THE THREE PRINCIPAL CONSTRUCTION PARTIES i.e., OWNER, DESIGNER AND CONTRACTOR. (Client – Consultant - Contractor)**
- **CONSTRCUTION INDUSTRY IS CONGLOMERATE OF DIVERSE FIELDS AND PARTICIPANTS LOOSELY LUMPED TOGETHER AS A SECTOR OF THE ECONOMY.**
- **PROJECT HAS MULTIPLE ACTORS, FACTORS, ACTIVITIES AND EVENTS. THEY HAVE INTERACTION, INTERDEPENDENCE AND INTERRELATIONSHIP.**
- **THERE IS ALWAYS CONFLICT, CONTRADICTION AND COMPLEXITY.**





**Time – Budget – Quality interrelationship**



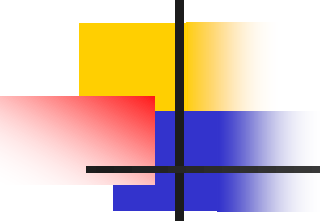
# PROJECT MANAGEMENT

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- **"MONITORING CHANGES BEHAVIOR".**
- **LEARNING FROM FAILURE AND SUCCESS.**
- **USING WEB BASED PMIS AND USE OF PRIMAVERA/MS PROJECT.**
- **FINALIZING KEY MILESTONE.**
- **CUT-OFF DATES.**
- **FAILING QUICKLY**



# PROJECT MANAGEMENT contd..

- 
- **03 MONTHS ROLLING PROGRAMME EVERY MONTH, 04 WEEKS ROLLING PROGRAMME EVERY WEEK AND MONITORING OF KEY DATES.**
  - **PROJECT CLOCK AT SITE, TICKING NUMBER OF DAYS LEFT FOR COMPLETION.**
  - **EARLY MAPPING OF EXISTING UTILITIES AND UTILITY DIVERSIONS.**
  - **SERVICES CONTRACT COMBINED WITH MAIN CONTRACT.**
  - **WORK MUST NOT SUFFER FROM DELAY IN DESIGN/ CONTRACTUAL DECISIONS.**

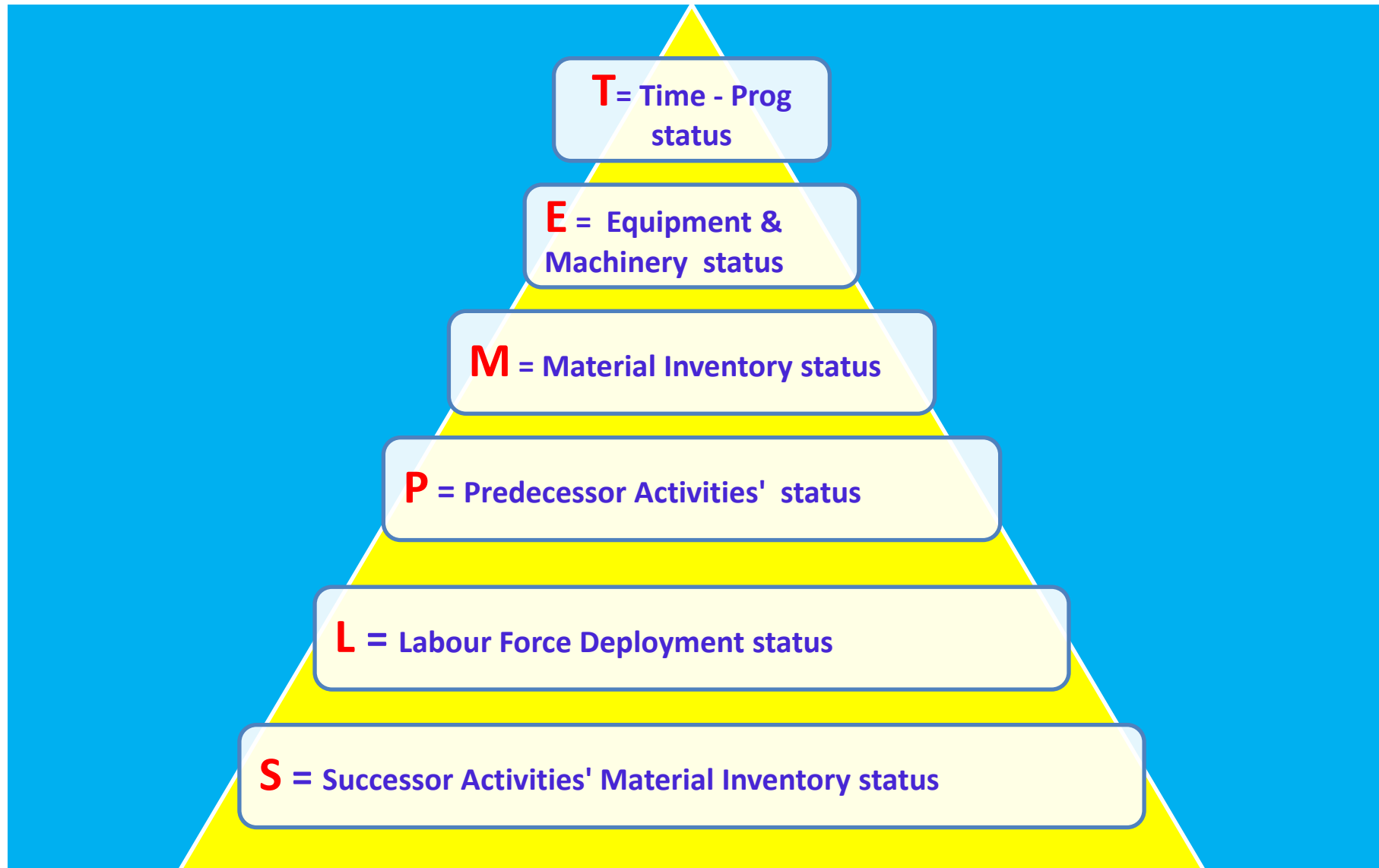
## **❑ SUBJECTIVE ANALYSIS:**

- **AS HUMANBEINGS, WE HAVE A TENDENCY TO SPEAK ABOUT THE PROJECT PROGRESS ON THE BASIS OF PERSONAL ASSESSMENT, PRECONCEIVED NOTIONS AND PRESUMPTIONS.**
- **IF A CONTRACTOR HAS A GOOD TRACK RECORD, WE ARE CARRIED AWAY BY HIS PREVIOUS PROJECT RECORDS AND TAKE IT GRANTED THAT ANY PROJECT TAKEN BY HIM SHALL BE SUCCESSFULLY IMPLEMENTED.**
- **SOMETIMES, WE ARE CARRIED BY THE ROSY PICTURE GIVEN BY SOME OTHERS AND PRESUME THAT THE WORK WILL PROGRESS UNHINDERED.**
- **SUCH ANALYSIS IS SUBJECTIVE AND NOT BASED ON THE ACTUAL GROUND REALITIES, MAY DISTORT THE TRUE PICTURE.**

## **❑ OBJECTIVE ANALYSIS:**

### **➤ WHY REQUIRED ?**

- ANY ANALYSIS SHOULD BE BASED ON CORRECT GROUND DATA, PROPER ASSESSEMENT, RATIONAL ANALYSIS, UNBIASED VIEWS AND SCIENTIFIC EVALUATION TO ARRIVE AT LOGICAL CONCLUSION.**
- SUCH STUDY WILL YIELD SIMILAR RESULTS IRRESPECTIVE OF THE OBSERVER'S NOTIONS, VIEWS AND PRIORITIES.**
- IT WILL GIVE SPECIFIC, MEASURABLE, ACHIEVABLE, REALISTIC AND TIME BOUND RESULTS (S-M-A-R-T), WHICH ARE THE PRE - REQUISITES FOR SCIENTIFIC AND LOGICAL DECISION MAKING.**
- WE GET ANALYTICAL, LOGICAL AND RATIONAL ANALYSIS AND NOT INTUITIVE, EMOTIVE OR CREATIVE ONE.**



**‘TEMPLS’ Parameters for Project Analysis**

### **(i) TIME PROGRESS RELATIONSHIP (T) :**

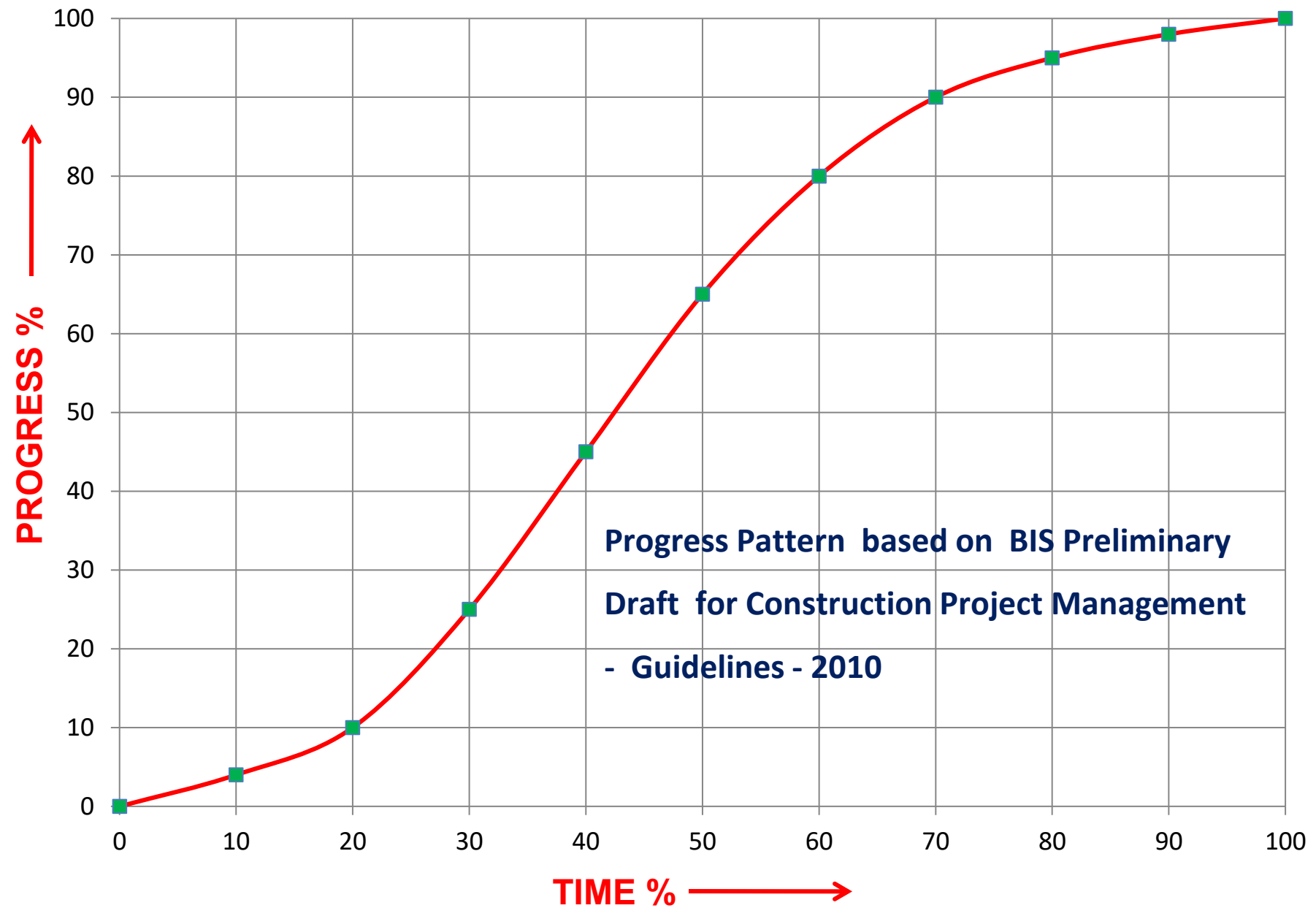
**AT THE COMMENCEMENT OF THE PROJECT, A PROGRESS SHEDULE IS PREPARED BY THE CONTRACTOR AND APPROVED BY THE PM.**

**FOR A TYPICAL GOVT PROJECT, FOLLOWING TIME – PROGRESS SCHEDULE IS DERIVED AFTER STUDYING VARIOUS PROJECTS. THIS CAN VARY AS PER AGREED SCHEDULE BETWEEN THE PARTIES.**

<b>Time %</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>30</b>	<b>40</b>	<b>50</b>	<b>60</b>	<b>70</b>	<b>80</b>	<b>90</b>	<b>100</b>
<b>Progress %</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>25</b>	<b>40</b>	<b>60</b>	<b>75</b>	<b>80</b>	<b>90</b>	<b>95</b>	<b>100</b>

<b>T</b>	<b>≥ TARGET PROGRESS</b>	<b>➔</b>	<b>PROJECT IN GOOD HEALTH</b>
<b>T</b>	<b>WITHIN (-)5 % OF TP</b>	<b>➔</b>	<b>WARNING SIGN</b>
<b>T</b>	<b>&lt; (-) 5 % OF TP</b>	<b>➔</b>	<b>PROJECT IS SICK</b>





## **(ii) EQUIPMENT AND MACHINERY (E) :**

**IN ANY PROJECT, EQUIPMENT AND MACHINERY FORM AN IMPORTANT RESOURCE FOR PROGRESS. INFAC, THIS IS ONE OF THE CRITERIA FOR TECHNICAL BIDS.**

**MIXERS, TRUCKS, TRAILORS, TRACTORS, EXCAVATORS, VIBRATORS, GEN SETS, WATER PUMPS, CONCRETE PUMPS, ROAD ROLLERS AND SO ON.**

<b>E</b>	<b>≥ REQUIRED QTY</b>	<b>➔</b>	<b>HEALTHY PROJECT</b>
<b>E</b>	<b>WITHIN 90 % OF REQD QTY</b>	<b>➔</b>	<b>WARNING SIGN</b>
<b>E</b>	<b>&lt; 90 % OF REQD QTY</b>	<b>➔</b>	<b>SICK PROJECT</b>

## **(iii) MATERIAL INVENTORY (M) :**

**MATERIAL INVENTORY IS AN INTEGRAL PART OF PROJECT PROGRESS. THERE CAN NOT BE A COMPROMISE ON THE QUANTITY OF MATERIAL. MATERIAL SHOULD ALWAYS BE ≥ REQUIREMENT.**

<b>M</b>	<b>≥ REQUIRED QTY</b>	<b>➔</b>	<b>HEALTHY PROJECT</b>
<b>M</b>	<b>&lt; ACTUAL REQUIREMENT</b>	<b>➔</b>	<b>SICK PROJECT</b>

## STATUS OF MATERIAL INVENTORY

S/ N	Store item	Unit	Total Qty required for project	Qty required by date 'X'	Actual Qty received till date 'X'	Plan for balance Qty	Remark
1	Cement	bags	40,000	12000	14000	Order placed	comfortable
2	Sand	cum	6500	3000	3000	Order placed	Warning sign
3	Aggregate	cum	12000	6500	4000	Order placed	Poor sign
4	8 - 12 mm $\phi$ rebars	MT	300	150	200	Order not placed	Comfortable, but immediate order must be placed.
5	16 - 25 mm $\phi$ rebars	MT	200	140	140	Order placed	Warning sign
6	Conduit pipe (various dia)	RM	550	300	200	Vendor not finalised	Poor sign
7	Electric cables (various dia)	RM	600	400	500	Order placed	comfortable

#### **(iv) PREDECESSOR ACTIVITY STATUS (P) :**

**WHILE STUDYING A PROJECT ON A PARTICULAR DAY, THERE MAY BE MORE THAN ONE PREDECESSOR ACTIVITIES. THEREFORE, WE WILL CONCENTRATE ON CRITICAL PATH ACTIVITIES ONLY.**

**PROGRESS PERFORMANCE OF PREDECESSOR ACTIVITY WILL GIVE A FAIR IDEA OF PROJECT HEALTH.**

**‘P’ COMPLETED IN TIME**

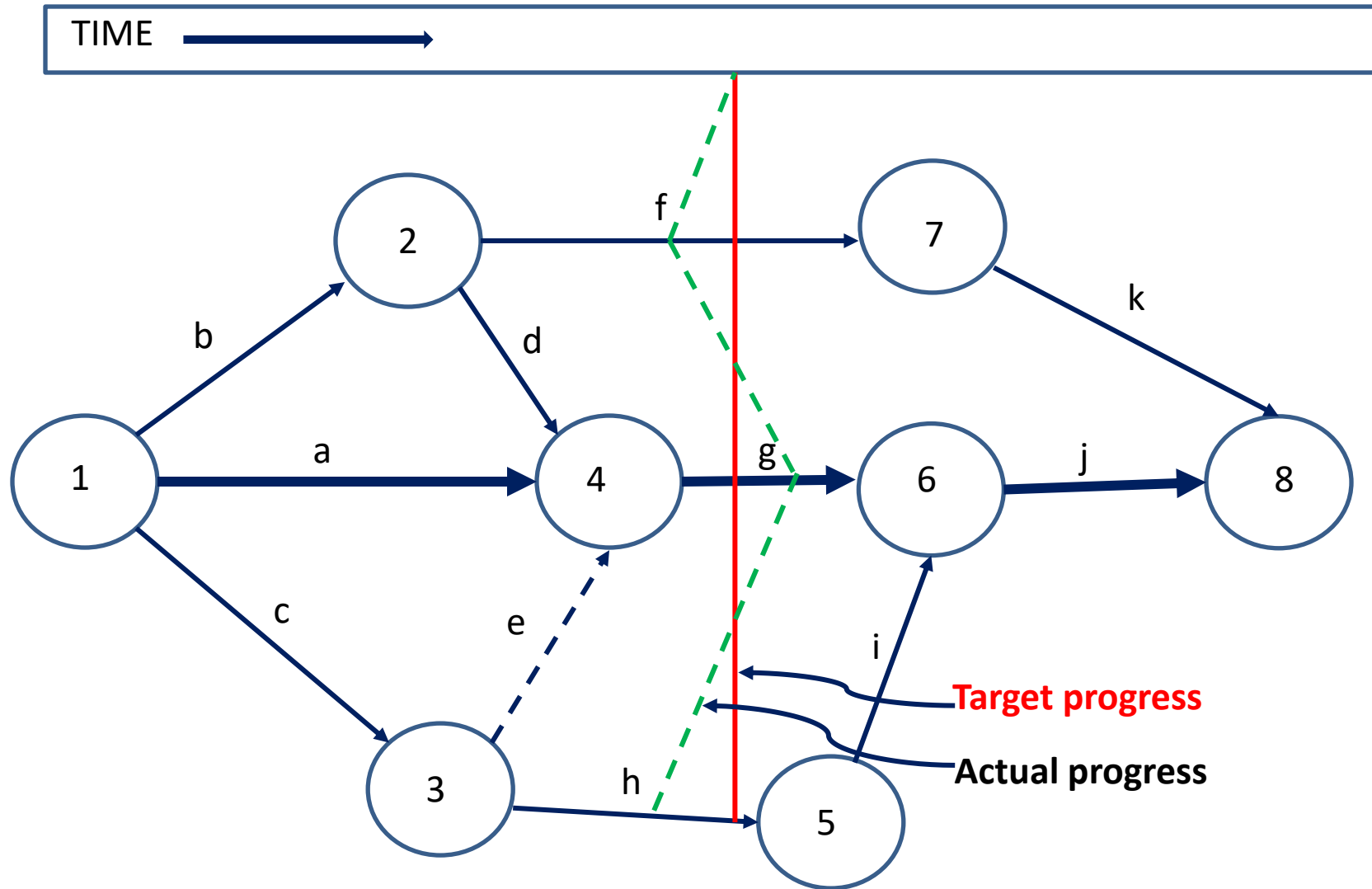


**PROJECT IN GOOD HEALTH**

**‘P’ COMPLETED IN (-)10 % DURATION**



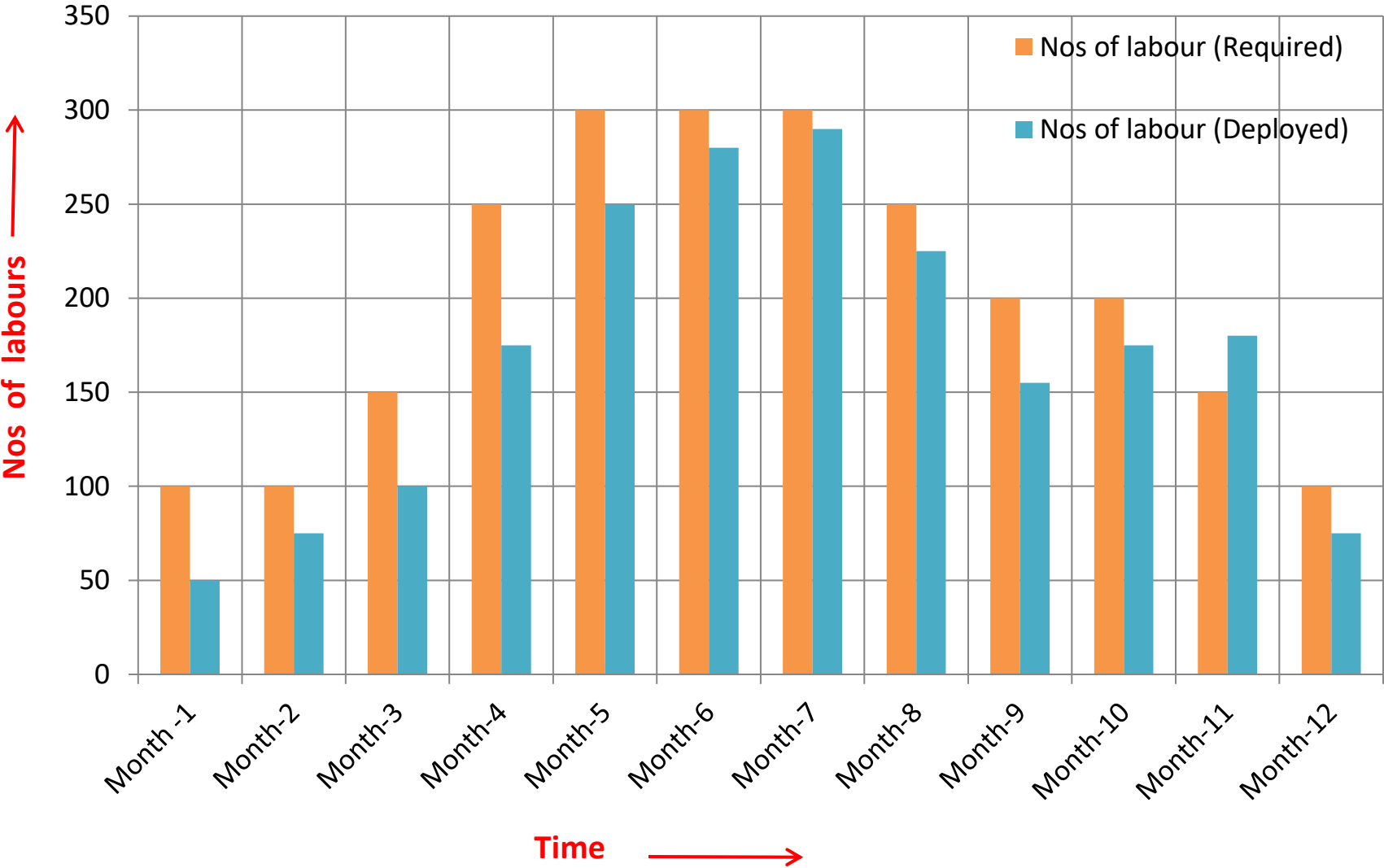
**SICK PROJECT**



**CPM Network for a PROJECT**



Labour deployment status:



### **(v) LABOUR AVAILABILITY (L) :**

**IMPORTANCE OF LABOUR IS AN ESTABLISHED FACT. FOR THE STUDY WE ASSUME 30 % AS LABOUR COMPONENT.**

**THUS, FOR A PROJECT OF RS 20 CR TO BE COMPLETED IN 2 YRS LABOUR COMPONENT SHALL BE RS 6 CR**

**PER MONTH LABOUR PAYMENT SHALL BE RS 25 LAKHS.**

**LET Rs 600 BE THE AVERAGE LABOUR COST i.e. 4167 LABOURS A MONTH.  
Add @ 10% for contingency L = 4584**

**THIS MEANS APPX 153 LABOURS A DAY (TAKING 30 WORKING DAYS PER MONTH)**

<b>L ≥ DAILY AVERAGE OF LABOUR REQD</b>	<b>➔</b>	<b>HEALTHY PROJECT</b>
<b>L &lt; DAILY AVERAGE OF LABOUR REQD</b>	<b>➔</b>	<b>POOR HEALTH</b>

**(vi) SUCCESSOR ACTIVITY MATERIAL AVAILABILITY (S) :**

**TO KEEP GOOD HEALTH OF A PROJECT, IT IS EQUALLY IMPORATNT THAT MATERIAL INVENTORY FOR THE SUCCESSOR ACTIVITIES IS ALSO MAINTAINED AT SITE. FOR EASE WE WILL STUDY IMMEDIATE SUCCESSOR ACTIVITIES ON CRITICAL PATH.**

**IF THE SUCCESSOR ACTIVITIES HAVE TO START AFTER 15 DAYS FROM THE DAY THE STUDY IS UNDERTAKEN.**

<b>S</b>	<b>100 %</b>	<b>➔ PROJECT HEALTH IS GOOD</b>
<b>S</b>	<b>&gt; 90 &lt; 100 %</b>	<b>➔ WARNING SIGN</b>
<b>S</b>	<b>&lt; 90 %</b>	<b>➔ SICK PROJECT</b>

**HAVING DECIDED THE VALUES FOR THESE PARAMETERS, THE NEXT STEP WAS TO ESTABLISH A CORRELATIONSHIP AMONG THEM, SO AS TO DETERMINE OVERL ALL HEALTH OF A PROJECT.**

## ➤ **WHEN SHOULD THE CONTRACT BE TERMINATED ?**

**WE GENERALLY FACE PROBLEMS FROM CONTRACTORS AS BELOW ;**

- ➔ PROGRESS IS SLOW.**
- ➔ INADEQUATE NOS OF LABOURERS ARE PUT AT SITE.**
- ➔ NO / INADEQUATE MATERIAL INVENTORY AT SITE**
- ➔ NO / INADEQUATE EQUIPMENTS / MACHINERY AT SITE**
- ➔ SLOW PROGRESS OF CONTRACTOR SHOULD NOT BE ALLOWED TO CONTINUE.**
- ➔ THERE SHOULD BE NOTHING PENDING FROM DEPTT IN TERMS OF DECISION DELIVERY AND PAYMENT OF DUES.**
- ➔ DECISION DELIVERY MUST BE PROMPT, EFFICIENT, FAST AND EFFECTIVE.**

# THOUGHT SHARING

- ❖ WE ARE DOING SOME MARVELOUS WORK AND SOME OF THE BIGGEST WORKS IN HISTORY OF MES
- ❖ WE SHOULD TAKE PRIDE IN OUR WORKS AND WHAEVER WE DO

“ WE DON'T JUST CONSTRUCT AND MAINTAIN BUILDINGS, WE CREAT HOMES, SHAPES CANTONEMENTS AND BUILD FUTURES”

# THEY BUILD WHAT WE ACCEPT

- **CONTRACTOR KNOWS OR LEARNS WHERE YOU STAND AND WORK ACCORDINILY**
- **I UNDERSTAND THAT THERE IS ALWAYS PRESSURE TO DELIVER AND SHOW RESULTS AND THAT'S IMP TOO. SO WE NEED A WELL CALIBERATED APPROACH IN WHAT IS ACCEPTABLE AND WHAT'S NOT**
- **NOT PERFACTION, BUT ATLEAST WE SHOULD ACHIEVE NEAR PERFACTION OR EXCELLENT QUALITY**

**“BITTERNESS OF POOR QUALITY REMAINS LONG AFTER  
SWEETNESS OF LOW PRICE IS FORGOTTEN”**

# RISK BEING A FOOL

ASK QUESTIONS,

TRY AND ASK RIGHT QUESTIONS (AI)

BETTER TO BECOME FOOL FOR 1 SEC THAN FOR LIFE



If you are not willing to be a  
fool, you can't become a  
master.

JORDAN B. PETERSON

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# INTEGRITY

- "Don't ever promise more than you can deliver, but always deliver more than you promise." "It is true that integrity alone won't make you a leader, but without integrity you will never be one." "People may doubt what you say, but they will believe what you do." "You are what you do, not what you say you'll do."

**INTEGRITY IS  
MAKING SURE THAT  
THE THINGS YOU SAY  
AND THE THINGS  
YOU DO ARE IN  
ALIGNMENT**



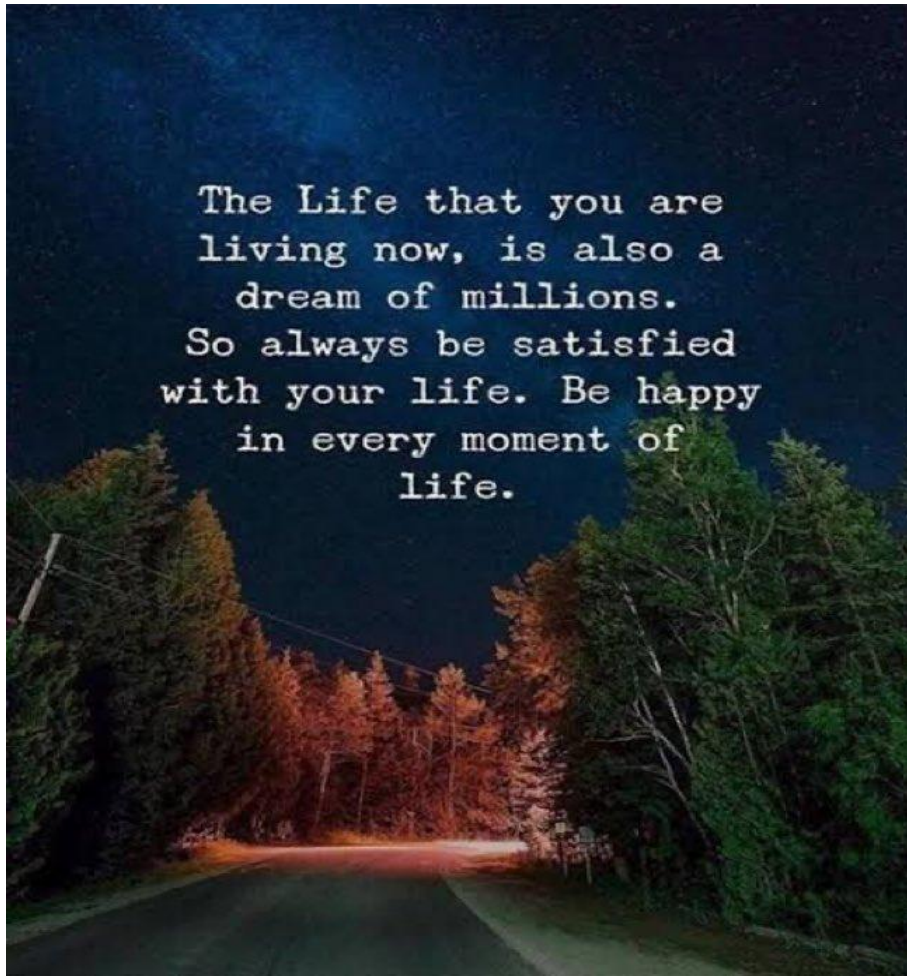
# DON'T BE SILENT

**WHEN WE ARE SILENT, WE ARE HURTING THE OUTCOME.**

**YOU SEE, MINORITY VIEWPOINTS HAVE BEEN PROVEN TO AID THE QUALITY OF DECISION MAKING IN JURIES, BY TEAMS AND FOR THE PURPOSE OF INNOVATION.**

**RESEARCH PROVES THEN EVEN WHEN THE DIFFERENT POINTS OF VIEW ARE WRONG, THEY CAUSE PEOPLE TO THINK BETTER, TO CREATE MORE SOLUTIONS AND TO IMPROVE THE CREATIVITY OF PROBLEM SOLVING.**

# MORAL STRENGTH AND COURAGE



# EXPLOITING POVERTY

- **OUTSOURCING**

- **AT THE END OF THE DAY, IT'S NOT ABOUT WHAT YOU HAVE OR EVEN WHAT YOU'VE ACCOMPLISHED... IT'S ABOUT WHO YOU'VE LIFTED UP, WHO YOU'VE MADE BETTER. IT'S ABOUT WHAT YOU'VE GIVEN BACK. – *DENZEL WASHINGTON***

# YOU ALL ARE IN THE BEST DEPARTMENT

- **THIS SERVICE IS THE BEST SERVICE THEIR CAN BE, IN INDIAN CONTEXT AFTER IAS,IPS,IFS, RAILWAYS AND MAY BE ONE OR TWO MORE BASED ON INDIVISUAL PERSONALITY**

**SO**

**LIVE WELL**

**LIVE PURPOSEFULLY**

**LIVE HEALTY**

**CONTINUE LEARNING**

**AND BE HAPPY**

**THANKS A LOT FOR PATIENT HEARING**

**“BEST WAY TO ADD VALUE TO THE ORGANISATION IS  
TO BECOME A MORE VALUABLE PERSON”**