

Implementing CaseIH Smart Tractor for spraying fertilizers in cotton fields at Mexico, USA


Presented By
GROUP-J



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OUTLINE:

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 - PROJECT CHARTER
 - ORGANIZATION STRUCTURE
 - WBS
 - PDM
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 - EVM
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 - COMMUNICATION PLAN
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- 

INTRODUCTION:

CaseIH Smart Tractor

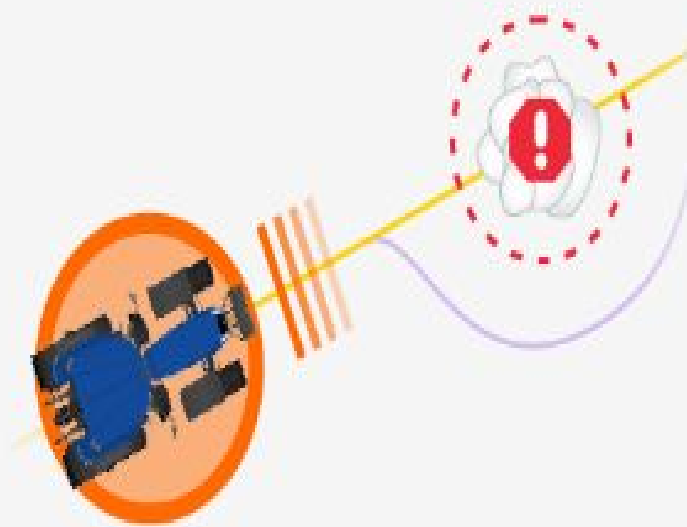
- Spraying fertilizers
- Avoid overlapping
- Automated Pilot technology
- Farm operations through GPS based information
- A 6-m spray boom that is divided into 12 sections with 2 tanks with a capacity of 200L
- Optical Sensors
- Cost - 15,000 USD





NAV

Nav coordinates vehicle and implement controls with the tasks assigned to it and relays vital communications between the server and vehicle.



VANTAGE

Make an automated farm a safer place with Vantage® obstacle detection and avoidance. Equip robotic farm vehicles with the ability to see and safely react to unexpected hazards.



MOBIUS

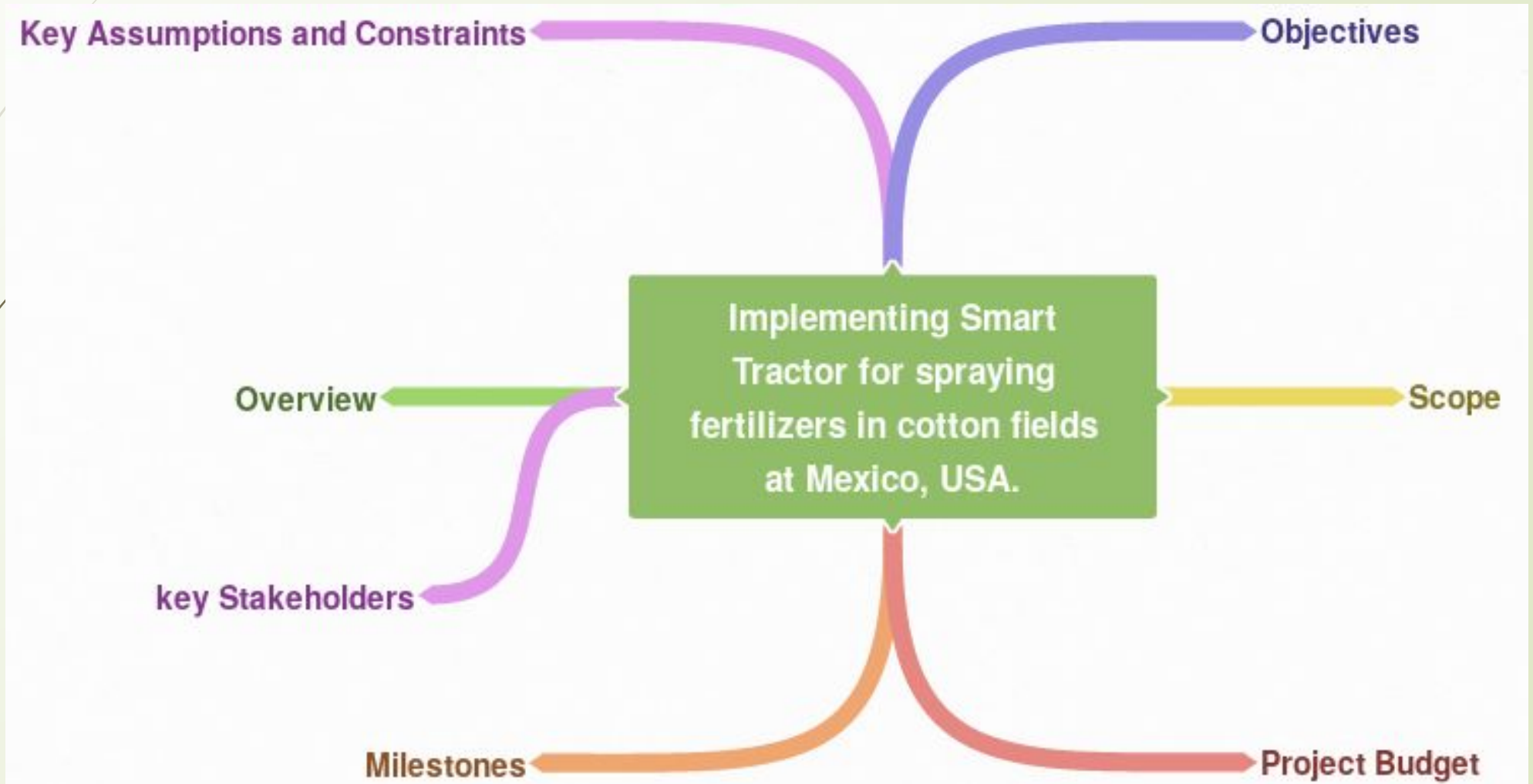
Experience the world's most advanced command & control software system for unmanned vehicles. Manage multiple robotic farm vehicles with a single operator to improve productivity and



INTRODUCTION:

- Implementing CaseIH Smart Tractor for spraying fertilizers in cotton fields
 - ASI Robots - Automated farming
 - Implemented region - Mexico, USA
 - Selected land - 200 acres
 - Project budget - 65,080 USD
 - Project duration - 3 months
- 

MINDMAP:



PROJECT CHARTER : Implementing CaseIH Smart Tractor for spraying fertilizers in cotton fields at Mexico, USA.

Overview: This project is about implementing CaseIH Smart Tractor for spraying fertilizers in cotton fields at Mexico, USA. To spray fertilizers for 200 acres using smart tractor. The project period is of 75 days(i.e, from April 1st 2016 to June 14 2016) and estimated project budget is 68000 USD

Objectives: This project aims at reducing the time, human resources and cost for spraying fertilizers when compared with the traditional methods.

Scope:

- To implement the smart tractors in the agriculture sector for better yield.
- To develop the automated machinery in agriculture sector.

Key Assumptions And Constraints

- Involving automated machinery for spraying fertilizers.
- This project deals with single automated work which is for spraying purpose.

Milestones:

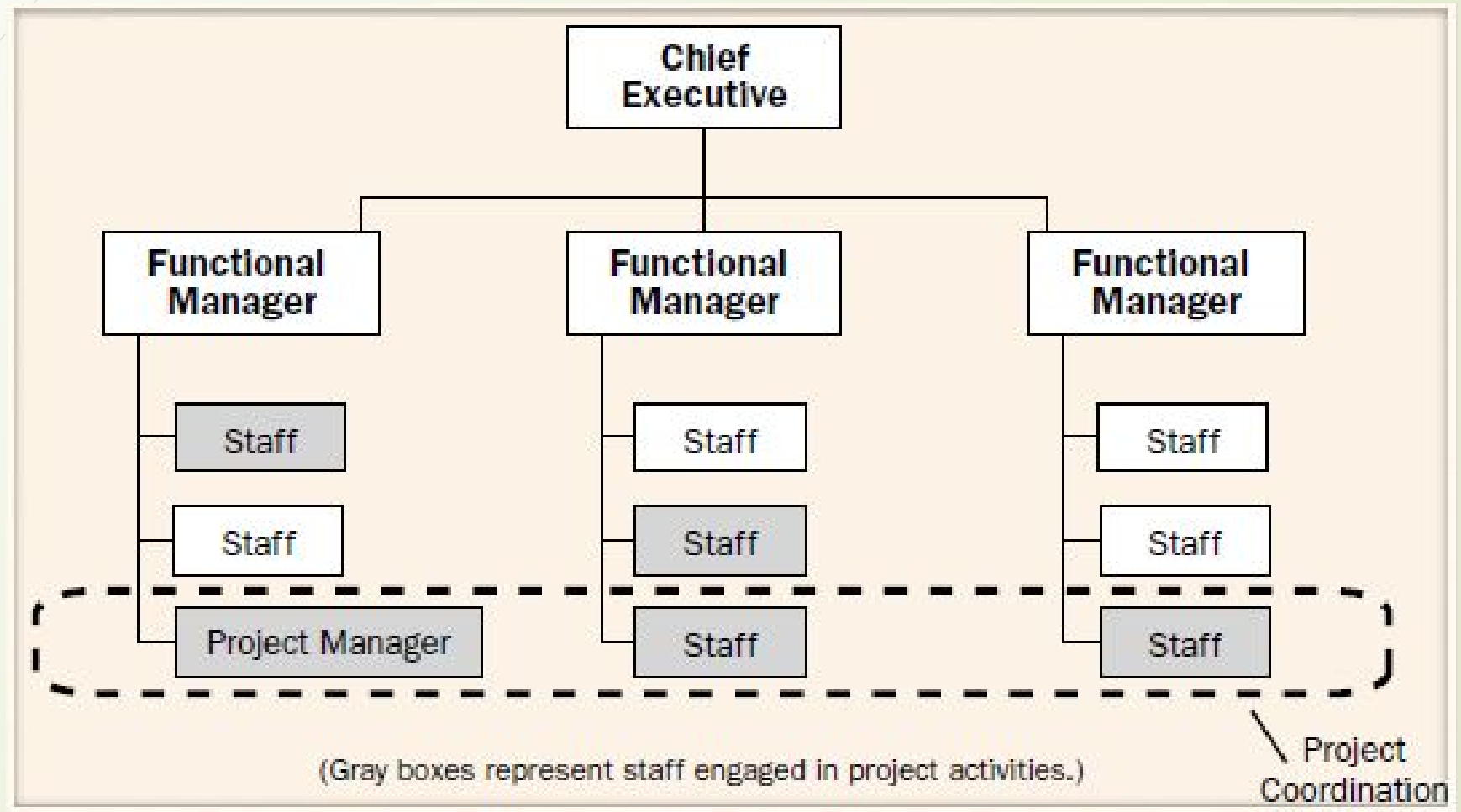
- Project Charter - 04/01/16
- Land Inspection - 04/15/16
- Implementation - 04/22/16 & 05/17/16
- Final reports - 06/08/16

Key Stakeholders:

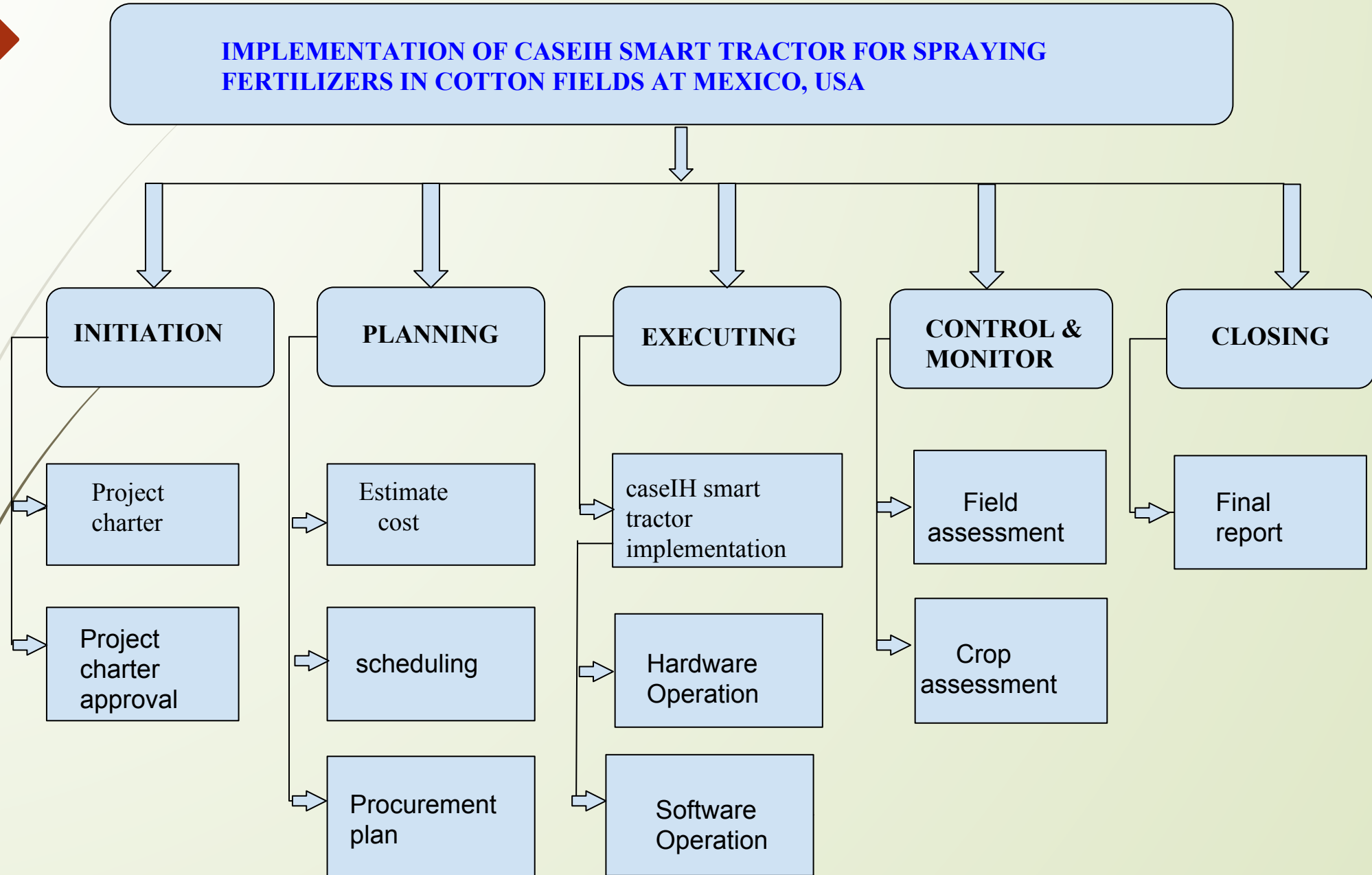
Project manager, Project sponsor, Software engineer, Hardware engineer

Approval Signatures: Project manager Noor Ahmad
Project sponsor Teerawat issariyakul

ORGANIZATION STRUCTURE:



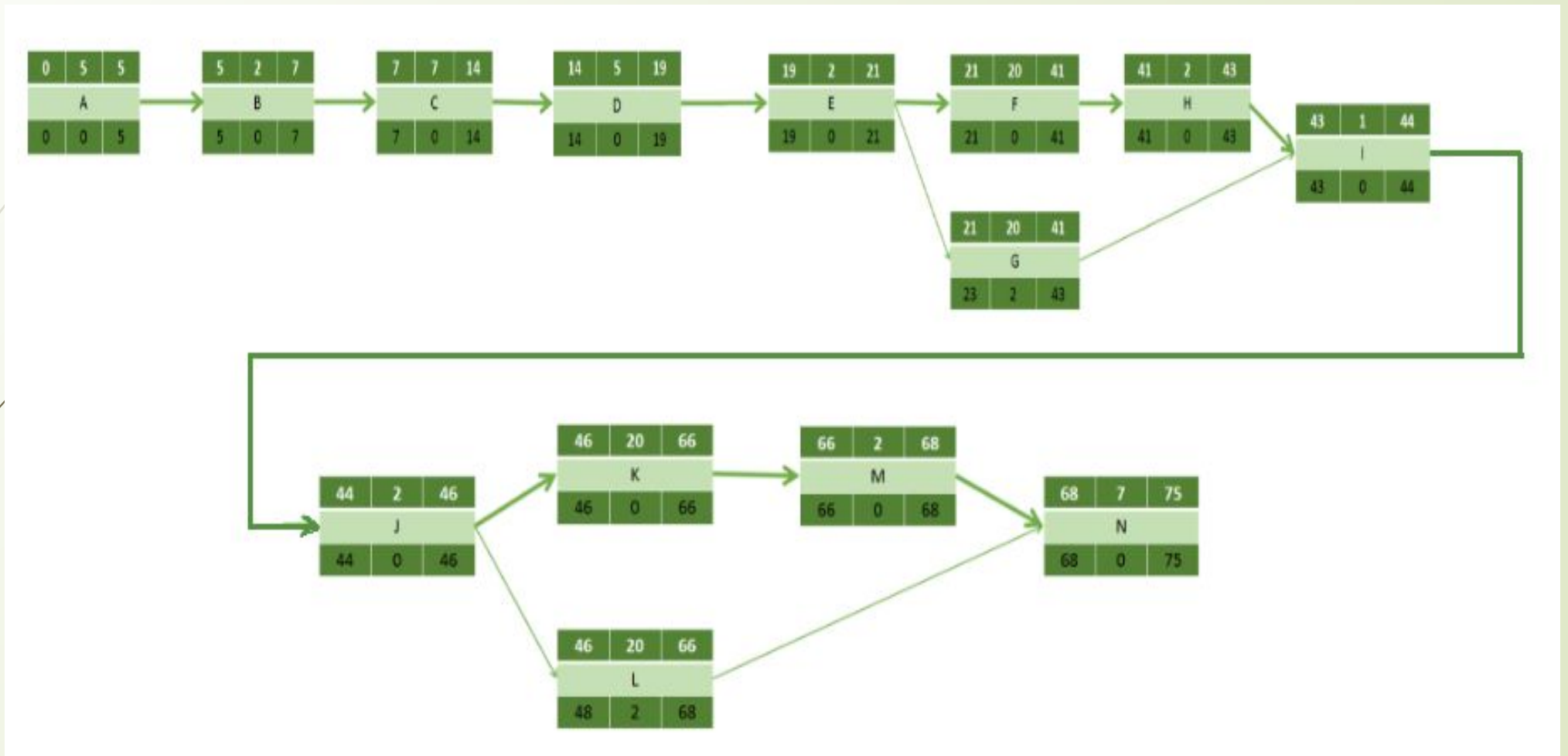
WORK BREAKDOWN STRUCTURE:



PDM CHART:

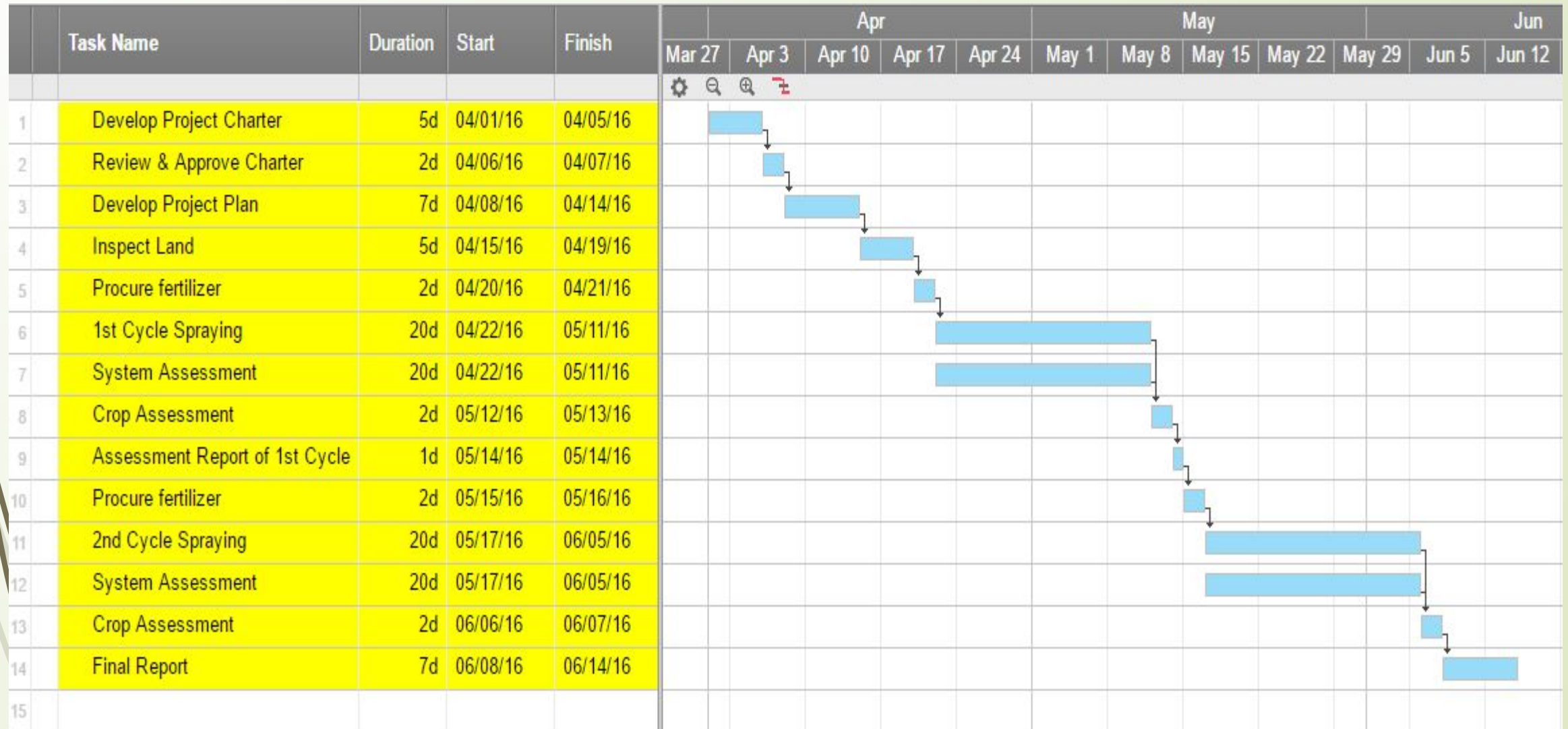
Project Schedule (PDM)											
ID	Activity	Duration (Day)	Dependency	ES	EF	LS	LF	Float	Free Float	Interference Float	Critical Path
A	Develop Project Charter	5	-	0	5	0	5	0	0	0	Yes
B	Review & Approve Charter	2	A	5	7	5	7	0	0	0	Yes
C	Develop Project Plan	7	B	7	14	7	14	0	0	0	Yes
D	Inspect Land	5	C	14	19	14	19	0	0	0	Yes
E	Procure fertelizer and fuel	2	D	19	21	19	21	0	0	0	Yes
F	1st Cycle Spraying	20	E	21	41	21	41	0	0	0	Yes
G	System Assesment	20	E	21	41	23	43	2	2	0	No
H	crop Assessment	2	f	41	43	41	43	0	0	0	Yes
I	Assesment Report of 1st Cycle	1	G,H	43	44	43	44	0	0	0	Yes
J	Procure fertelizer and fuel	2	I	44	46	44	46	0	0	0	Yes
K	2nd Cycle Spraying	20	J	46	66	46	66	0	0	0	Yes
L	System Assesment	20	J	46	66	48	68	2	2	0	No
M	Crop Assessment	2	K	66	68	66	68	0	0	0	Yes
N	Final Report	7	L,M	68	75	68	75	0	0	0	Yes

PDM



CRITICAL PATH: A-B-C-D-E-F-H-I-J-K-M-N

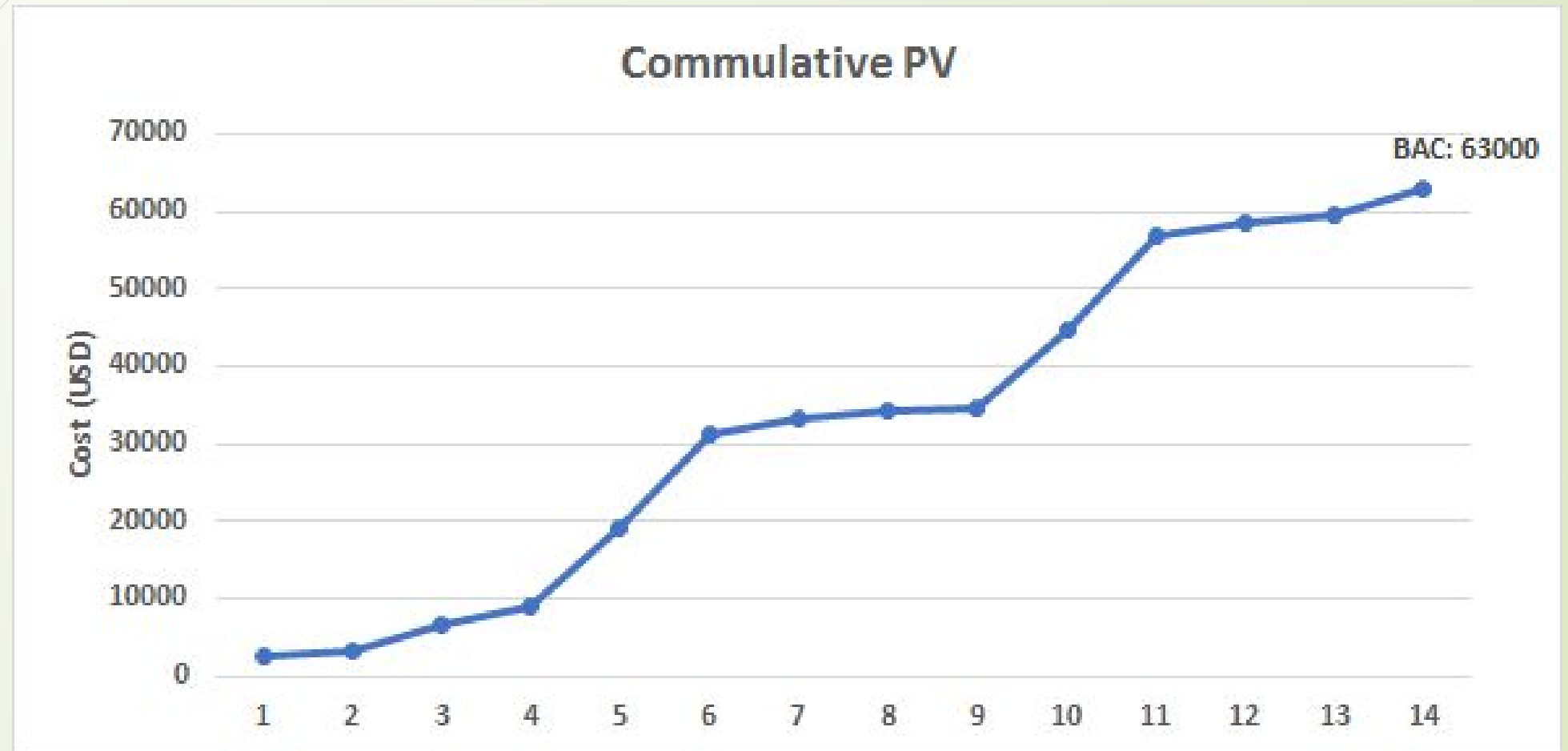
GANTT CHART:



COMMUNICATION PLAN:

Audience	Communication Medium	Objective	Intended result	Timing or frequency
Project manager	Face to face	Project plan	Weekly report	Weekly
Hardware engineer	Face to face	Product maintenance	Daily progress report	Daily
Software engineer	Face to face	Software maintenance	Daily progress report	Daily
System operator	Face to face	System maintenance	Daily progress report	Daily
Agriculture engineer	Face to face	Crop maintenance	Daily progress report	Daily
QA engineer	Face to face	Result assessment	Daily progress report	Daily

Time-Cost Graph

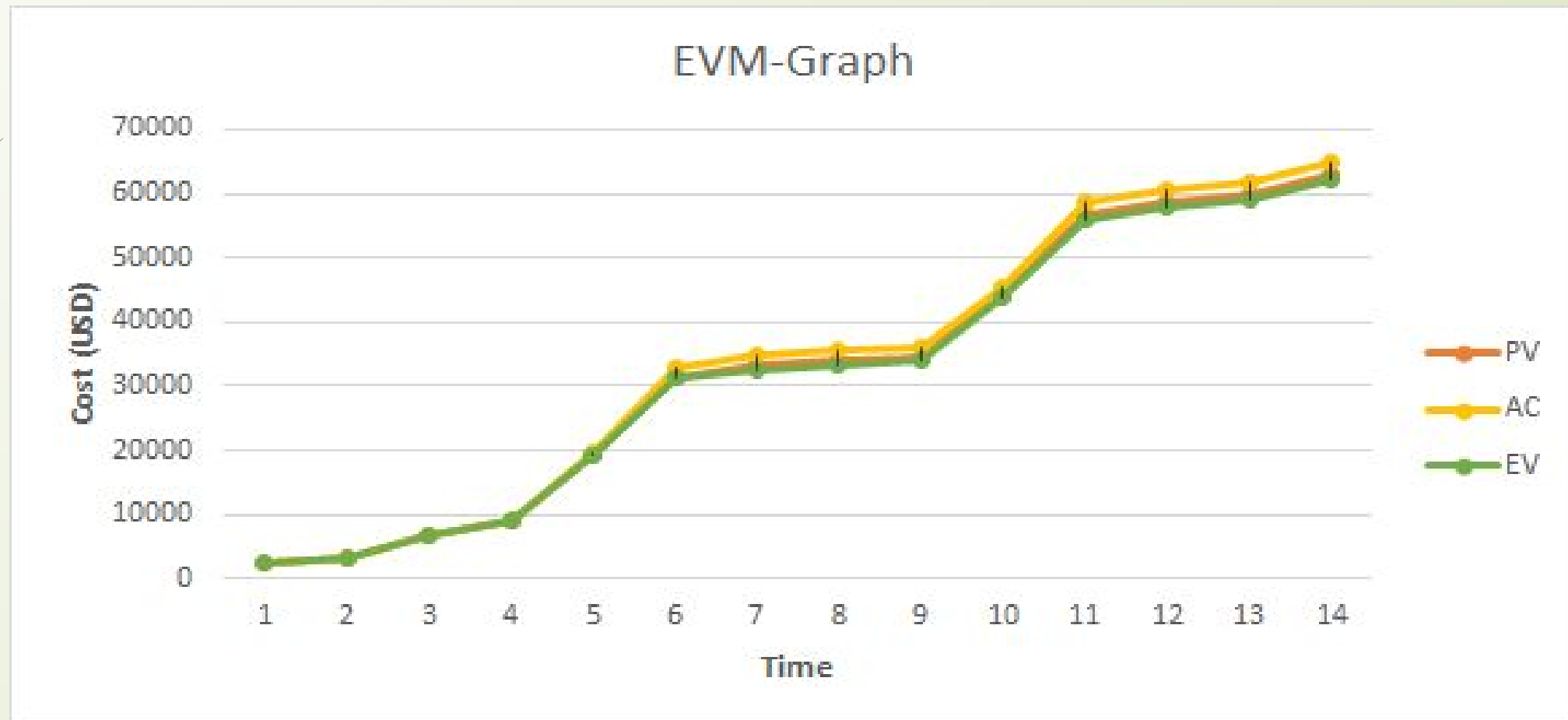


COST ANALYSIS

ID	Activity	Planned Value	Commulative PV	Actual Cost	Commulative AC	Earned Value	Commulative EV
A	Develop Project Charter	2400	2400	2400	2400	2400	2400
B	Review & Approve the Charter	960	3360	960	3360	960	3360
C	Develop Project Plan	3360	6720	3360	6720	3360	6720
D	Inspect Land	2400	9120	2400	9120	2400	9120
E	Procure fetelizer	9960	19080	10500	19620	9960	19080
F	1st Cycle Spraying	12100	31180	13100	32720	12100	31180
G	System Assesment	2000	33180	2000	34720	1260	32440
H	Crop Assessment	960	34140	960	35680	960	33400
I	Assesment Report of 1st Cycle	480	34620	480	36160	480	33880
J	Procure fetelizer	9960	44580	9400	45560	9960	43840
K	2nd Cycle Spraying	12100	56680	13200	58760	12100	55940
L	System Assesment	2000	58680	2000	60760	2000	57940
M	Crop Assessment	960	59640	960	61720	960	58900
N	Final Report	3360	63000	3360	65080	3360	62260
	Total		63000		65080		62260

EVM-Graph

PV: 63000.00 USD
AC: 65080.00 USD
EV: 62260.00 USD





Actual Cost: 65,080 USD

OverCost: 2,080 USD

Reserved Cost: 5,000 USD

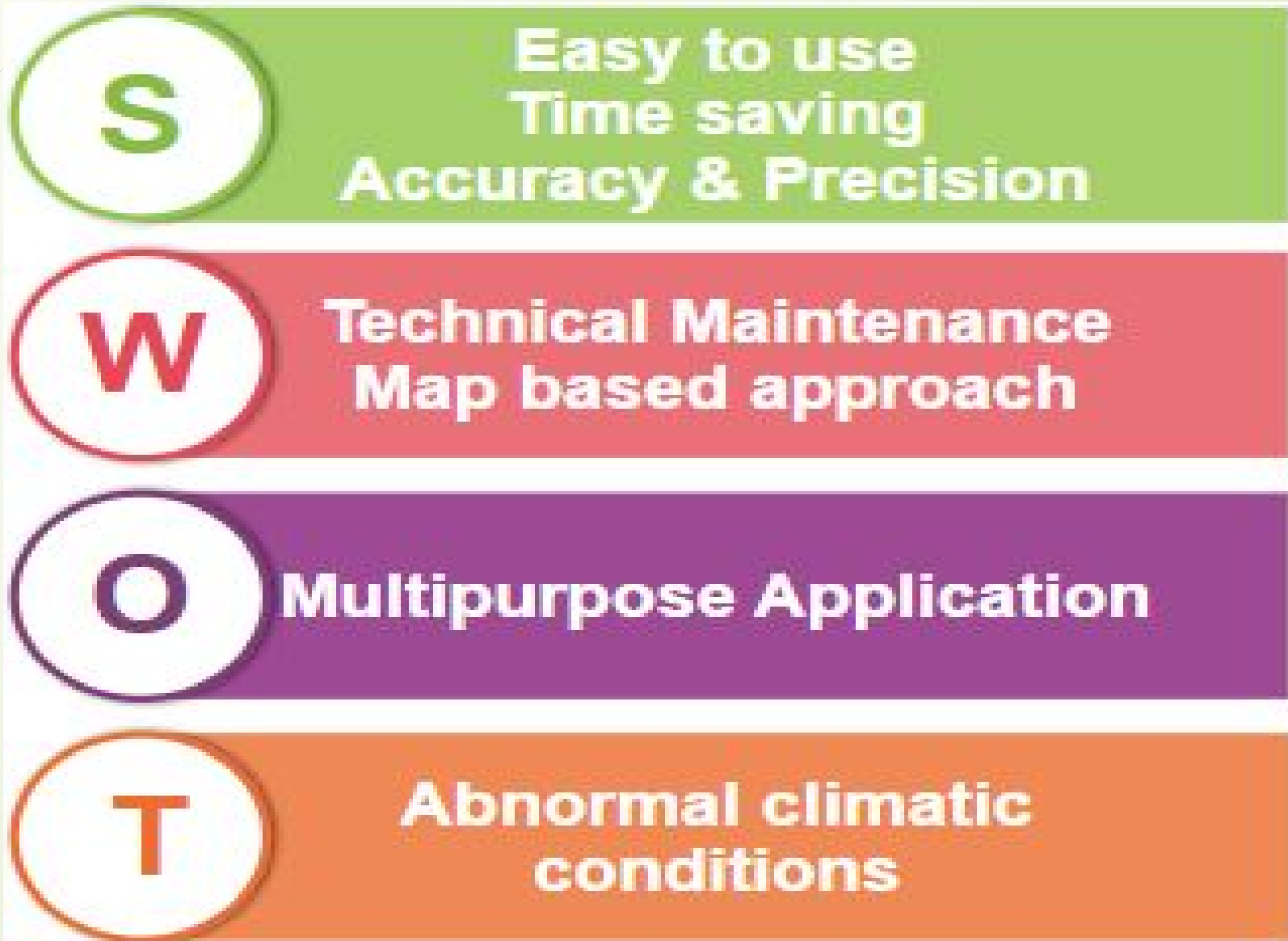
Total Budget: 68,000 USD

RACI CHART:

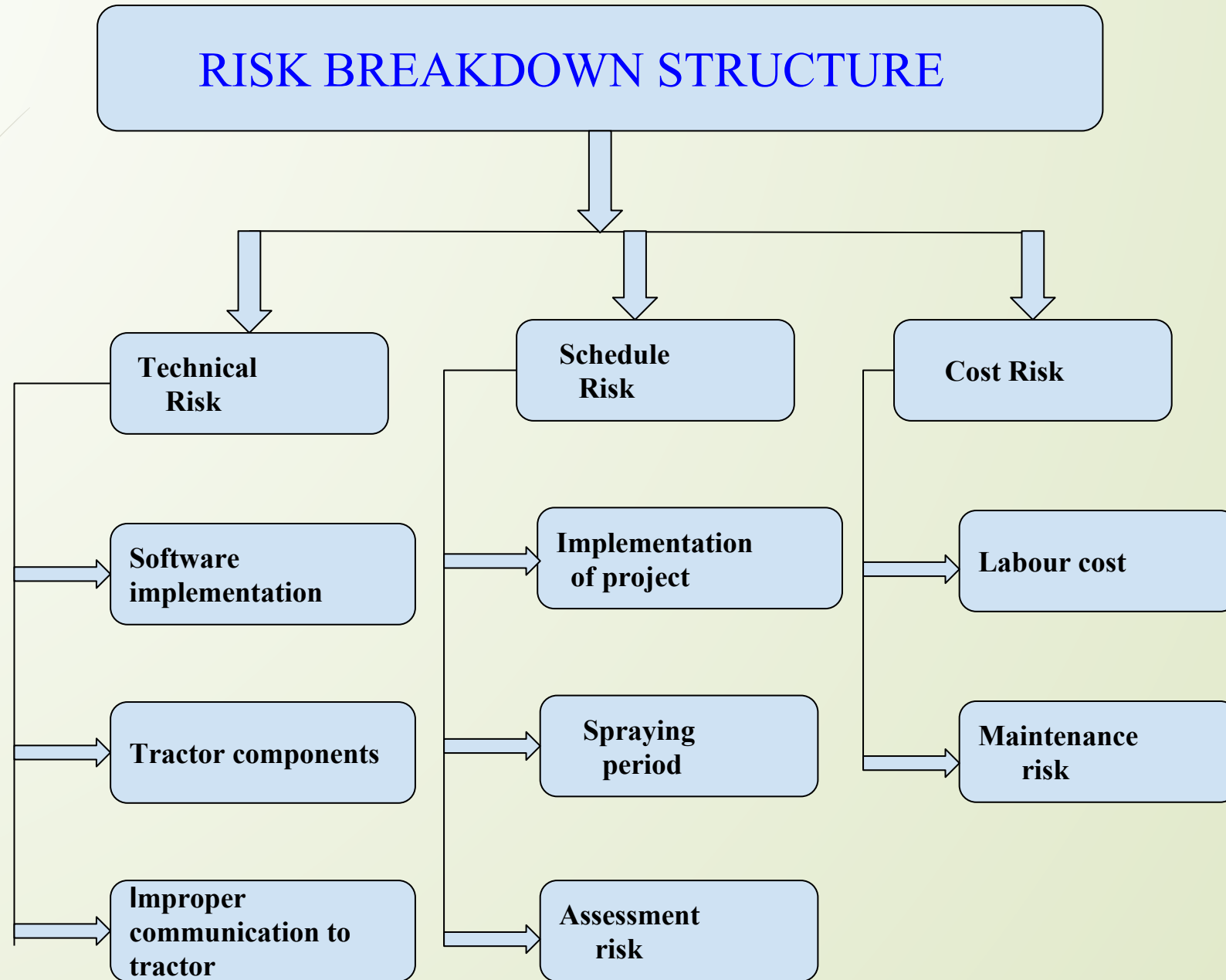
Responsible(R), Accountable(A), Consult(C), Inform(I)

RACI Chart	Project Manager	Hardware Engineer	Software Engineer	System Operator	Agriculture Engineer	QA Engineer
Develop Project Charter	R,A	I	I	C	C	C
Review & Approve Charter	R,A	I	I	C	C	C
Develop Project Plan	A	R	I	I	R	C
Inspect Land	A	I	I	I	R	I
Procure fertilizer	A	I	I	I	R	C
1st Cycle Spraying	A	C	C	R	C	I
System Assessment	A	R	R	C	I	C
Crop Assessment	A	I	I	I	R	C
Assessment Report of 1st Cycle	R,A	I	I	I	I	R
Procure fertilizer	A	I	I	I	R	C
2nd Cycle Spraying	A	C	C	R	C	I
System Assessment	A	R	R	C	I	C
Crop Assessment	A	I	I	I	R	C
Final Report	R,A	I	I	I	I	C

SWOT ANALYSIS:



RISK BREAKDOWN STRUCTURE:



RISK REGISTER:

ID	EVENT	CAUSE	EFFECT	LIKELIHOOD	RESPONSE
R1.A	Software implementation	Software breakdown or i/o error	Tractor operation is stopped	Less likely	Rebooting system
R1.B	Breakdown of sensors	Short circuit problem	Tractor operation failed	Less likely	Immediate change of circuit board
R1.C	Improper communication to tractor	Signal breakdown	Tractor operation failed	Likely	Rechecking the signal connectivity
R2.A	Project implementation	Improper scheduling	Project implementation failed	Likely	Proper scheduling
R2.B	Spraying period	Technical issues	Effect in crop yield procurement	Likely	Proper maintenance
R2.C	Assessment risk	Improper communication	Effect in crop yeild	Likely	Proper assessment
R3.A	Labour cost	Schedule delay	Uneven cost	Likely	Proper scheduling
R3.B	Maintenance risk	Over use of materials	Uneven cost	Likely	Proper maintenance

Quality Assurance Checklist:

- **Does the project implementation plan completed in the scheduled time?**
- **Does the team members in the project have understood the project?**
- **Do the Software engineer know how to operate the tractor.**
- **Is the procurement plan satisfy the requirements to the project?**
- **Is the spraying of fertilizers going on schedule?**
- **Do the assessment done daily after the operation of spraying?**
- **Do the project is going on schedule?**
- **Does the project sponsor funding the project on time?**

Procurement Plan:

Project Name: Implementing CaseIH Smart Tractor for spraying fertilizers in cotton fields at Mexico, USA

Project Manager: Noor Ahmad

Date: 04-01 16

Description	Type	Reason	Timing	Owner	Status	Comments
Fertilizers for crop-Cycle 1	Material	To fill Sprayer	04-22-16	Pemex	Ordered	Purchase order
Fuel filling - Cycle1	Fuel	To fill fuel tank	04-22-16	Pemex	Ordered	Purchase order
Fertilizers for crop-Cycle 2	Material	To fill Sprayer	05-17-16	Pemex	Ordered	Purchase order
Fuel filling - Cycle2	Fuel	To fill fuel tank	05-17-16	Pemex	Ordered	Purchase order

CONCLUSION:


- CaseIH Smart Tractor
Budget: 68,000 USD
- Tractor in Traditional Method
Budget: 85,000 USD
- Fast spraying when compared with the traditional method.



THANK YOU!!

Appendix

1	Labor Cost	Person	Salary	Days	Total Cost USD
1.1	Project Manager	1	80	75	6000
1.2	Hardware Engineer	1	80	75	6000
1.3	Software Engineer	1	80	75	6000
1.4	System Operator	1	80	75	6000
1.5	Agriculture Engineer	1	80	75	6000
1.6	Quality Assurance Engineer	1	80	75	6000
Sub-Total					36000
2	Procurement Cost	Units	Quantity	Cost Per Acr	Total
2.1	Fertilizer	acr	200	90	18000
2.2	Fuel	ltr	4000	1	4000
Sub-Total					22000
3	Other Costs				
3.1	System settlement	lump sum	1	500	500
3.2	Maintainance	lump sum	1	2000	2000
3.3	Simultaneous Costs	lump sum	1	2500	2500
Sub-Total					5000
Total Estimated Budget					63000
4	Reserved Cost	lump sum	1	5000	5000
Total Cost					82500



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