



SOROH POULTRY

Eat Fresh

Project Name :

Hatchery Expansion Project – 30 Mn Egg Set Annually,
Automation for 100 Mn Egg Set

Group 9

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Introduction

SOROH Company is a local poultry production company that has been producing high-quality products that competitive advantage in the market since ancient times.

As a result, the recommendation was to first acquire the local market before widening into the Middle East market.

The research focused on increasing productivity in order to meet the needs of the internal market while maintaining quality without jeopardizing expected growth.

A group of Everyone's Smart University students conducted this study as a graduation project for year 2021.

Our heartfelt deepest gratitude goes to our "future PMOs," as well as the university administration, for their contributions to the successful completion of this project.

Abbreviation

This abbreviation list to help understanding the abbreviations mentioned in this project

PMO	Project Management office
PED	Project Execution Department
C	Current level of engagement
D	Desired level of engagement
BATNA	Best Alternative to negotiated agreement
WATNA	Worst Alternative to negotiated agreement
WBS	Work Breakdown Structure

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1. To form the mission

SOROH is a poultry production company with a goal of expanding the production process to meet the needs of all residents in Saudi Arabia, as well as all industrial and commercial sectors, with healthy poultry products that meet the international specifications and are slaughtered according to Islamic law using the most advanced science technology.

Ultimately, this project is designed to ensure that SOROH Poultry Company continues to grow by targeting to produce 100 million eggs, up from 70 million last year, which is a 30% increase.

2. To form the vision

We aim to be the first and only company that is fully independent that distributes poultry products across Saudi Arabia within 5 years. In contrast, reducing the import of chickens and eggs.

As well as, reaching out to new markets in the Middle East by increasing hatching productivity to "8.3 million" per month after acquiring the local market.

Hatcheries are one of the main facilities to support kill volumes and maintain integration levels according to SOROH's expansion strategy and exponential growth in volumes and business, along with other facilities.

3. To develop and identify the objectives in a SMART model

- Specific:

1. New building with specific requirement to accommodate installing new hatchery machines to increase the volume of production by 30%.
2. Install new machines and upgrades the existing one
3. Integration system to enable connecting new machines with the existing ones.
4. Work on importing feed from abroad and relying on the local feed farm to avoid the risks of import interruption.

- Measurable:

1. 30% increase in volume.

- Achievable:

1. 8 months' project time.
2. 30 M per year increase.
3. Maintain SOROH standard according to SFDA requirements.

- Realistic:

1. Achieved required volume.
2. Achieved time duration.
3. Spent according to budget given.

- Time:

1. 8 months start to end.

4. To develop and identify the performance measurement indicators, Lead or Lag

1. ROI (return on investment).
2. Business financial impact.

3. Business performance measure impact.
4. Milestones completed on time.
5. Milestones completed on budget.
6. Stakeholder perception of value.
7. Stakeholder participation.

- **SOROH KPI's**

Objective	Value	KPIs
Business Development & Innovation	30%	Identification of "operational" challenges that affects the Project negatively.
		Facilitating the resolution of all shortcomings, errors and operational challenges with relevant stakeholders.
		Monitoring the progress and development of relevant Hatching machine
		Monitoring, optimizing and reporting the progress and implementation of the new product (new poultries)
Cost and quality	25%	Average production (2.5Mn) / month - kgs- chick.
		Age and weight to market ratio - 1000 Kg in 47 days in SAR
		Vaccination cost Vaccination cost to mortality rates not to reach 30% of overall daily production
Business Growth	25%	Facilitate the increase in net revenue annually by 15-20% as a trickle-down effect of the improved implementation of new hatching plan.
		Increase growth of MEA corporate clients base by 5% as a trickle-down effect of increasing the expansion
Customer Experience	20%	95% of customer satisfaction for the 1st year as a trickle-down effect of the increasing of hatching.
		Increasing customer service quality by 5% annually as a direct result of the hatching project.



shape (1) - SOROH KPI's

5. To develop and prepare the project charter Model

BREIF BUSINESS CASE

- To achieve SOROH expansion strategy and provide exponential growth in volumes and business, among other facilities, Hatcheries are one of the main facility to support kills volumes and maintain current levels of integration.
- Overall strategy has been approved by SOROH Board.
- A new hatchery will add 30 million egg sets per year with automation to improve efficiency of the existing hatchery, bringing the total capacity to 100 million egg sets a year.

DELIVERABLES

Successfully implementation and execution of:

- Building construction according to engineering plan with complete suit hatchery.
- Utilities as defined by equipment & automation supplier, detailed engineering design and facility requirements.
- Machine installation with HVAC and hatchery automation as agreed with supplier in order confirmation.
- Project status reports, Weekly updates to working group.

SCOPE DEFINITION

- To implement and execute the project according to detailed engineering drawings & designs (Equipment supplier + Civil and consulting engineer) and required utilities to the plant, once the facility is ready for machine installation, herein after complete the installation of equipment under the supervision of supplier's engineers as per the protocols.

- Automation part is mutually exclusive from Petersime equipment and will be commissioned into existing hatchery.

PROJECT TASK LIST & MILESTONES

SOROH Expansion (30 Mn) & Automation			
#	TASKS	START DATE	DUE DATE
1	Automation Equipment Shipments	01,10,2021	30,1,2022
2	Civil Work	22,11,2021	21,04,2022
3	Floor Tiles to decide, order and laying	01,12,2021	21,04,2022
4	RO Plant Order and Installation	01,12,2021	30,04,2022
5	Water Chiller Order and Installation	01,12,2021	30,04,2022
6	Tanks Order and Installation	01,12,2021	28,04,2022
7	Follow up for Building permits	01,12,2021	31,12,2021
8	Power Supply	10,12,2021	10,01,2022
9	Waste Management (Outside) and connection	01,01,2022	30,04,2022
10	Generator Order and installation	01,01,2022	30,04,2022
11	Drains special arrangement	01,01,2022	30,04,2022
12	Compressor order & install	01,01,2022	30,04,2022
13	Nectra Automation Installation	10,02,2022	31,03,2022
14	Water Line connection to extension area	01,03,2022	31,03,2022
15	Arrange tools for installation	01,03,2022	31,03,2022
16	Petersime equipment's Shipment	10,03,2022	10,05,2022
17	Petersime equipment's Installation	01,04,2022	30,05,2022
18	Project Handover	30,04,2022	30,05,2022

Table (1) – Milestones

ASSUMPTIONS, CONSTRAINTS & DEPENDENCIES

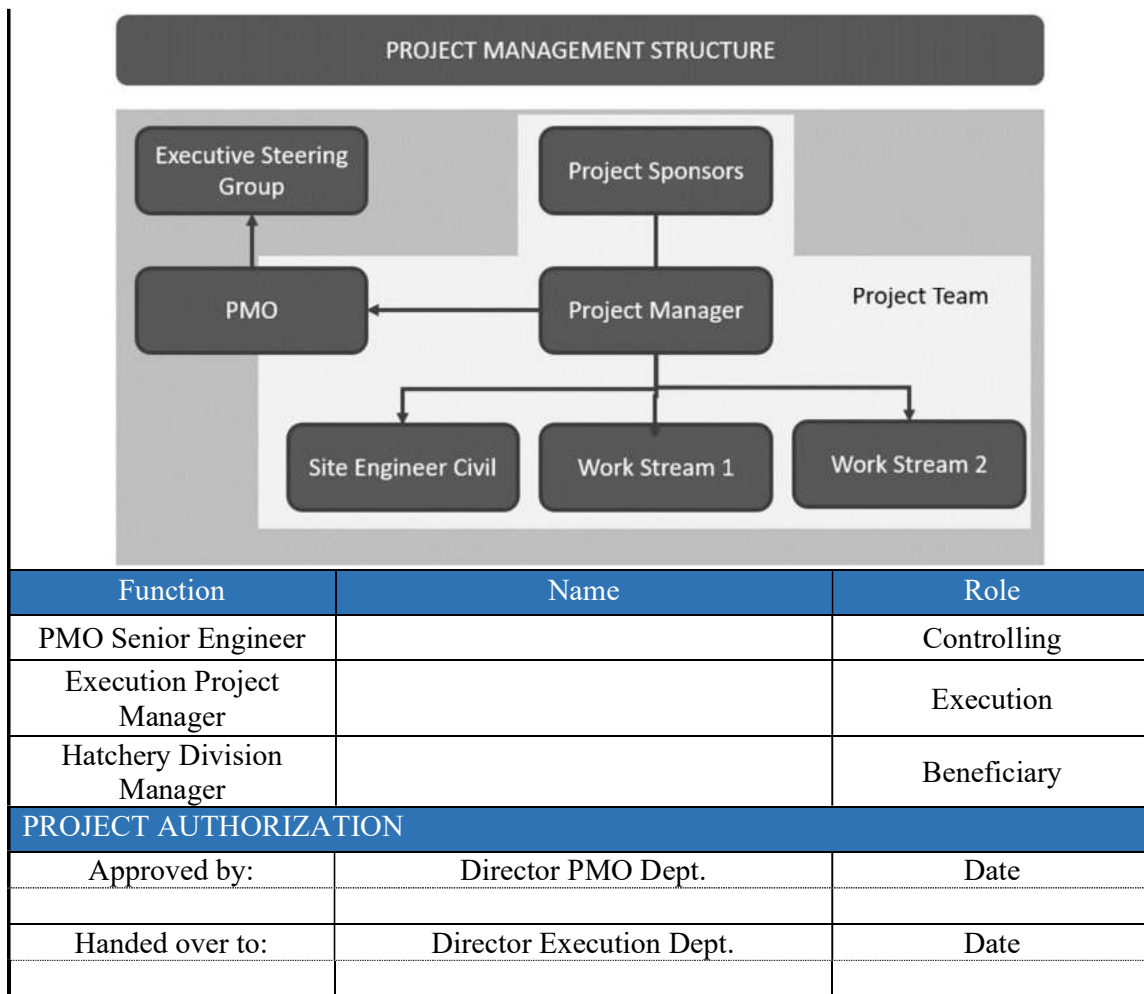
- Project completion within Budget and time frame
- Arrange technical staff for installation
- Consulting with Internal Eng. Department for common utilities
- Permits and Licenses with support service department
- Follow biosecurity protocols applicable at the facility.
- CAR Insurance - Work with PMO
- Follow health & safety protocols
- Consultation with the operations department for matters where it affects internal/external operations.

RELATED DOCUMENTS

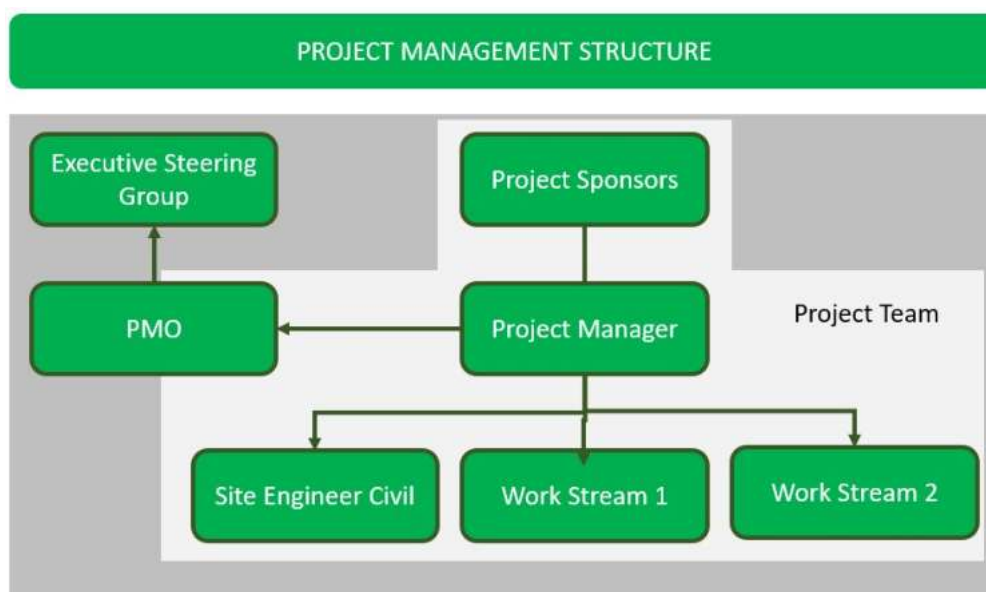
Related documents that were used to define scope and assumptions are as follows;

- Approved project budget
- Detailed drawings and designs (Supplier + Civil and consulting Eng.)
- Supplier contract and order confirmation (BOQ, & Eng. details)
- Civil work contract (Petersime + NECTRA)
- Project task breakdown & Completion timeline

PROJECT ORGANIZATIONAL STRUCTURE



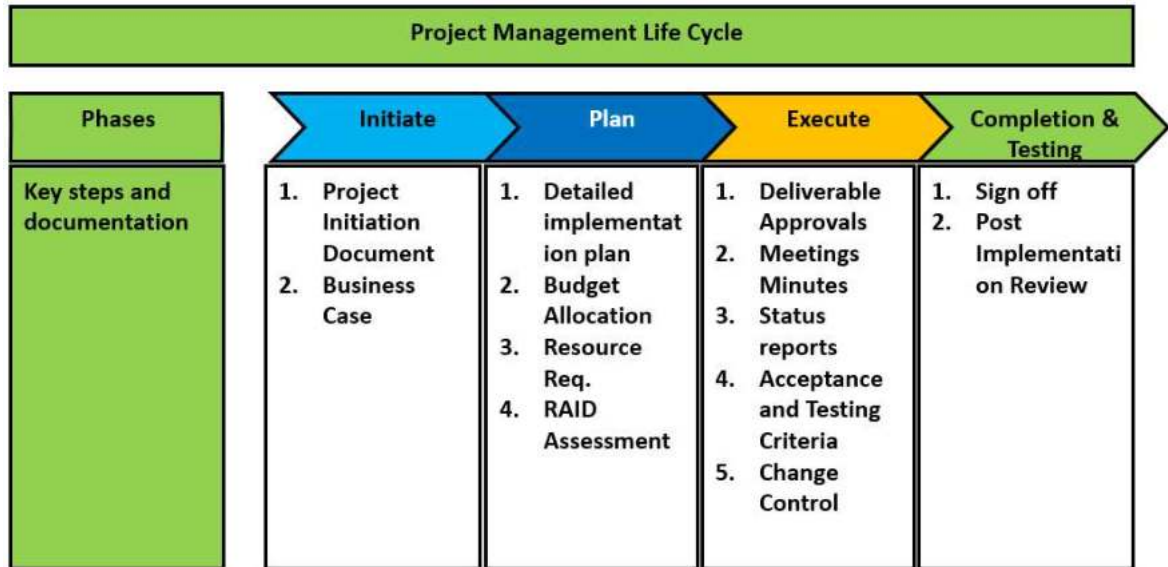
6. To develop an organizational structure for the teams and units of the project.



shape (2) – Project Management Structure

7. To identify the practical and scientific bases, which adopted in developing the structure.

All projects should follow the project lifecycle below and must meet the milestones and produce the deliverables listed in each phase before approval can be given to move on to the next phase.



shape (3) – Project Management lifecycle

A. Initiation:

The 'Initiation' phase is where a project becomes formalized with agreed objectives, scope, a high-level plan, and feasibility study.

○ The Project Manager will complete the Project Charter:
○ The PMO and the Proposal Team will support the Project Manager in the completion of the Project Charter as required.
○ The Business Case Template will be co-developed with PMO.
○ The Project Sponsor will present the completed business case to the ESG for approval.

• **Documentation Guide:**

1. **Project Initiation Document / Project Charter (Project Charter will set out the project's):**

- Background (including the rationale for the project by summarizing business case).
- Objectives.

- Strategic fit
- Scope.
- Timescale estimate and high-level plan.
- Risks, assumptions, issues, dependencies.
- Stakeholders (including project signatories).
- Specific project governance structure including roles and responsibilities.
- Project deliverables and allocation of delivery responsibility.

2. Business Case Template (The content of the this should include):

- Executive Summary - details the key elements of the business plan that are substantial enough for Senior Executives to understand the major implications of the project
- Strategic Fit - outlines the strategic fit of the proposed change, business need, and scope.
- Options Appraisal - assesses the different options (including a “do nothing” option) and for each assesses the costs, benefits, and risks associated with the implementation options and makes a recommendation on the preferred option.
- Cost-Benefit Analysis - outlines the costs, benefits, and commercial considerations of the preferred solution.
- Performance Metrics – outlines the metrics that will be used to measure the success of the project.
- Achievability - assesses the likelihood of project success and the steps already taken to help achieve this by assessing the following:
 - ✓ Project management and resourcing arrangements.
 - ✓ High-level project plan and key deliverables/milestones.
 - ✓ Risks and mitigation strategies.
 - ✓ Benefits delivery plan.
 - ✓ Key dependencies.

B. Planning:

During the ‘Planning’ phase the Project Manager will create a high-level milestone plan, a detailed project plan (MS Project) which can then be used for assessing the project’s resource requirements.

- | |
|---|
| <ul style="list-style-type: none"> ○ The Project Manager will create a detailed activity-based project plan using MS Project, including start/end dates and effort for each activity, activity inter-dependencies and resource requirements for each activity. ○ This plan will roll-up into a high-level milestone plan for the project which the PMO can consolidate to create a portfolio view of project milestones. |
| <ul style="list-style-type: none"> ○ The Project Sponsor and the Project Manager will ‘brainstorm’ the potential RAIDs associated with the project and create and populate the project RISKS, ASSUMPTIONS, ISSUES, DEPENDENCIES (RAID) log with this output. ○ The Project Sponsor and the Project Manager will hold a meeting with all stakeholders (or a number of 1:1 meetings) to ensure that all stakeholders support the project and to present/review the RAIDs that have been identified. |

○ The Project Manager will communicate the project's resource requirements to the PMO/BU as early as possible.
○ Budgets will be allocated at this stage.
○ Approval of the ESC.

- **Documentation Guide:**

1. **Detailed plan:**

The Detailed Plan should be created using MS Project, should be activity-based, and include resources (either by name or type), start/end date, estimated effort, and any linked tasks against each activity. The tasks within the detailed plan should be broken down into activities of a length that can be reported within the reporting cycle (e.g. activities with approximately 2 weeks' duration if a fortnightly reporting cycle is in place). The plan will be owned and managed by the Project Manager.

2. **High-level milestone plan**

3. **Project acceptance and testing criteria:**

a detailed list of how the project will be completed as finished and the testing criteria. The project acceptance and testing criteria MUST be approved by the PMO and ESC.

4. **Raid Assessment:**

- The Project Sponsor and the Project Manager should 'brainstorm' the RAIDS associated with the project, capture these in the RAID log and ensure there are owners and plans in place to manage/mitigate against them.
- RAID will be a live document with detailed oversight by PMO.

5. **End of phase checklist:**

- ✓ Has budget been allocated to the project?
- ✓ Is the budget sufficient to support the current plan?
- ✓ Has the detailed project plan been created?
- ✓ Have all key planning assumptions been recorded?
- ✓ Has the plan taken into account all dependent projects within the organization?
- ✓ Has the plan been reviewed and signed-off by the Project Sponsor, and ESC?
- ✓ Have resource requirements (numbers and skillsets) been communicated to PMO/BU PO as early as possible?

- ✓ Are sufficient/suitable resources available within TFG? If not, are there plans in place to resolve this issue?
- ✓ Where appropriate have, the Sponsor been sufficiently involved to date?
- ✓ Are all project RAIDs being actively managed and closed where possible?
- ✓ Is the project's scope being actively managed via change control?
- ✓ Are the Project Sponsor and PMO being kept closely informed of project status?

C. Execution:

The 'Project Execution' phase is the phase in which the detailed project solution requirements are gathered and used to deliver the project. The project is then checked for testing and deployment.

○ The Project Manager will complete and submit a project status report to the PMO on weekly basis.
○ On a fortnightly basis the PMO/ will meet with all Project Managers and challenge their status reports.
○ The Executive Steering Group will review the status of all 'strategic' projects.
○ The PMO sign off will be required at each stage of Execution.

• Documentation Guide:

1. Deliverable Approval form.
2. Meeting Minutes template.
3. Project Status Report.
4. Project Acceptance and Testing Criteria- see the following sample below:

Ref Number	Area of the project	Acceptance criteria	Criticality (H/M/L)	current	Due Date	Testing Details	Remarks
1.11	Hatchery Expansion	• Documentation • I.T • Performance • Training	High				

Table (2) - Project Acceptance and Testing Criteria

D. Completion of Testing:

In this phase, project will be finally tested for agreed output and acceptance criteria.

○ The Project Team will undertake appropriate testing of the project in order to prove that it meets the requirements and the business' acceptance criteria and is ready for deployment. ○ The PMO sign-off will be required at each stage of testing.
○ The Project Team will undertake an analysis of staff training needs for the new solution and prepare and deliver training sessions as appropriate. ○ This will include the distribution of all relevant materials (e.g. marketing materials for a new product).
○ The Project Manager should review and update the project plan as appropriate while the solution is being tested.

- **Documentation Guide:**

1. **Final Sign-off**

the PMO, project manager, and Sponsor must sign off on the project completion.

2. **Post Implementation Review.**

The PMO in consultation with Internal Audit will carry this out within 2 months of the project closure.

3. **End of phase checklist:**

- ✓ Does the solution that has been delivered match the solution design?
- ✓ Has appropriate testing been carried out?
- ✓ Has the solution successfully met all acceptance criteria to be deployed?
- ✓ Has the project cost been reviewed and updated to reflect the cost/benefit of the project at completion?
- ✓ Are all project RAIDs being actively managed and closed where possible?
- ✓ Is the project's scope being actively managed via change control?
- ✓ Are the Project Sponsor, PMO kept closely informed of project status?
- ✓ Have all project documents to date been signed-off and logged in the project repository?
- ✓ Have all project costs been charged against the project?
- ✓ Project closure.

4. **Project Management Control Processes:**

- **Process Objective:**

The objective of this process is to enable the PMO to provide the ESC with an accurate and informative fortnightly status report (or weekly where deemed appropriate) of the project's progress against key metrics, without adding a burdensome overhead to the Project Manager.

➤ **Status Reporting:**

A status report provides a record of the current progress of Project deliverables against key milestones. Key milestone/deliverable progress and risks/issues are monitored on a Red/Amber/Green (RAG) basis as defined below.

Status	Project/Deliverable Status	Time	Risks	Issues
Green 	On schedule to deliver on time, within budget and to the agreed scope.	Forecast delivery on or before Baseline date	There are no live high category risks	There are no high category issues, and any medium issues are less than one month old
Amber 	At risk of not meeting time, budget, scope, and quality criteria. Situation can be recovered.	Forecast Delivery later than Baseline but delay recoverable	There are some live high category risks or There are a large number of medium category risk	There are no high category issues, but some issues are more than one month old
Red 	Unlikely to meet all time, budget, scope, and quality criteria. Situation cannot be recovered	Forecast Delivery later than Baseline and not recoverable	There are a large number of live high category risks	There are one or more high category issues or significant issues more than two months old.

Table (3) - RAG (Red/Amber/Green) Status

➤ **Process Detail:**

1. Project Managers will complete a status report template fortnightly and submit this report to PMO.
2. Project Managers are responsible for obtaining information from their Project Team to allow them to complete their fortnightly status report. To this end Project Managers should hold a meeting with their project team weekly or fortnightly. All team members, including the Project Sponsor should attend this meeting.
3. The status report should be discussed with the Project Sponsor on a regular basis (weekly/fortnightly – to be agreed between the Project Manager and Project Sponsor).

4. The PMO will review and challenge this summary report as appropriate (either with the Project Sponsor or directly with the relevant Project Manager) in order to have an accurate and up to date view at the monthly ESC meeting.
5. The PMO and the Project Manager will jointly present this report to the ESC.

➤ **Template:**

The four-key metrics against which status should be reported are:

1. Budget.
2. Milestone/Deliverable completion.
3. RAIDs.
4. Change Requests.

Each of these metrics should be given an overall RAG status as described above and a guideline for the overall status of the project is shown below:

NB: This is only a guideline and flexibility to reflect status outside of these guidelines but the rationale for doing so should be communicated to the PMO.

Project Status	Status Against Key Metrics
RED	• 2+ REDS or • 1+ RED and 2+ AMBERS
AMBER	• 1 RED and 1 AMBER or • 2+ AMBERS
GREEN	• 3+ GREENS • 0 REDS

Table (4) – Project status

The status report template will be used to report project status.

➤ **RAID Management (Risk, Assumption, Issue, Dependency):**

- **Process Objective:**
 - The objectives of this process are to provide a standard definition of risk, assumption, issue and dependency, to ensure that all RAIDs are captured as soon after identification as possible and that the impact that they might have on the project is managed closely to mitigate any potential negative impacts to the project.
 - This process starts with the identification of a RAID and ends with close management of all RAIDs by the Project Manager and the PMO.
 -
- **Definitions:**
 - **Risk:**

A risk is defined as a future threat to the overall success of a project or a contingent part. Every risk has an associated likelihood and impact, and therefore severity rating. Risks must be mitigated or accepted. Risks, if realised, become issues.

- **Assumption:**

An assumption is a statement accepted as fact. Assumptions must be validated.

- **Issue:**

An issue is an immediate, formally defined concern that requires action and is impeding the progress of a Work package or the Project, about which no agreement to resolve has been reached.

- **Dependency:**

A dependency is a relationship between products or tasks. For example, one product may be made up of several other 'dependant' products or a task may not begin until a 'dependant' task is complete.

- **Process Detail:**

- All RAIDs should be added to the project RAID log as soon as possible after identification.
- Additionally, the RAID identifier should notify the Project Manager that a new RAID has been raised, immediately if it is likely to be critical to project delivery.
- The Project Manager should review all RAIDs at least weekly to ensure they are clear and complete and to allocate ownership of each one to an individual.
- The RAID log and progress against each one should be reviewed as part of the Project Team meeting.
- The Project Manager should immediately escalate to the Project Sponsor any issues that he is unable to deal with within the Project Team.
- The central PMO will track progress of any critical RAIDs as well as any that might have a cross-project impact.

➤ **Deliverable review & SIGN-OFF:**

- **Process Objective:**

- The objective of this process is to ensure that each project has a process by which all appropriate resources have the time and opportunity to contribute to or comment on all deliverables before they are signed-off.
- This process starts with the identification and agreement of project deliverables and ends with the logging of all signed-off deliverables and evidence of sign-off.

- **Definitions:**

- **Sign-off:**

Formal sign-off provides a record of agreement to a deliverable. As far as the Project is concerned, a deliverable is not complete until it has been accepted through this process. And The Project Manager is responsible for owning and managing a deliverables log which lists all project deliverables (as per the

signed-off PID/Project Charter), deliverable owners, expected completion dates and all required reviewers and signatories.

- **Process Detail:**

- PMO is responsible for notifying the reviewers and signatories of the intended review timeline (and any changes to this), circulating the deliverable to this community and arranging a forum to review this (potentially a review workshop).
- The signed-off deliverable and evidence of sign-off should then be given to the PMO who will store these documents in the project repository.
- All deliverables should be signed off as Version 1.0 and placed under change control.

➤ **Budget management:**

- **Process Objective:**

- The objectives of this process are to enable a Project Sponsor/Manager to obtain budget for a project, to make approved amendments to this budget in accordance with accepted CRs and to ensure this budget is tightly managed throughout the project lifecycle.
- This process starts with approval of budget for a project and ends with the closure of the project and the budget.

- **Process Detail:**

- The Project Sponsor is accountable for the budget, although he may give day-to-day management responsibility for this to the Project Manager.
- The Project Sponsor and Project Manager should agree boundaries within which the Project Manager can make financial decisions without agreement from the Project Sponsor.
- The Project Manager should track progress against project budget on a weekly basis, ensuring that the Project Team communicate any costs incurred on a weekly basis.

➤ **Change control:**

- **Process Objective:**

- The objectives of this process are to control how potential changes within the project will be identified, assessed, and approved or declined for implementation.
- This process starts with the identification of a potential change within the project and ends with the approval or rejection of this change.

- **Definitions:**

- Change control within the context of a project relates to control of the main documents of the project. These documents include (but are not limited to):
 - Documents which describe scope, requirements, or solution design.

- Documents that are final deliverables, such as organisation structures, process definitions, procedure manuals and training documentation.

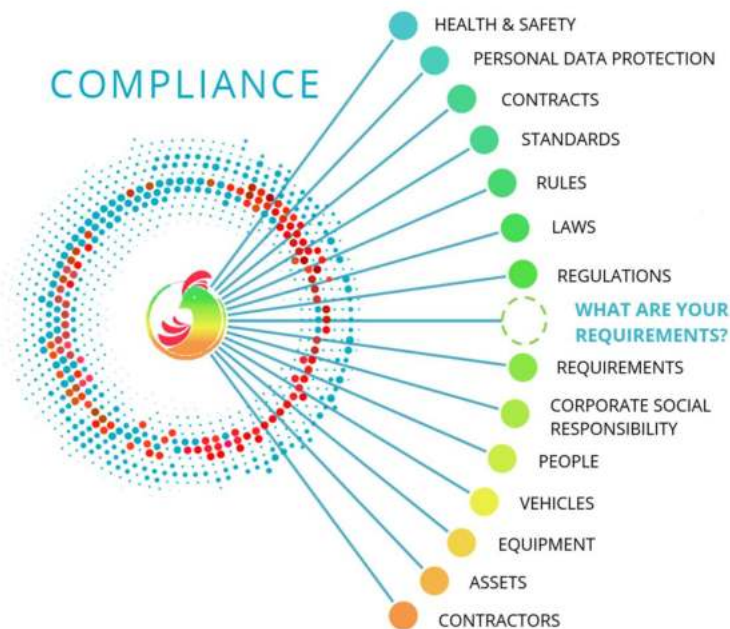
- **Process Detail:**

- The Project Manager is responsible for owning and managing a Project Change Request Log.
- PMO will challenge all changes to the project.
- Any member of the project team can raise a Change Request (CR) by completing a CR form and submitting it to the Project Manager.
- Keeping budget and other timelines in mind, the Project Sponsor will approve the CRs.
- The CR Log will be reviewed as part of all regular team meeting to understand the status of all CRs and its impact.

8. To identify projects office model, most appropriate to manage the project, in addition to mentioning the reason.

The most appropriate projects office model in this project is controlling model. Due to the decision to implement the project has been taken by PMO based on the company's strategy and because we need to make it linked to existing projects supervised by the Project Management Office and should be integrated with them.

9. To design a check compliance model before delivering the project outputs



shape (4) – Compliance SOROH Project

10. To develop Check List model for the three stages of the project (Start- Plan- Achieve-Close)

	PROJECT:	PROJECT CHECKLIST	Projected Date	Actual Date
1	Define project scope			
2	Client authorize engineering			
3	Initial client/engineer conference			
4	Soil borings, test drilling, subsurface investigation			
5	Committee meeting/refine project scope			
6	Final plans and specifications			
7	Engineering report (summary of work)			
8	proposal and bid documents			
9	Approval from client for final plans/specifications			
10	Submit plans/specifications to regulatory			
11	Department of Environment and Conservation			
12	Minutes, bid tabulation, proposal analysis			
13	Construction Contract Document final preparation			
14	Shop drawing review			
15	Contractor payment requests review			
16	Inspection and certification			
17	Preparation of construction record drawings (as-builts)			
18	Final payment request review and certification			

Table (5) – Project checklist

II. To develop a stakeholder, register and form groups for them. (Competency 8)

SOROH FOODS COMPANY
Project Execution Department
Rev.01

Stakeholder Register

Project Title: SOROH Hatchery Expansion Project

	NAME	COMPANY	POSITION	EMAIL	Phone Number
PED					
	Ahmad Alasmari	SOROH	Senior Tech. Engineer	ahmed.alasmari@soroh.com	594444739
	Fayez Al Dossary	SOROH	Project Manager	Fayez.aldossary@soroh.com	50701158
	Rabie Radwan	SOROH	Project Engineer - Civil	rabie.radwan@soroh.com	536074532
	Hakham Al Dahan	SOROH	Project Engineer - Mechanical	hakham.alধান@soroh.com	553339555
	Mohamed Abdelrahman	SOROH	Project Engineer - Electrical	mohamed.abdelrahman@soroh.com	957011953
PMO					
	Muhammad Banafa	SOROH	Project Engineer	muhammad.banafa@soroh.com	568357455
	Maya Manassefi	SOROH	Project Engineer	maya.manassefi@soroh.com	546969459
	Mesheri Alghamdi	SOROH	Project Engineer	mesheri.alghamdi@soroh.com	567143042
Hatchery - End User					
	Mudallah Khaleel	SOROH	Hatchery Manager	mudallah.khaleel@soroh.com	558860332
SUPPLIER					
	Lea Phillip	Nectra	Project Manager		
	Vincent Van Der Beken	Petersime	Project Manager		
CONTRACTOR					
	Muhammad Abu Zinah	Crover	Project Manager		

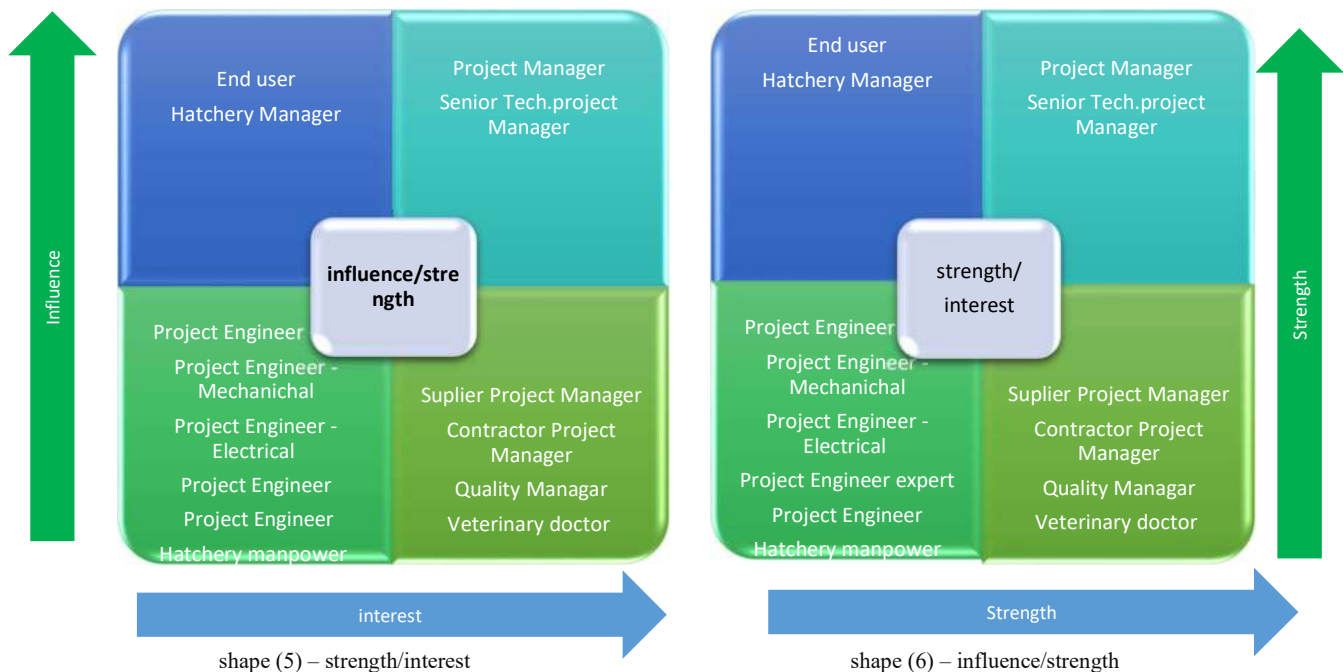
Table (6) – Stakeholder Register

Sr. #	PM Stages	Deliverable/ Task	PMO	PED	User Dept.	Other Depts.
1	Initiation	Conversion of Business Plan into Projects	A & R			
		Development of 5 Year Projects Plan	A & R	Consultation	Consultation	
		Project Feasibility Plan	A & R			
		Project Budgeting	A & R	Consultation		
		Project Charter	A & R	Consultation	Consultation	
2	Planning	Development of Detailed Budget	A & R	Consultation	Consultation	
		Site approvals / Legal Documentation	Consultation	Information		A&R Support Svc.
		Selection of Contractors/Suppliers	Consultation	A & R	Information	Proc. Dept
		Selection of Equipment & Machinery	Consultation	A & R	Consultation	Proc. Dept
		Preparation of Contracts /Agreements	A & R	Consultation		A&R Legal Dept.
		Procurement Planning	Consultation	A & R		Proc. Dept
3	Execution	Project Scheduling	Consultation	A & R	Information	
		Creation of PRs			A & R	
		Creation of POs, Procurement of Equip. & Mach.	Information	Information		A&R Proc. Dept.
4	Monitoring & Control	PM of Civil, Mechanical & Electrical Work	Information	A & R		
		Project Monitoring wrt Cost & Schedule	Responsible	Accountable		
5	Closure	Handing over of completed Project to Operations	Information	Accountable	Responsible	

Legends	
Accountable & Responsible (A & R)	
Accountable (A)	
Consultation (C)	
Responsible (R)	
Information (I)	

Table (7) – RACI TABLE FOR PROJECT MANAGEMENT

12.To develop the two networks: (Strength/Interest) and (Influence/ Strength)

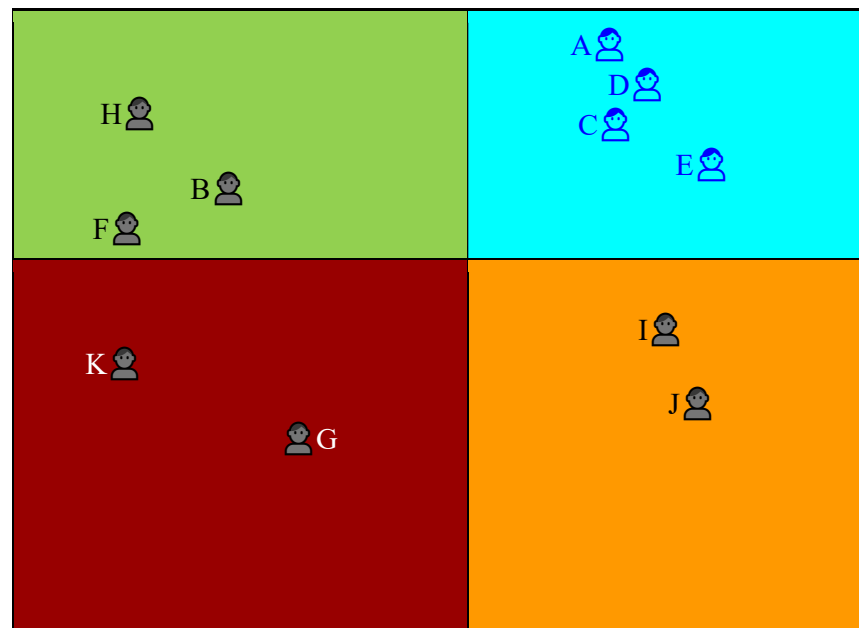


13. To use the logical diagrams for the register of the stakeholder.

	stakeholder	position	power	interest
A	Ahmad Alasmari	senior tech project manager		
B	Fayez Al Dossary	project manager		
C	Rabie Radwan	project engineer civil		
D	Haitham Al Dhalan	project engineer mechanical		
E	Mohamed Abdelrahman	project engineer electrical		
F	Muhammad Banafa	project engineer		
G	Maya Manasefi	project engineer		
H	Mudallalah Khaled	hatchery manager		
I	Lea Philip	project manager		
j	Vincent van der beken	project manager		
k	Mohammed abu zinah	project manager		

Table (8) – stake holder logic diagram

Power



Interest

shape (7) – stake holder logic diagram

14. To identify the culture of the organization

One cultural dimension may shape an organization's culture more than the others, influencing the organization's personality and the way its members work.

- SOROH is embracing a change management attitude in order for SOROH POULTRY initiatives to benefit from an innovative culture. Accepting change allows everyone involved to think differently and creatively.
- SOROH poultry must aim to build a culture that supports innovation and other improvements that increase welfare and efficiencies in poultry production and processing in order to succeed in an ever-changing world.
- SAOROH culture places a greater emphasis on instilling a sense of freedom in everyone engaged to think in new, creative, and unconventional ways.

The chart below depicts SOROH's internal culture.



shape (8) – Organizational cultures

15. To provide proposals of the organization values that can be adopted.

- **Proposed Solution:**

A project team will assemble initial data and select and implement all initial tools and data structures. This will allow for the project team to focus on the hard and soft tools needed to further develop project management delivery rigor and discipline throughout the organization.

- **Alternatives Considered:**

Minimum infrastructure: to start with one senior project manager, no formal PMO, and no tools. This alternative was eliminated because an optimistic estimate of the

amount of work required is several person-years. SOROH cannot afford to wait that long for the results (8 months to close the project and start operation). Also, three members of the executive committee were involved in the assessment of capital investment for tools. They concluded that such tools are 100% vital to linking project progress to the achievement of enterprise goals.

- **Assumptions:**

- The project will follow the PMO project guidelines, including using a standard PMO Tool Suite as the project management tool.
- PMO Tool functionality will drive certain project processes.
- Project completion is within Budget.
- Stick to the project timeline.
- Arrange technical staff for installation.
- Consulting with the Internal Eng. department for common utilities.
- Permits and Licenses with the support service department.
- Follow biosecurity protocols applicable to the facility.
- CAR Insurance.
- Follow health & safety protocols.
- Consultation with the operations department for matters where it affects existing operations.

- **Obstacles:**

- Finding qualified resources to support the project.
- Defining the best way to incorporate every business unit's needs without sacrificing the need for a common structure.

16.To specify “3” personal behaviors of the student that can influence on the project.

1. Level of Engagement:

Engaging team members in a project is critical to its success. However, this too depends on the nature of employees in your team. Every person has a unique personality and different ways of engaging with people.

It's possible that they don't feel comfortable with the level of input you want from them. Other times, they may engage much more than others, and even speak over some team members. Therefore, project managers must balance both sides of the coin effectively.

2. Level of Motivation:

Each one of us is driven by our emotions. While we expect people to keep their emotions at bay in a professional environment, it can be hard for people to do that on certain occasions. The reason is that our emotions have a huge effect on our level of motivation.

A person's level of motivation is directly proportional to how successful they will be in tackling challenges head-on and overcoming the adversities they face. Regardless of how talented people are, it's difficult for them to work in an environment where they don't feel motivated.

3. Communication:

The greatest challenge for managers is how to communicate what they want from their team. During a project, there are hundreds of open communication channels between project team members and stakeholders.

In this extensive exchange of information, it can be extremely difficult for people to avoid confusion. Therefore, it is extremely important to identify which of these channels yield positive and fruitful interactions.

17.To study such behaviors, identify their reasons, and how they can be eliminated.

1. Level of Engagement:

How to improve and eliminate these issues:

- It is extremely important for project managers to lay the groundwork to engage team members and stakeholders. This will help them maintain a good relationship with all members and stakeholders in both the short and the long term.
- You must monitor the level of engagement of individual team members across the life cycle of the project.
- You should also address their emotional and personal expectations to bring about their best performance.
- These issues yourself, it would be extremely difficult to create a good working environment among your team. Consequently, it would affect the performance of your team and make it harder for them to achieve the targets you set for them.

2. Level of Motivation:

How to improve and eliminate these issues:

- Keeping the team motivated has always been a long-standing challenge for most project managers. Therefore, to be a good project manager, you should:
- have the expertise to manage both the technical and the emotional aspects of your team.
- Negligence in this matter can also cause a high performing and strongly skilled employee to exhibit negative attitudes due to their lack of motivation.
- If Project Manager does not manage both factors simultaneously, this will delay important projects that will end up costing much higher than expected.

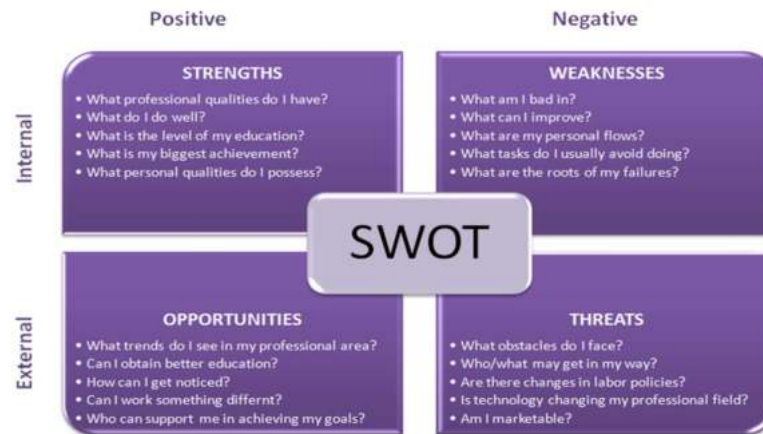
3. Communication:

To eliminate:

- project managers to establish a conducive environment for nurturing positive change.
- Create interactions between team members.
- Doing so clears out any confusion and allows your team to work in cohesion and produce better results.

- Proficient project management is no easy feat, especially if you're working with a complex team of individuals, and firefighting problems to keep the project on track. However, if you manage your team effectively, you can transform your team into your greatest strength.

18.To conduct a self-professional assessment by using SWOT model.



shape (9) – SWOT Model

- **Strength:**
 - Our team is professional and qualified.
 - Teamwork is strong.
- **Opportunities:**
 - The team will gain new exposure with this project.
- **Weakness:**
 - Some of the members consider the field of operation is new for them.
- **Threats:**
 - The sense of other departments of urgency is absent.
 - Finance is not paying contractors on time.

19.To provide “3” behaviors contradict the moral Integrity.

1. No Trust in you or your work.
2. Inappropriate behaviors toward you or to any one of the team members.
3. there is no commitment, especially to reward the team.



shape (10) – Business Ethics

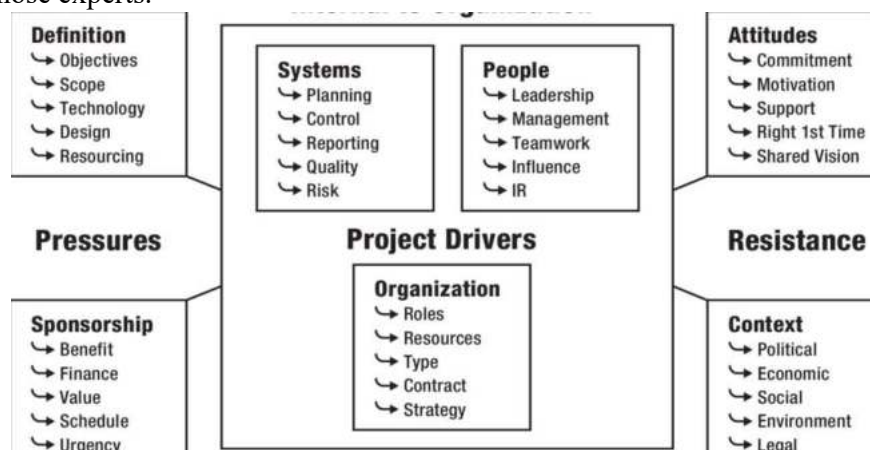
20. To analyze the financial, social, and technical influence, if any, of such behaviors on the works of the project and the relationships.

- **Financial:** Financial: always apply pressure to any project. Then you should not exceed the budget that has been allocated and /or approved. Sometimes, you should record how much each process cost you and how and where you spent it.
- **Social:** how the project will have a positive impact to social media, and how this social channel will support this project or may affect it negatively, such as:
 1. Enhancement of health and environment.
 2. Support and promotion of environmentally friendly practices.



shape (11) – Social influence

- **Technical:** you should have technical manpower and experts to help you with the project. Sometimes, you will have some obstacles, and these obstacles can be resolved by those experts.



shape (12) – technical influence

21. To prepare the register of the stakeholder :

SOROH FOODS COMPANY
Project Execution Department
Rev.01

Stakeholder Register

Project Title: SOROH Hatchery Exoansion Project

	NAME	COMPANY	POSITION	EMAIL	Phone Number
PED					
	Ahmad Alasmari	SOROH	Senior Tech. Engineer	ahmed.alsmari@soroh.com	594444739
	Fayez AlDossary	SOROH	Project Manager	Fayez.aldossary@soroh.com	50170158
	Rabie Radwan	SOROH	Project Engineer - Civil	rabie-radwan@soroh.com	536074592
	Haitham AlDhalan	SOROH	Project Engineer - Mechanical	haitham.alqhalan@soroh.com	553339555
	Mohamed Abdelrahman	SOROH	Project Engineer - Electrical	mohamed.abdelrahman@soroh.com	55701853
PMO					
	Muhammad Banafa	SOROH	Project Engineer	muhammad.banafa@soroh.com	568357455
	Maya Mansafi	SOROH	Project Engineer	maya.mansafi@soroh.com	546969459
	Meshaer Alghamdi	SOROH	Project Engineer	meshaer.alghamdi@soroh.com	567943042
Hatchery - End User					
	Mudalalah Khaled	SOROH	Hatchery Manager	mudallah.khaled@soroh.com	558860332
SUPPLIER					
	Lee Phillip	Nectra	Project Manager		
	Vincent Van Der Beken	Petersime	Project Manager		
CONTRACTOR					
	Mohammed Abu Zinah	Crover	Project Manager		

Table (9) – stake holder register

22. To identify the personal communication and the effective communication:

- **Definition of personal communication:**
The exchange of information between people. Personal Communications include private letters, memos, emails, personal interviews, telephone conversations, and similar resources.
- **Definition of effective communication:**
Delivering the right information in the right format to the right person at the right time.

23. To identify the shapes, models, and channels of the personal communication:

There are several different ways we share information with one another. For example, you might use verbal communication when sharing a presentation with a group. You might use written communication when applying for a job or sending an email. Here's a more in-depth look at the four main categories of communication:

1. Verbal:

Verbal communication is the use of language to transfer information through speaking or sign language. It is one of the most common types, often used during presentations, video conferences and phone calls, meetings, and one-on-one conversations.

2. Nonverbal:

Nonverbal communication is the use of body language, gestures, and facial expressions to convey information to others. It can be used both intentionally

and unintentionally. For example, you might smile unintentionally when you hear a pleasing or enjoyable idea or piece of information. Nonverbal communication is helpful when trying to understand others' thoughts and feelings.

3. Written:

Written communication is the act of writing, typing or printing symbols like letters and numbers to convey information. It is helpful because it provides a record of information for reference. Writing is commonly used to share information through books, pamphlets, blogs, letters, memos and more. Emails and chats are a common form of written communication in the workplace.

4. Visual:

Visual communication is the act of using photographs, art, drawings, sketches, charts, and graphs to convey information. Visuals are often used as an aid during presentations to provide helpful context alongside written and/or verbal communication. Because people have different learning styles, visual communication might be more helpful for some to consume ideas and information.

24. To establish the communication matrix :

Communication Matrix

Baseline End Date Dd/mm/yyyy	PURPOSE	MEDIUM	FREQUENCY	AUDIENCE	OWNER	DELIVERABLE
Kickoff Meeting	Introduce project. Review objectives and goals.	In person / Face-to-face	Once	Project team Project sponsor Stakeholders	Project manager	Agenda
Project Team Meetings	Review status of project	Face-to-face or Conference call	Weekly	Project team	Project manager	Agenda Project schedule
Technical & Creative Design Meetings	Discuss, review technical & design problems and solutions.	In person / Face-to-face	As needed	Technical team Creative team	Technical lead Creative lead	Agenda
Monthly Project Status Meetings	Update leadership on project status.	Face-to-face or Conference call	Monthly	Project manager Stakeholders	Project manager	Slide presentation Project schedule
Project Status Reports	Detailed report on project status including progress, costs, and problems.	Email	Monthly	Project manager Stakeholders	Project manager	Project status report Project schedule

Table (10) – Communication Matrix

25. To provide 3 wrong scenarios of communication:

Communication is one of the most important means used in projects and has a role in their success. The project manager spends most of his time in communication with project stakeholders, but if it is used incorrectly, it will become one of the obstacles to the success of the project. In SOROH Company, some made mistakes that made the communication process unsuccessful sometimes.

- Initially, the project manager was unable to communicate with all the stakeholders because he did not collect enough information about them, as he did not have all the email addresses of each of them. So when he arranged a meeting, the meeting was incomplete. Some managers did not receive the mail containing the meeting link. This was a mistake. It has the effect of wasting some time because not enough information was collected about each of them.
- The hatchery manager sent reports by fax in Arabic to one of the foreign managers. This error made the manager not understand the content of this message.
- A meeting was arranged between all members of the organization and the link of the meeting was sent to all members of the organization, but the message was incomplete. The sender did not specify the date in the message. This made the members not know when the meeting would take place.

26. To develop and prepare stakeholder assessment matrix:

Stakeholders	Unaware	Resistant	Neutral	Supportive	Leading
PED				DC	
PMO				C	D
Hatchery – End User			DC		
Supplier		C		D	
Contractor		C		D	

Table (11) – stakeholder assessment matrix

27. To describe and identify the leadership model, which is preferred to the project leadership:

Bureaucratic leadership is leadership based upon fixed official duties under a hierarchy of authority, applying a system of rules for management and decision-making. This style of leadership can be advantageous in highly regulated lines of business, and it can be an efficient management style in companies that don't require much creativity or innovation from employees.

28. To specify the reasons for which such model is preferred:

❖ reasons why such model is preferred:

- Have a clear job description for all team members. You may require them to be flexible enough to take on additional roles. However, there should be a clear indication of each team member's core responsibilities.
- Conduct performance appraisals objectively using clearly outlined job descriptions as a guide.
- Encourage merit-based promotions based on performance and job requirements so that nepotism and favoritism are non-existent in your organization.

4. Document procedures and processes that need to be repeated so that everyone in the organization is clear about what should be done. This also helps with continuity when someone new enters the organization.
5. Be very clear on authorization and approval rules so that people know which decisions are within their power and which ones need escalation. Define the escalation levels as well as the authorized approval roles within the organization.
6. Use it in areas where it is needed from a governance standpoint, such as the finance department, contracts, etc. but don't use it in the areas where creativity is a must.

29. To provide “5” proposals for the motivation methods that are compatible with the nature of the project:

For the organization to be successful with quality in its output and to achieve its vision of satisfying its customers, all the work teams within it must have a comfortable work environment that motivates and makes them happy in performing their work to the fullest. Therefore, motivation must be used for each employee according to his needs. All members of the organization, from the largest member to the smallest, work and love to work in a comfortable environment. They follow the following approach:

1. The construction team was the way to motivate them when working hours were increased by giving them overtime to encourage them to work more hours to prepare the new hatcheries on time.
2. The organization's leadership has given all employees high- quality health insurance in either the A or B class.
3. The organization's leadership has established a complaints and suggestions committee to hear the employees well.
4. The organization's leadership provided the organization with a gym and internet packages for the entertainment of employees.
5. Assigning rewards to exemplary employees and honoring them periodically.

30. To design RACI model for 3 administrative measures of the project:

Sr. #	PM Stages	Deliverable/ Task	PMO	PED	User Dept.	Other Depts.
1	Initiation	Conversion of Business Plan into Projects	A & R			
		Development of 5 Year Projects Plan	A & R	Consultation	Consultation	
		Project Feasibility Plan	A & R			
		Project Budgeting	A & R	Consultation		
		Project Charter	A & R	Consultation	Consultation	
2	Planning	Development of Detailed Budget	A & R	Consultation	Consultation	
		Site approvals / Legal Documentation	Consultation	Information		A&R Support Svc.
		Selection of Contractors/Suppliers	Consultation	A & R	Information	Proc. Dept
		Selection of Equipment & Machinery	Consultation	A & R	Consultation	Proc. Dept
		Preparation of Contracts /Agreements	A & R	Consultation		A&R Legal Dept.
		Procurement Planning	Consultation	A & R		Proc. Dept
3	Execution	Project Scheduling	Consultation	A & R	Information	
		Creation of PRs			A & R	
		Creation of POs, Procurement of Equip. & Mach.	Information	Information		A&R Proc. Dept.
4	Monitoring & Control	PM of Civil, Mechanical & Electrical Work	Information	A & R		
		Project Monitoring wrt Cost & Schedule	Responsible	Accountable		
5	Closure	Handing over of completed Project to Operations	Information	Accountable	Responsible	

Legends	
Accountable & Responsible (A & R)	
Accountable (A)	
Consultation (C)	
Responsible (R)	
Information (I)	

Table (12) – RACI Model

31. To identify the conflict and crisis :

- Definition of conflict:**
 Conflict is when two perspectives, personalities, values, or opinions contradict each other. In some cases, it is a natural contradiction. Conflicts are natural to human nature, and they can be constructive and promote better performance among individuals.
- Definition of conflict management:**
 Conflict management is the process of limiting the negative aspects of conflict while increasing the positive aspects of conflict. The aim of conflict management is to enhance learning and group outcomes, including effectiveness or performance in an organizational setting. Properly managed conflict can improve group outcomes.
- Definition of crisis:**
 While conflict describes an interaction of friction and discord resulting from diverging, insurmountable interests, crisis describes the apex of a conflict. Very often, a crisis is thought of as a sudden and unexpected event leading to a dangerous escalation.
- Definition of crisis management:**
 Crisis management is the process by which an organization deals with a major event that threatens to harm the organization, its stakeholders, or the public.

32. To provide 3 expected scenarios of the conflicts events in the project:

Expected scenarios of the conflict's events in the project with the optimal strategies to deal with it:

- Scenario 1: You get off on the wrong foot with a new team member.**

In a previous project, they asked you for help. You refuse to lend a hand because you were working on a tight deadline and didn't want to waste time. There has been tension between you two ever since, and now you need their help on the project, but they're not being very responsive.

- **Scenario 2: You got a promotion that your friend at work was also gunning for.**

Now things are awkward between you two. You definitely want to keep the friendship going, but they aren't even speaking to you outside of team meetings.

- **Senario3 : differing preferences on how to get things done**

One particular meeting's agenda items were crucial to the success of the current project. Several key decisions must be made and implemented quickly. True to form, one team member is laughing and telling stories with little regard for the time crunch. Another team member's irritation is growing, and he can't understand why no one, especially you as the team leader, is taking control of the situation.

33. To set the optimal strategies to deal with each conflict, and specify the reason of preference:

- **The Proposed Solution of Scenario 1:**

- The best strategy in this scenario is to Collaborate.
- Find an appropriate time to walk up to them and say, "I understand that we got off on the wrong foot. My apologies for that. What I'm trying to resolve is X. Can we have a conversation about that?"
- Regardless of who the conflict is with - an employee, your boss, etc-. they'll think more highly of you if you demonstrate self-awareness.
- The conversation may be awkward, but that's better than a tense relationship that could last years all because you got off on the wrong foot.
- Key Focus: It's all about how you approach the situation.
- Try to maintain respect in the conversation and understand that it does not mean that you're going to love each other at the end of it. At the end of the day, you are trying to resolve something so that you can move forward and execute on whatever project or plan you need to deliver.

- **The Proposed Solution of Scenario 2:**

- The best strategy in this scenario is Confrontation.
- We suggest going up to the person and owning it. Tell them that you know it's an uncomfortable situation and that you'd like to continue the relationship. These situations are tough, but radical candor is important.
- Key Point: Be proactive. Break the ice. Figure out how to work together.
- Never apologize for your promotion/moving your career forward. Prepare to be content with the other person's decision if they are no longer interested in continuing the friendship.

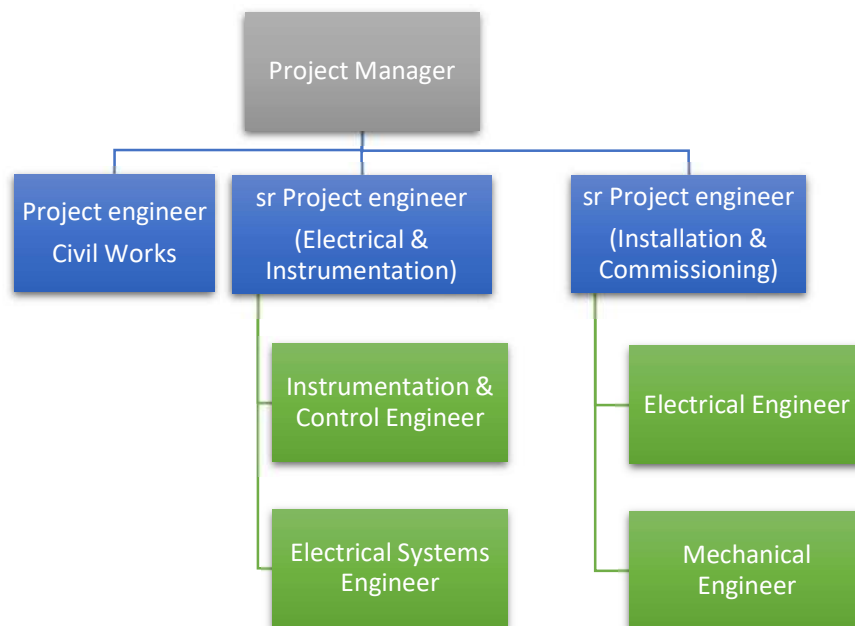
▪ **The Proposed Solution of Scenario 3:**

- The best strategy in this scenario is smoothing.
- They deal with stress in their own way.
- When you realize he is telling another animated story, you can say, “that sounds great, and we’d love to hear about it! We need to keep this meeting running on time ... how about if you tell us about it later?” Saying this with a smile and in a light tone of voice will keep his defenses down yet give her the recognition that she needs.

Important Note: This conflict resolution strategy does not require much effort. You can focus on essential issues by ignoring unimportant arguments. Situations can be potentially handled simply while bringing harmony, creating goodwill, and providing enough time to find a permanent solution.

34. Root Cause Analysis:

35. To distribute the human resources on the functions:



shape (13) – Human resources structure

36. To analyze the influence of conducting Crashing and Fast-tracking process on the time table, in addition to representing the table after achieving the two measures:

• **Fast Tracking:**

Fast tracking a project means working on it simultaneously instead of waiting for each piece to be completed separately.

• **Crashing:**

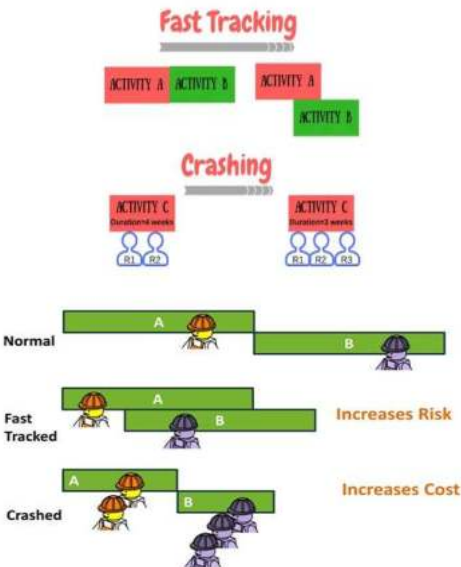
Crashing is the technique to use when fast tracking has not saved enough time on the project schedule. With this technique, resources are added to the project for the least cost possible. Cost and schedule tradeoffs are analyzed to determine how to obtain the greatest amount of compression for the least incremental cost. And crashing is expensive because more resources are added to the project.

- Fast Tracking vs Crashing**
 There is no reason to fast track or crash any activities that are not on the critical path—you won’t gain any time on your overall schedule if you cannot shorten your critical path.

In summary, the differences between fast tracking vs crashing are:

fast tracking	crashing
involves the performance of activities in parallel	involves the addition of resources to a project
increased risk	increased cost

Table (13) – fast tracking vs crashing



shape (14) – fast tracking vs crashing

37.To develop general rules for the negotiation process:

The following *Negotiation Plan* will assist SOROH CO. Procurement staff when preparing for negotiations. It has been designed as a simple tool to help staff analyze issues and prepare successful negotiation strategies.

The guide will prompt staff to think through the requirements and objectives prior to undertaking important negotiations as well as consideration of both sides’ needs, strengths, and weaknesses in order to understand the overall context of the negotiation, leading towards an improved position.

Good preparation and planning are crucial to the achievement of successful negotiation outcomes.

Note that this document is intended to be used as a guide to the creation of a negotiation plan and that, as such, some of the requirements listed may not be applicable for every scenario.

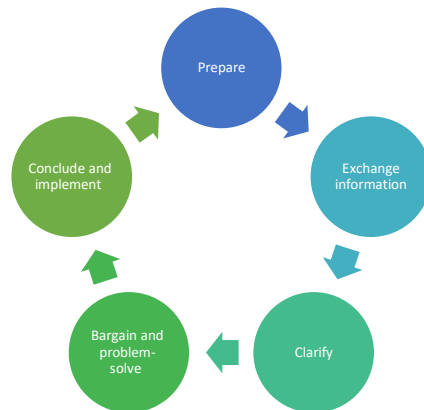
Possible scenarios where this *Negotiation Plan* may be useful include but are not restricted to:

- RF finalisation negotiations
- Contract renewal negotiations
- Contract variation negotiations
- Contract management negotiations
- Sole supplier situations (where appropriate).

38. To prepare 2 negotiation plans:

❖ The 5 Stages of the Negotiation Process:

1. Prepare.
2. Exchange information.
3. Clarify.
4. Bargain and problem-solve.
5. Conclude and implement.



shape (15) – 5 Stages of negotiation process



shape (16) – Negotiation concept

❖ There are two possible types of negotiation.

1. Distributive negotiation.
2. Integrative negotiation.



NEGOTIATION PLAN

RO SYSTEM

TEAM CODE: 0

NEED:

- To FIX new Reverse Osmosis plant in Hatchery expansion Project
-

INTERESTS:

- To install system of RO can deliver enough treated water to the project
- To receive a good deal for needed RO system
- To ensure time limit compliances in the conduct of various phases of the deal.

STRATEGIC STRONG POINTS:

- The system we have now , in operation and we need to deal with same company or similar .
- The price and the service are very important in selection the company provided the system
- Quality is important and the durability of the system.

STRATEGIC WEAK POINTS:

- Need for consideration value to be paid in 3 batches .payment terms
- Time limitation for completion of system need to be considered less than

GOALS AND OBJECTIVES:

- To be able having treated water for operation side
- Fix the system before end of project to use it in right manner
- Select the system with less than 170000 SR
- The new system should be aligned with old one

VIABLE/CONCILIATORY OPTIONS:

- To accommodate the interests of both the companies by compromising on the estimated value for the purchase of UPS
- To plan a discounted consideration provided that 20000 SR to use it in civil work

BATNA:

- To approach with UPS which will be much better than others company because the old system is from UPS
- If we will get good price and also 20000 SR discount we will sign and make deal with UPS
- To give free training for our operators and maintenance staff
- To ask them also providing 2 months chemical free , only mentioned 1 month

WATNA:

We will sign with other company can provide same solution as the risk is very minimal



Negotiation Plan 2

Contract: Hatchery Equipment's	
Document number: [01]	Date: Friday, October 29, 2021

Contact details

Name: Ahmed Alasmari	Position: sr Technical Project Manager
Business Unit: PED	Division:
Phone:00966594444739	Email:

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1. Introduction

The following *Negotiation Plan* will assist SOROH CO. Procurement staff when preparing for negotiations. It has been designed as a simple tool to help staff analyse issues and prepare successful negotiation strategies.

The guide will prompt staff to think through the requirements and objectives prior to undertaking important negotiations as well as consideration of both sides' needs, strengths and weaknesses in order to understand the overall context of the negotiation, leading towards an improved position.

Good preparation and planning are crucial to the achievement of successful negotiation outcomes.

Note that this document is intended to be used as a guide to the creation of a negotiation plan and that as such some of the requirements listed may not be applicable for every scenario.

Possible scenarios where this *Negotiation Plan* may be useful include but are not restricted to:

- RF finalisation negotiations
- contract renewal negotiations
- contract variation negotiations
- contract management negotiations
- sole supplier situations (where appropriate).

2. Negotiation plan

2.1 Contract information and parties

Contract Number	01
Contract Name	Hatchery equipmentS
Organisations planned to take part in the negotiations	

2.2 Participants and authority

2.2.1 SOROH Procurement

Name	Title	Role
Name	Job Title, Organisation	Chief Negotiator
Name	Job Title, Organisation	Secretariat
Name	Job Title, Organisation	Observer

Note: A minimum of two SOROH Procurement participants are required in all negotiations

2.2.2 Supplier

Name	Title	Role (if known)
Name	Job Title, Organisation	Chief Negotiator
Name	Job Title, Organisation	Secretariat

Name	Job Title, Organisation	Observer
------	-------------------------	----------

Are you satisfied that the negotiators from the other side have sufficient authority to bring negotiations to a successful conclusion?

☐ Yes

☐ No

2.3 Location and expected duration

Ensure the location is suitable and conducive to a positive outcome. Locations should be convenient, comfortable, allow for uninterrupted negotiations and have the capacity for teams to break out to confer and strategise.

Location of negotiations	SOROH HEAD QUARTER
Planned negotiation start date	10July 2021
Planned negotiation end date	10Aug 2021
Expected number of meetings	4

2.4 Reason for negotiations

Why are negotiations required? (provide supporting information)	To select the best offer for Hatchery equipment
Who has approved the decision to negotiate? (provide details of briefing note if appropriate)	Final Approval will be by CEO after getting all needed information and technical review from Technical and operation team

Was the need for negotiations anticipated in the procurement strategy and were respondents advised of this in the RFX documentation? If not, seek legal advice before proceeding.

We will talk to procurement Department but the final decision will be by technical and operation team

3. Probity information

3.1 Probity

Are there any probity concerns with the proposed negotiation?

☒ Yes

☐ No

If so please outline the issues and comment on how they are being addressed.

Concerns	Mitigations
Any one from selection panel will be bias to any equipment supplier	Legal Department representative will be attending

Have probity requirements been discussed with the negotiation team?

☒ Yes

☐ No

3.2 Procurement conduct plan

The *Procurement Conduct Plan* must be provided to all SOROH participants involved in negotiations and a signed *Code of Conduct, Probity and Confidentiality Agreement* included on the file.

Has each member of the negotiation team signed the *Code of Conduct, Probity and Confidentiality Agreement*?

☒ Yes

☐ No

TRIM Document Number/s	01
-------------------------------	----

Are there any unresolved **Conflicts of Interests** for participants involved in the negotiation?

☐ Yes

☒ No

3.3 Probity advisor

Is a probity advisor required?

☐ Yes

☒ No

If yes, please outline why a probity advisor is required.

3.4 Negotiation protocol

The use of a negotiation protocol should be considered where there is:

- significant contract value or amounts
- a considerable SOROH commitment
- sizeable liability or risk
- concern over the previous conduct of the other party.

Will a negotiation protocol be created and signed by both parties before the beginning of negotiations?

☒ Yes

☐ No

What are the areas of particular concern that warrant a negotiation protocol?

3.5 Government Information (Public Access) Act

Have the other parties been advised that files and papers pertaining to the negotiation may be subject to the *Government Information (Public Access) Act 2009* and could potentially have to be disclosed?

☐ Yes

☐ No

3.6 Reporting

Describe to whom as well as how and when the progress and results of negotiations will be reported.

The final report will be sent confidential to COO.CFO AND CEO

4. Preparation

4.1 Research

Is the subject matter which will form part of the negotiations fully understood by all members of the negotiation team?

☒ Yes

☐ No

List key areas that will need to be addressed

- Types of equipment
- Needed of equipment
- Area of negotiation
- Cost

Do you thoroughly understand the products/services and the supply market?

☒ Yes

☐ No

Have you completed the Supply Positioning tool?

☒ Yes (include as an attachment to this plan)

☐ No

List market issues that need to be taken into consideration.

- Limited equipment resources
- Obstacles during integration between old and new areas
- Operation after completion of project

Have you conducted research on the company that you are negotiating with?

☒ Yes

☐ No

What have you discovered?

We have to talk to only 2 companies for the main equipment and put in mind we need Petersime equipment as first choice but we will talk in serious ways

Have you completed the *Supplier Preferencing* tool to better understand how they view us?

☒ Yes (include as an attachment to this plan)

☐ No

Have you read their financial reports?

☒ Yes

☐ No

What have you discovered?

The prices will not much different but the concern in linking of old and new and we will face definitely software issues once we will change main equipment

Are you aware of precedents that could assist your cause?

☒ Yes

☐ No

If yes what are they?

Normally we will have software issues and the system will be not opened if you will change main equipment and you want to do integration later on

Is an expert category and/or legal expertise required assist with the negotiations?

☐ Category – Insert name if known

☐ Legal – Insert name if known

☒ No experts required

4.2 Interests

Our interests	Their interests
To link with Petresime equipments for hatchers and sitter	To sell their equipments with good price

4.3 Our strengths and weaknesses

Strengths	Weaknesses
Have enough financial resources	Limited choices
Have experiences	Operation after completion in case we have selected different equipment
Have ability of negotiation	

--	--

4.4 Their anticipated strengths and weaknesses

Strengths	Weaknesses
Quality	Company situation and limited of projects during covid 19

4.5 Risks

Our risks	Their risks
Operation	Selection another supplier

4.6 Competitive pressure

What competitive pressures does the other party face?	Others suppliers
---	------------------

Can what is being offered be sourced elsewhere? If so, how difficult would the sourcing be?	Yes but with risk
How important is this deal to them?	Very important

4.7 Alternatives to a negotiated agreement

What alternatives do we have if the negotiation is lengthy and unsatisfactory or ends without agreement?	We have
What is our best alternative to a Negotiated Agreement (BATNA)? (Note: a strong BATNA position means a strong negotiation position)	Going to another supplier have same ability of equipment
What could improve our BATNA? Can we remove constraints and improve our BATNA position?	Our relationship with them , very long and successful

4.8 Their alternatives to a negotiated agreement

What alternatives do we think they have if the negotiation ends without agreement?	Lose deal
---	-----------

What is their best alternative to a Negotiated Agreement (BATNA)? (Note: a strong BATNA position means a strong negotiation position)	Reduce in prices and get service contract
What could improve their BATNA? Can we remove constraints and improve our BATNA position?	Adding spare parts values and service contract

5. Objectives and negotiation points

5.1 Our objectives

List and describe our objectives in order of priority and preference. Consider if each objective is a **must have** or a **nice to have**.

Objective	Must	Nice
Use only Peter Sime equipment	X	
Cost reduction		X
Service contract with them and warranty	X	

5.2 Their objectives

List and describe what you think their objectives may be, in order of priority and preference. Consider if each objective is a **must have** or a **nice to have** for them.

Objective	Must	Nice
Sell the equipment		X
Get service contract	X	

5.3 Negotiation points

Negotiation Point	Current Position	Revised Position	Must	Nice
cost	Partial agreed			X
Value			X	
Performance				X
Quality				X

5.4 Concessions

Concession	List the concessions that we will be prepared to consider
Link between old and new equipment	

6. Positions

6.1 Our position

Clearly and systematically outline our starting position.

[Guide Note: Consider the credibility of your targets. Are they too ambitious? Not ambitious enough? Are they realistic?]

- We are in good position and we will finish the deal successfully

6.2 Their anticipated position

Clearly and systematically outline what we think their starting position will be.

- They are taking win-win principle during contact

6.3 Best case scenario

Describe what you think our best case result would be.

- Make contract with them fully Peter Sime equipment providers

6.4 Bottom line

What is our worst case acceptable negotiated position?

- Nothing we are in good position

7. Approvals

This *Negotiation Plan* must be reviewed and approved by your director prior to proceeding with negotiations.

Name	Name	Signature	Date
Prepared by	Ahmed Alasmari		
Reviewed by			
Approved by			

Appendix A - Qualities of an effective negotiator

An effective negotiator:

- prepares carefully, analyses and thinks the issues through
- uses every negotiation meeting to learn more and prepare further
- is confident, listens, questions and contests without aggression
- is adaptive to the prevailing atmosphere of the negotiation and can be resolved and firm when needed
- thinks before speaking, communicates clearly and creates an atmosphere of trust
- recognises position shifts and takes advantage of opportunities
- will look to pick up a benefit in return before conceding a point (i.e. If we agree to this, will you agree to that)
- considers strengths and weaknesses from both sides as well as time constraints influencing the negotiation and uses this knowledge to tactical advantage when appropriate
- understands where the obstacles are and can suggest imaginative and practical ways forward. Can produce reasoned options that can be beneficial to both sides
- works with the other side to generate a sense of ownership for solutions put forward
- focuses on interests, not on people and positions and never loses sight of objectives throughout the negotiation process

- compares the proposed solution(s) to his party's BATNA before finalising any agreement
- consider role-plays or conducting a mock negotiation prior to the formal negotiation meeting.

Appendix B – Negotiation roles and responsibilities

In considering the make-up of the negotiation team, take into account the relevant and complementary skills and knowledge of participants by:

- involving the manager who will be responsible for ongoing management of the contract, e.g. the category manager or client representative (if a client-specific contract)
- understanding whether the team has the required communication, problem-solving, technical and financial skills, along with an understanding of the relevant industry. The SWOT analysis tool may assist in considering the team's strengths and weaknesses. If negotiations will include changes to the standard terms and conditions of government agreements, ensure you have sought legal advice prior to the negotiations and consider including a legal representative on the negotiation team
- using professional advisors if the negotiations are likely to be complex, where there may be difficulties reaching agreement, or if there is a need for specific expert advice
- understanding the extent and limits of your authority to negotiate terms. Clarify your delegation to act on behalf of NSW Procurement prior to the negotiation meeting
- not overloading the team! A cast of thousands may slow down negotiations and overwhelm the other party. Note that a minimum of two SOROH CO Procurement representatives must participate in the negotiations.

Role	Responsibilities
Chief or lead negotiator	• Final preparation of negotiation strategy • Set agenda, introduce team members • Keep “eye on the prize” – maintain overarching view of negotiation process and progress; keep discussions on track
Negotiation specialist/ advisor	• May be chief negotiator • Specialist advice on negotiation strategy and tactics
Negotiator	• Member of procurement team • Contribute to preparation of strategy • Participate in negotiations on the day
Technical expert	• Provide specialist technical knowledge to negotiation team • Determine if proposals during negotiation meet technical requirements
Legal advisor	• Provide legal advice on proposed terms and conditions • Determine if amended clauses are acceptable (subject to final sign-off by General Counsel)
Probity advisor	• Independent observer of negotiation process • Oversee preparations, negotiations and post-negotiation processes to ensure probity provisions are maintained

Observer	• Member of procurement or management team observing negotiations to ensure compliance with SOROH Procurement process and procedures
Note / minute taker	• Administration or procurement support staff, responsible for documenting key discussions, drafting and finalising minutes, seeking concurrence from negotiation participants

Appendix C – Additional resources

The following resources are available to assist planning your negotiations

- Negotiation Protocol
- Negotiation Points Planning template
- Post Negotiation Review
- Supply Positioning tool
- Supplier Preferencing tool
- SWOT Analysis
- Balance of Power Too

39. To identify the Triple constraint of the project.:

❖ **Scope, Time, and Budget:**

The triple constraint theory may appear complex, but it is actually quite simple. All projects are carried out in just certain constraints, which are typically cost, time, and scope. These three factors (known colloquially as "the triple constraint") are depicted as a triangle. The vertices are formed by each constraint, with quality as the central theme:

- Projects must be completed on time and within budget.
- Projects must be completed in a timely manner.
- Projects must adhere to the agreed-upon scope – nothing more, nothing less.
- Quality requirements for the project must also be met.



shape (17) – Triple constraint Triangle

- **Triple constraint: Scope**
Adding more features can cause a project's time and budget constraints to be stretched. extending the deadline or hire more people, which will raise project costs. Monitoring scope changes allows to discuss trade-offs early on and make necessary adjustments before the project deviates from its original path. However, any new scope changes must be handled with extreme caution.
- **Triple constraint: Time (schedule)**
The more accurate the estimates, the better. After all, it is what the project management office (PMO) will use to schedule work and drive project decisions if difficult decisions must be made in order to meet the project deadline.
- **Triple constraint: Cost (budget)**
Estimating the time and effort required for a project is critical. When developing the project budget, a few costs should be considered:
 - Resource .
 - Material costs
 - Equipment

40. To set up a list of the project success factors:

A Project is successful if the goals are achieved”, and 5 Most Important Factors for Project Success is:

1. **Intelligent People:**

A capable team is required to ensure the success of a project. To accomplish this, project staff and all project stakeholders must share their enthusiasm and commitment with the group. The team should have similar project visions and strive for success.

2. **Comprehensive Planning:**

Comprehensive planning can assist the team in meeting critical deadlines and remaining organized. There are numerous advantages to careful planning. This first step in the project allows for the creation of a realistic time frame. It provides an accurate time frame for cost estimations and aids in clear documentation of milestones and deliverables, making things much easier as the project progresses. Planning specifies the resources needed and serves as a warning system. If there is a lapse, the warning system will give you a clear picture of what to expect.

3. **Open Communication:**

An open communication channel is critical to the success of a project. When the team is working on a tight deadline, it is critical that the team is kept up to date on all aspects of the project. They need to know when to say no as well. Promises should not be made if PMOs cannot be kept.

4. **Proper Risk Management:**

PMOs must make certain that all stakeholders are aware of the risk log and know where to find it. Even if something goes wrong, the team will be able to solve the problem quickly because a plan has been put in place.

5. **Strong Project Closure:**

PMOs must be steadfast in their belief that all critical success factors have been met. Project delivery, testing, and release approval must all be agreed upon and signed off on.



shape (18) – Critical success Factors of Project Management

41. To develop and identify work breakdown structure, in addition to prepare a guide to illustrate it:

CIVIL	MECHANICAL	ELECTRICAL WORKS
1. Substructure 1.1 Site clearing works and inspections 1.2 Footings 1.2.1 Excavation 1.2.2 Reinforcement & Shuttering 1.2.3 Concreting 1.3 Pedestal 1.3.1 Reinforcement & shuttering 1.3.2 Anchor bolt and base plate installation 1.3.3 Concreting 1.4 Grade Beam 1.4.1 Excavation 1.4.2 Reinforcement & shuttering 1.4.3 Concreting 1.5 Drainage works 1.5.1 Excavation 1.5.2 Installing drainage pipes 2. Superstructure 2.1 Steel structure 2.1.1 Rigid frame installation 2.1.1.1 Temporary bracing installation 2.1.1.2 Columns erection 2.1.1.3 Rafter beam erection 2.1.1.4 Girts and purlins installation 2.1.1.5 Brace and flanges installation 2.1.2 Sheeting installation 2.2 Grade on slab 2.2.1 Isolation joint installation 2.2.2 Expansion joint installation 2.2.3 Reinforcement and shuttering 2.2.4 Concreting 2.2.5 Construction joint cutting 2.3 Finishing 2.3.1 Walls 2.3.1.1 Blockwork 2.3.1.2 Plastering 2.3.1.3 Paint 2.3.2 Flooring 2.3.2.1 Epoxy flooring 2.3.3 Ceiling 2.3.3.1 Ceiling finishes 2.3.4 External works 2.3.4.1 Cubstone installation 2.3.4.2 Asphalt	1. Cooling water work. 1.1. Water pipes. 1.1.1. Isolated. 1.1.2. Strainer filter placed. 1.1.3. 4 bar to with capacity to sustain 10 bar. 1.2. Chilled water tank connections. 1.3. Water Header for supply water. 1.4. Water header for return water. 1.5. Chilled Water circulation pumping. 1.5.1. AHU1 capacity 20 m3/hr. 1.5.2. AHU2 capacity 15 m3/hr. 1.5.3. AHU3 capacity 10 m3/hr. 1.5.4. Station Comprising (BX15 m3/hr). 1.6. Chilled water re-circulation pumps for return water to chiller. 1.7. Water filtering system. 1.8. Chemical Dosing pumps. 1.9. Supply and install AHU 15,000 m3/hr airflow. 2. Heating water works. 2.1. Black steel pipes installation. 3. Cold Water supply. 3.1. UPVC pipes installation. 4. Incubators. 4.1. Biostreamer OX. 4.1.1. Setters. 4.1.2. Hatchers. 4.1.3. Bedges. 4.1.4. Manual. 5. Hatchery Equipment. 5.1. Spare parts. 6. Hatchery Management. 6.1. Alarm Panel. 6.2. Management software. 6.2.1. Eagle Eye. 6.2.2. Eagle Eye sensors. 7. Project specific equipment. 7.1. Hatchery climate control 7.1.1. Remarks. 7.1.2. Air Handling equipment for the setter room. 7.1.3. Air Handling equipment for hatchery room 4. 7.1.4. Air handling equipment for chick take off room. 7.1.5. Air handling equipment for chick sexing rooms. 7.1.6. Air handling equipment for the chick holding room. 7.1.7. Air handling equipment for wash and clean plastic trays. 7.1.8. Air handling equipment for wash and clean setter trolleys. 7.1.9. Air handling equipment for wash and clean hatcher trolleys. 7.1.10. Air handling equipment for wash and clean boxes. 7.1.11. Electric switch board.	1.1 Installation 1.1.1. MV installation 1.1.1.1. OHL Modification 1.1.1.2. MV cables laying & termination 1.1.2. Generator Installation 1.1.3. Transformer Installation 1.1.4. ATS Installation 1.1.5. Main Distribution Panel (MDB) Installation 1.1.6. Electrical Switch Board (ESB0) Installation 1.1.7. Electrical Switch Board (ESB3) Installation 1.1.8. Lighting works 1.1.9. Grounding 1.1.9.1. Earthing System installation (resistance should be less than 5 ohms) 1.1.9.2. Grounding cables 1.1.10. LV Installation 1.1.10.1. DPB1 installation 1.1.10.2. DPB2 installation 1.1.10.3. LV cables laying and termination 1.1.10.4. Power connection to equipment 1.1.10.4.1. Cables to ESB3 1.1.10.4.2. Cables to ESB0 1.1.10.4.3. Cables to chiller 1.1.10.4.4. Cables to Packing units 1 and 2 1.2 Testing and Commissioning 1.2.1. Chiller testing and commissioning 1.2.2. Setters testing and commissioning 1.2.3. Hatchers testing commissioning 1.2.4. Handover all works 1.3-NETWORKING WORKS 1.3.1. Supply and install networking connection boxes 1.3.2. supply and install FTP CAT5e cable

Table (14) – WBS

42. To identify Requirement traceability matrix:

SOROH POULTRY CO.								
REQUIREMENTS TRACEABILITY MATRIX								
PROJECT MANAGER:					PROJECT ID:			
PROJECT SPONSOR:		SOROH CO			PROJECT TITLE:		EXPANSION OF HATCHERY	
REQUIREMENT INFORMATION					RELATIONSHIP TRACEABILITY			
ID	CATEGORY	REQUIREMENT	PRIORITY	SOURCE	BUSINESS OBJECTIVE	DELIVERABLE[S]	VERIFICATION	VALIDATION
REQ-001	Mandatory	Discussing with end user , the following: 1/how to make link between old and new expansion 2/give us enough time for the integration	High	Hatchery Manager	Will simplify the integration process	no conflict in operation	production running smoothly	test during commissioning
REQ-002	Should have	the plan of integration , and should be have all specification works	Medium	Hatchery Manager /PM	will help in making schedule	My account module Product registration	Achievement of business plan	
REQ-003	Nice to have	Power connection from existing hatchery to run the porto capin for Reiner staff	Low	Hatchery manager /PM	to simplify the working environment	have power	run the facility	

Table (15) – Traceability Matrix

43. To specify the methods used in requirement collection:



shape (19) – Requirements Gathering

Requirements are gathered from all relevant and appropriate stakeholders. Typically, requirements are gathered through interactions with stakeholders. Interactions may include one-on-one meetings with key stakeholders as well as group discussions involving multiple stakeholders at the same time. Finally, all stakeholders must agree on the requirements.

Some of the key challenges in requirements collection include:

- Stakeholders very often do not have a clear idea about what exactly they want.
- Sometimes stakeholders do not know how to express and articulate their requirements.
- Requirements collected through verbal interactions may be prone to misinterpretation.
- Very often there may be implicit and unsaid requirements and expectations.

The following methods have been used in our project to collect the requirements:

❖ User Observation:

Every observation must be guided by specific objectives. The analyst should understand what data is to be collected, how observations will be conducted, and when and where they will be conducted.

Examine how the data will be collected and what the data will be used for after it has been analyzed.

Observation technique is best applied where:

- A current process is to be monitored
- The objective is to improve a process
- Stakeholders find it hard to explain what they do or what their requirements are

- Processes are highly repeatable e.g., manufacturing
 - The validity of data collected through other means is in question
-
- Observation should be planned in advance to ensure that all required data elements are pre-determined. This reduces uncertainty during the observation session and allows the analyst to concentrate on the task of observing without having to wonder which events should be recorded and which should not. As a result, before beginning observation, the level of detail and relevant events to observe for should be determined.
 - It will also be useful for the PMO to determine which period (peak, normal, or low) to conduct the observation. To get a more detailed view of events, observe first during normal times and then again during peak times. The PMO should also request any documents that the worker will use during the observation session.
 - Observation is best used to collect data for quantitative or statistical analysis in order to achieve a reasonable degree of objectivity.

❖ **Brainstorming:**

Involving a group of stakeholders and asking them to provide all of their suggestions and ideas about what they would like to see in the end result. This generates a lot of ideas. In a brainstorming session, no restrictions are imposed.

brainstorming offers distinct benefits as:

A. Human interaction and stimulation of more ideas:

Active and lively debate stimulates additional brain activity, increasing the likelihood of developing new ideas.

B. Increases critical thinking:

Brainstorming can be especially useful during problem-solving sessions where critical thinking is required. Participants are more likely to not only generate ideas, but also ways to solve problems in a better and potentially faster manner when critical thinking is present.

C. Encourages more diverse views:

Diverse perspectives identify opportunities and multiple solutions to problems: Participants who are interested in new ideas and ways of thinking will benefit from the experience as well.

D. Establishes a common connection around goals:

The brainstorming technique creates an environment in which people can not only bounce ideas around, share valuable experiences, and challenge one another, but also learn from one another and strengthen their bonds in order to achieve common goals.

❖ **Interview:**

Interviews can be planned with some of the senior stakeholders to understand some of their requirements and expectations.

❖ **Focus groups:**

Moderated discussion with a group of stakeholders belonging to a particular group or function and finalize requirements with them.

❖ **Facilitated Workshops:**

Moderated discussion with a group of stakeholders belonging to a cross functional groups together and finalize some of the requirements which will be common for all of them.

44. To develop the hierarchical structure of the objectives of the project connected to the strategy:



shape (20) – Hierarchy of Objective

- **Policy Objective:** The overall policy objective is to "Increase industrial production". How is this to be accomplished
- **Strategic Objective:** SOROH CO. is trying to increase industrial production, the policy objective, is by producing "30 millions eggs per year ". This is the strategic objective for the project. Of course, there may be other strategic objectives and additional projects that also support the overall policy objective.
- **Project Objective:** it is to "Build a new expansion hatchery facility.
- **Input Objective:** the resources and conditions that are required to accomplish the project. For the expansion hatchery project, they consist of a "21 million contract, land, and necessary labor" as well as expertise.

45. To develop, identify, and prepare the scope statement (Its limits- and objects that are not included):

- **Project Scope Statement**

- 1. Understand why the project was initiated.**

To achieve SOROH expansion strategy and provide exponential growth in volumes and business, among other facilities, Hatcheries are one of the main facilities to support kills volumes and maintain current levels of integration.

- Overall strategy has been approved by SOROH Board.
- A new hatchery will add 30 million egg sets per year with automation to improve efficiency of the existing hatchery, bringing the total capacity to 100 million egg sets a year.

- 2. Define the key objectives of the project.**

- **Specific:**

- A. New building with specific requirement to accommodate installing new hatchery machines to increase the volume of production by 30%.
- B. Install new machines and upgrades the existing one.
- C. Integration system to enable connecting new machines with the existing ones.
- D. Work on importing feed from abroad and relying on the local feed farm to avoid the risks of import interruption.
 - Measurable:
 - 1) 30% increase in volume.
 - Achievable:
 - 1) 8 months' project time
 - 2) 30 M per year increase.
 - 3) Maintain SOROH standard according to SFDA requirements.
 - Realistic:
 - 1) Achieved required volume.
 - 2) Achieved time duration.
 - 3) Spent according to budget given.
 - Time:
 - 1) 8 months start to end.

- 3. Outline the project statement of work.**

To implement and execute the project according to detailed engineering drawings & designs (Equipment supplier + Civil and consulting engineer) and required utilities to the plant, once the facility is ready for machine installation, herein after completing the installation of equipment under the supervision of supplier's engineers as per the protocols. ▪ Automation part is mutually exclusive from Petersime equipment and will be commissioned into existing hatchery.

- 4. Identify major deliverables.**

Successfully implementation and execution of:

- Building construction according to engineering plan with complete suit hatchery.
- Utilities as defined by equipment & automation supplier, detailed engineering design and facility requirements.
- Machine installation with HVAC and hatchery automation as agreed with supplier in order confirmation.
- Project status reports, Weekly updates to working group.

5. Select key milestones.

In this project there are many milestones need to be taken in consideration:

- 1st Civil work need to be started on time and special flooring to be completed before arrivals of machines, then install them in their places correctly .
- 2nd the time of project is 8 months only and operation after that is necessary.

6. Identify major constraints.

Project completion within Budget and time frame when:

- Arrange technical staff for installation.
- Consulting with Internal Eng. Department for common utilities.
- Permits and Licenses with support service department.
- Follow biosecurity protocols applicable at the facility.
- CAR Insurance.
- Work with PMO.
- Follow health & safety protocols.
- Consultation with the operations department for matters where it affects internal/external operations.

7. List scope exclusions.

project department will not be responsible about getting benefit of this project, operation department they are responsible to run this facility as should be and get required benefits

8. Obtain sign-off.

Formal sign-off provides a record of agreement to a deliverable. As far as the Project is concerned, a deliverable is not complete until it has been accepted through this process. And The Project Manager is responsible for owning and managing a deliverables log which lists all project deliverables (as per the signed-off PID/Project Charter), deliverable owners, expected completion dates and all required reviewers and signatories.

46. To develop, identify, and explain the concepts: Scope creep and giving examples:

- **Scope:**
The extent of what a project will produce (product scope) and the work needed to produce it (project scope). A Guide to the Project Management Body of Knowledge (PMBOK® Guide)—Fourth edition mentions it is the sum of the products, services, and results produced in a project (Project Management Institute, 2008, p. 440). It is often documented using a scope statement and a Work Breakdown Structure (WBS), which are approved by the project sponsor.
- **Scope creep:**
Adding additional features or functions of a new product, requirements, or work that is not authorized (i.e., beyond the agreed-upon scope).
- **How Does Scope Creep Occur?**
 1. Lack of clarity and depth to the original specification document.
Example:
No clear specification given from customer, for example end users, which will lead to wrong equipment's selections.
 2. Allowing direct unmanaged contact between client and team participants.
Example:
Any contact without permission from Project manager, might be affected the project work in general.
 3. Customers trying to get extra work “on the cheap.”
Example:
End user asking main contractors to do extra work without clear scope , and of course , it was not in scope of work.
 4. Beginning design and development of something before a thorough requirements analysis and cost-benefit analysis has been done.
Example:
The end customer will ask for more options in machines and he will not using it , and this option will cost more money.
 5. Scope creep “where you do it to yourself” because of lack of foresight and planning.
Example:
If Project manager will plan something and he didn't get enough information and know how long this work will take, definitely he will be in project creep
 6. Poorly defined initial requirements.
Example:

If the organization don't have clear vision what, when, how they want this project work

7. “Management promises the sun and the moon and breaks the backs of the developers to give them just that in impossibly tight time frames.”

Example:

PM must be serious in time frame, not giving promises to finish and he has no right tools to achieve that

- **Summary:**

Scope creep is dreaded in projects and may occur for a multitude of reasons. Most of these reasons pertain to the fact that projects bring change, an unpredictable occurrence. Scope creep is not inevitable, though. Here is a summary of the top five causes of scope creep and a recap of what to do about each of them.

- 1. Ambiguous Scope Definition**

- **Solutions:**

- Sponsors: Develop charters with specific product features.
- Project managers: Create tight scope statements, with features in and out of scope.
- Project managers: Decompose deliverables into work packages, using a WBS.
- Business analysts: Create scope models to align project team's mental models.
- Business analysts: Define detailed and complete requirements.

- 2. Scope and Requirements Not Managed**

- **Solutions:**

- Project managers: Include a change management process in the scope management plan and follow them both.
- Business analysts: Create a requirements management plan to be included in the overall scope management plan and follow it, including the use of requirements traceability.
- Both: Formally communicate, review, and get all requirements approved; use traceability to manage the process.

- 3. Inconsistent Process for Collecting Product Requirements**

- **Solutions:**

- Both: Define requirements processes related to scope, analysis, prioritization, traceability, and new requests.
- Business analysts: Use context diagrams to clarify scope/stakeholders early (e.g., SIPOCs, Context Diagrams); add detail in layers as appropriate.
- Both: Define scope and requirements iteratively in “layers” throughout requirements analysis.

- 4. Lack of Sponsorship and Stakeholder Involvement**

- **Solutions:**

- Sponsors: Develop Charters that communicate desired product features, emphasizing project benefits.

- Project managers: Provide project status that engages sponsors, focusing on how deliverables are being realized.
- Both: Use tools like RACI to get commitment for approvals and for providing input, review, testing, etc.

5. Project Length.

- Sponsors: Keep projects as short as possible and focused.
- Project managers: Decompose projects into smaller subprojects.
- Project managers: Close out sub-projects to maintain momentum and show results.

47. To illustrate product analysis management.

1	Material	Combination of civil works, mechanical works and electrical. Combined together to complete one entire project
2	Model	There are many Models, but the main machines are from Petersime hatchery equipment's.
3	Appearance	complete project house constructed and made to keep these important machines to hatch the eggs
4	Cost	Average production (2.5Mn) / month - kgs- chick. Vaccination cost to mortality rates not to reach 30% of overall daily production.
5	Manufacturing	New building with specific requirement to accommodate installing new hatchery machines to increase the volume of production by 30%.
6	Features	Healthy poultry products that meet the international specifications and are slaughtered according to Islamic law using the most advanced science technology.
7	Specification	Age and weight to market ratio - 1000 Kg in 47 days in SAR.
8	Drawbacks	Some of the members consider the field of operation is new for them.
9	Final Remark	Hatcheries are one of the main facilities to support kill volumes and maintain integration levels according to SOROH's expansion strategy and exponential growth in volumes and business, along with other facilities.

Table (16) – Product analysis management

48. To illustrate the transformation of the work packages in Work Breakdown Structure to activities.

Transform the WBS to Activates: After transforming the WBS from the project-defined process, project managers may edit the WBS for task assignment, cost estimation, predecessor constraints, and scheduling. Improving process execution efficiency and better process control requires a workflow engine to execute the project process automatically. The WBS is useful for project cost estimation and project control, but clumsy in supporting automatic process

execution, so a WBS with project-specific information must be transformed into an executable process.

CIVIL	MECHANICAL	ELECTRICAL
1. Substructure	1. Cooling water work.	1.ELECTRICAL WORKS
1.1 Site clearing works and inspections	1.1. Water pipes.	1.1 Installation
1.2 Footings	1.1.1. Isolated.	1.1.1 MV installation
1.2.1 Excavation	1.1.2. Strainer filter placed.	1.1.1.1 OHL Modification
1.2.2 Reinforcement & Shuttering	1.1.3. 4 bar to with capacity to sustain 10 bar.	1.1.1.2 MV cables laying & termination
1.2.3 Concreting		1.1.2 Generator Installation
1.3 Pedestal	1.2. Chilled water tank connections.	1.1.3 Transformer Installation
1.3.1 Reinforcement & shuttering	1.3. Water Header for supply water.	1.1.4 ATS Installation
1.3.2 Anchor bolt and base plate installation	1.4. Water header for return water.	1.1.5 Main Distribution Panel (MDPB) Installation
1.3.3 Concreting	1.5. Chilled Water circulation pumping.	1.1.6 Electrical Switch Board (ESB) Installation
1.4 Grade Beam	1.5.1. AHU1 capacity 20 m3/hr.	1.1.7 Electrical Switch Board (ESB3) Installation
1.4.1 Excavation	1.5.2. AHU2 capacity 15 m3/hr.	1.1.8 Lighting works
1.4.2 Reinforcement & shuttering	1.5.3. AHU3 capacity 10 m3/hr.	1.1.9 Grounding
1.4.3 Concreting	1.5.4. Station Comprising (3X 15 m3/hr).	1.1.9.1 Earthing System installation (resistance should be less than 5 ohms)
1.5 Drainage work	1.6. Chilled water re-circulation pumps for return water to chiller.	1.1.9.2 Grounding cables
1.5.1 Excavation	1.7. Water filtering system.	1.1.10 LV Installation
1.5.2 Installing drainage pipes	1.8. Chemical Dosing pumps.	1.1.10.1 DPB1 Installation
2. Superstructure	1.9. Supply and install AHU 15,000 m3/hr airflow.	1.1.10.2 DPB2 Installation
2.1 Steel structure	2. Heating water works.	1.1.10.3 LV cables laying and termination
2.1.1 Rigid frame installation	2.1. Black steel pipes installation.	1.1.10.4 Power connection to equipment
2.1.1.1 Temporary bracing installation	3. Cold Water supply.	1.1.10.4.1 Cables to ESB3
2.1.1.2 Columns erection	3.1. UPVC pipes installation.	1.1.10.4.2 Cables to ESB0
2.1.1.3 Rafter beam erection		1.1.10.4.3 Cables to chiller
2.1.1.4 Girts and purlins installation	4. Incubators.	1.1.10.4.4 Cables to Packing units 1 and 2
2.1.1.5 Brace and flanges installation	4.1. Biostreamer OK.	1.2 Testing and Commissioning
2.1.2 Sheeting installation	4.1.1. Settlers.	1.2.1 Chiller testing and commissioning
2.2 Grade on slab	4.1.2. Hatchers.	1.2.2 Settlers testing and commissioning
2.2.1 Isolation joint installation	4.1.3. Badges.	1.2.3 Hatchers testing commissioning
2.2.2 Expansion joint installation	4.1.4. Manual.	1.2.4 Handover all work
2.2.3 Reinforcement and shuttering	5. Hatchery Equipment.	1.3 NETWORKING WORKS
2.2.4 Concreting	5.1. Spare parts.	1.3.1 Supply and install networking connection boxes
2.2.5 Construction joint cutting	6. Hatchery Management.	1.3.2 supply and install FTP CAT5e cable
2.3 Finishing	6.1. Alarm Panel.	
2.3.1 Walls	6.2. Management software.	
2.3.1.1 Blockwork	6.2.1. Eagle Eye.	
2.3.1.2 Plastering	6.2.2. Eagle Eye sensors.	
2.3.1.3 Paint	7. Project specific equipment.	
2.3.2 Flooring	7.1. Hatchery climate control	
2.3.2.1 Epoxy flooring	7.1.1. Remarks.	
2.3.3 Ceiling	7.1.2. Air Handling equipment for the setter room.	
2.3.3.1 Ceiling finisher	7.1.3. Air Handling equipment for hatchery room 4.	
2.3.4 External works	7.1.4. Air handling equipment for chick take off room.	
2.3.4.1 Cubanone installation	7.1.5. Air handling equipment for chick saving rooms.	
2.3.4.2 Asphalt	7.1.6. Air handling equipment for the chick holding room.	
	7.1.7. Air handling equipment for wash and clean plastic trays.	
	7.1.8. Air handling equipment for wash and clean setter trolleys.	
	7.1.9. Air handling equipment for wash and clean hatchery trolleys.	
	7.1.10. Air handling equipment for wash and clean boxes.	
	7.1.11. Electric switch board.	

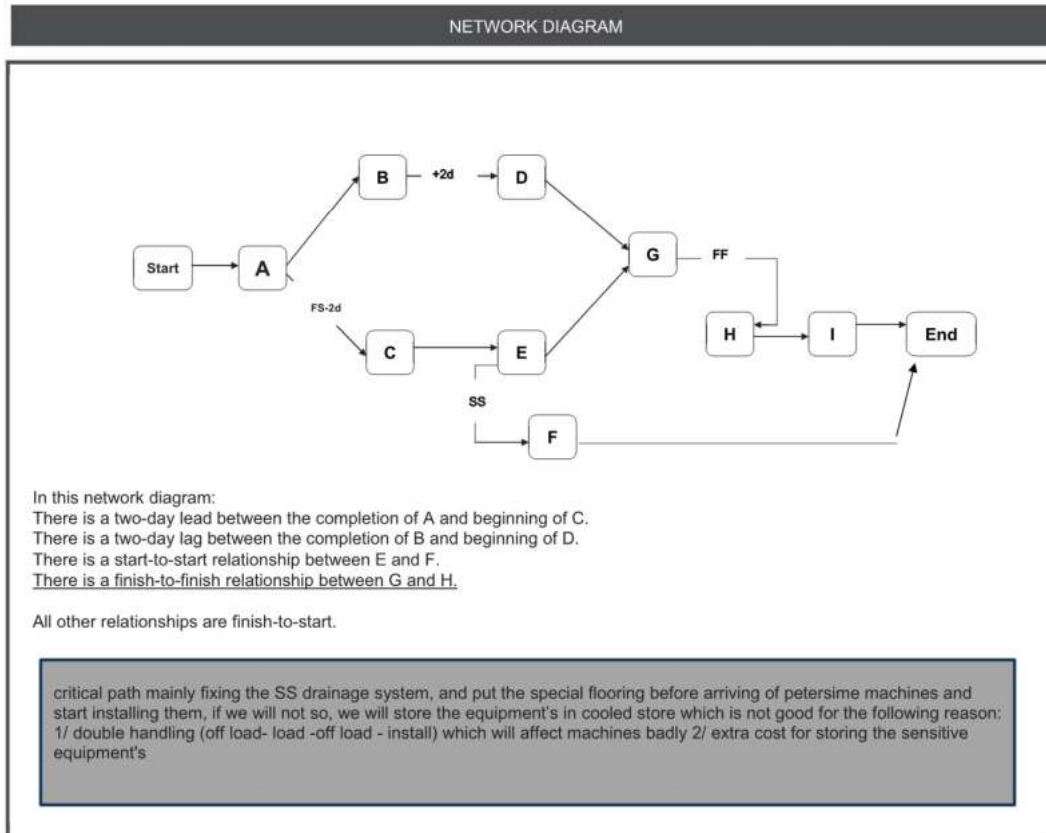
Table (17) – WBS

49.the functions list or the activities included in each work package in WBS.

Technical dependencies	Description	Duration (Days)
CIVIL WORK		
1. Substructure	Activity (1) is predecessor of activity (2) in a finish-to-finish (FF) dependency (There could also be a start-to-start (SS) dependency between (1) and (2) but the FF relationship is prioritized as its impact is higher)	185
1.1 Site clearing works and inspections	Activity (1.1) is predecessor of activity (1.2) in a finish-to-start (FS) relationship	30
1.2 Footings	Activity (1.2) is a successor of activity (1.1) and in a start-to-finish (SF) relationship	48
1.2.1 Excavation	Activity (1.2.1) is a Predecessor of activity (1.1) and in a start-to-start (SS) relationship	20
1.2.2 Reinforcement & Shuttering	Activity (1.2.2) is a successor of activity (1.2.1) and in a start-to-start (SS) relationship	13
1.2.3 Concreting	Activity (1.2.2) is a successor of activity (1.2.3) and in a start-to-start (SS) relationship	15
1.3.Pedestal	Activity (1.3) is a successor of activity (1.2.3) and in a finish-to-start (FS) relationship	40
1.3.1 Reinforcement & shuttering	Activity (1.3.1) is a Predecessor of activity (1.3.2) and in a start-to-start (SS) relationship	15
1.3.2 Anchor bolt and base plate in	Activity (1.3.2) is a successor of activity (1.3.1) and in a finish-to-start (FS) relationship	14
1.3.3 Concreting	Activity (1.3.3) is a successor of activity (1.3.2) and in a finish-to-start (FS) relationship	11
1.4.Grade Beam	Activity (1.4) is a successor of activity (1.3) and in a Start-to-start (SS) relationship	39
1.4.1 Excavation	Activity (1.4.1) is a successor of activity (1.4.2) and in a Start-to-start (SS) relationship	12
1.4.2 Reinforcement & shuttering	Activity (1.4.2) is a successor of activity (1.4.1) and in a Finish-to-start (FS) relationship	15
1.4.3 Concreting	Activity (1.4.3) is a successor of activity (1.4.2) and in a Finish-to-start (FS) relationship	12
1.5.Drainage works	Activity (1.5) is a successor of activity (1.4) and in a finish-to-start (FS) relationship	28
1.5.1 Excavation	Activity (1.5.1) is a Predecessor of activity (1.5.2) and in a start-to-start (SS) relationship	15
1.5.2 Installing drainage pipes	Activity (1.5.2) is a Successor of activity (1.5.1) and in a start-to-start (SS) relationship	13
2. Superstructure	Activity (2) is Successor of activity (1) in a finish-to-finish (FF) dependency (There could also be a start-to-start (SS) dependency between (2) and (1) but the FF relationship is prioritized as its impact is higher)	226
2.1.Steel structure	Activity (2.1) is a Predecessor of activity (2.1.1) and in a Finish-to-start (FS) relationship	82
2.1.1. Rigid frame installation	Activity (2.1.1) is a Successor of activity (2.1) and in a Finish-to-start (FS) relationship	72
2.1.1.1 Temporary bracing	Activity (2.1.1.1) is a Successor of activity (2.1.1) and in a Finish-to-start (FS) relationship	20
2.1.1.2 Columns erecti	Activity (2.1.1.2) is a Successor of activity (2.1.1.1) and in a start-to-start (SS) relationship	14
2.1.1.3 Rafter beam eri	Activity (2.1.1.3) is a Successor of activity (2.1.1.2) and in a start-to-start (SS) relationship	13
2.1.1.4 Girts and purlin	Activity (2.1.1.4) is a Successor of activity (2.1.1.3) and in a start-to-start (SS) relationship	10
2.1.1.5 Brace and flang	Activity (2.1.1.5) is a Successor of activity (2.1.1.4) and in a start-to-start (SS) relationship	15
2.1.2 Sheeting installation	Activity (2.1.2) is a Successor of activity (2.1.1.5) and in a start-to-start (SS) relationship	10
2.2.Grade on slab	Activity (2.2) is a Successor of activity (2.1) and in a finish-to-finish (FF) relationship (There could also be a finish-to-start (FS) dependency between (2.2) and (2.1) but the FF relationship is prioritized as its impact is higher)	57
2.2.1 Isolation joint installation	Activity (2.2.1) is a Predecessor of activity (2.2.2) and in a finish-to-start (FS) relationship	15
2.2.2 Expansion joint installation	Activity (2.2.2) is a Successor of activity (2.2.1) and in a start-to-start (SS) relationship	12
2.2.3 Reinforcement and shutterin	Activity (2.2.3) is a Successor of activity (2.2.2) and in a Finish-to-start (SS) relationship	13
2.2.4 Concreting	Activity (2.2.4) is a Predecessor of activity (2.2.5) and in a start-to-start (SS) relationship	9
2.2.5 Construction joint cutting	Activity (2.2.5) is a Successor of activity (2.2.4) and in a start-to-start (SS) relationship	8
2.3.Finishing	Activity (2.3) is a Successor of activity (2) in a finish-to-start (FS) relationship	87
2.3.1. Walls	Activity (2.3.1) is a Successor of activity (2.2.5) and in a start-to-start (SS) relationship	32
2.3.1.1 Blockwork	Activity (2.3.1.1) is a Predecessor of activity (2.3.1.2) and in a start-to-start (SS) relationship	12
2.3.1.2 Plastering	Activity (2.3.1.2) is a Successor of activity (2.3.1.2) and in a start-to-start (SS) relationship	10
2.3.1.3 Paint	Activity (2.3.1.3) is a Successor of activity (2.2.1.3) and in a finish-to-start (SS) relationship	10
2.3.2. Flooring	Activity (2.3.2) is a Successor of activity (2.3) and in a finish-to-start (FS) relationship	13
2.3.2.1 Epoxy flooring	Activity (2.3.2.1) is a Successor of activity (2.3) and in a finish-to-start (FS) relationship	13
2.3.3. Ceiling	Activity (2.3.3) is a Successor of activity (2.3.2.1) and in a finish-to-start (FS) relationship	18
2.3.3.1 Ceiling finishes	Activity (2.3.3.1) is a Successor of activity (2.3.2.1) and in a finish-to-start (FS) relationship	18
2.3.4. External works	Activity (2.3.4) is a Successor of activity (2&1) and in a finish-to-Finish (FF) relationship	24
2.3.4.1 Curbstone insta	Activity (2.3.4.1) is a Successor of activity (2.3.4.2) and in a start-to-Finish (SF) relationship	12
2.3.4.2 Asphaltting	Activity (2.3.4.2) is a Successor of activity (2.3.4.1) and in a Finish-to-Finish (SF) relationship	12
MECHANICAL WORK		
1. Cooling water work.	Activity (1) in Mechanical is a successor of activity (2) in Civil and in a start-to-finish (SF) relationship	318
1.1. Water pipes.	Activity (1.1) is a successor of activity (2.3.3) in Civil and in a Finish-to-start (FS) relationship	55
1.1.1 Isolated.	Activity (1.1.1) is a Predecessor of activity (1.1.2) in a start-to-start (SS) relationship	20
1.1.2 Strainer filter placed.	Activity (1.1.2) is a Successor of activity (1.1.1) in a start-to-start (SS) relationship	20
1.1.3 4 bar to with capacity to su	Activity (1.1.3) is a Successor of activity (1.1.2) in a start-to-start (SS) relationship	15
1.2. Chilled water tank connections.	Activity (1.2) is a Predecessor of activity (1.3) in a start-to-start (SS) relationship	35
1.3. Water Header for supply water.	Activity (1.3) is a Successor of activity (1.2) in a start-to-start (SS) relationship	35
1.4. Water header for return water.	Activity (1.4) is a Successor of activity (1.3) in a start-to-start (SS) relationship	35
1.5. Chilled Water circulation pumping.	Activity (1.5) is a Successor of activity (1.4) in a Finish-to-start (FS) relationship	68
1.5.1 AHU1 capacity 20 m3/hr.	Activity (1.5.1) is a Successor of activity (1.4) in a finish-to-start (FS) relationship	17
1.5.2 AHU2 capacity 15 m3/hr.	Activity (1.5.2) is a Successor of activity (1.5.1) in a start-to-start (SS) relationship	17
1.5.3 AHU3 capacity 10 m3/hr.	Activity (1.5.3) is a Successor of activity (1.5.2) in a start-to-start (SS) relationship	17
1.5.4 Station Comprising (3X15 n	Activity (1.5.4) is a Successor of activity (1.5.3) in a start-to-start (SS) relationship	17
1.6. Chilled water re-circulation pumps for	Activity (1.6) is a Successor of activity (1.5) in a finish-to-start (FS) relationship	25
1.7. Water filtering system.	Activity (1.7) is a Successor of activity (1.6) in a start-to-start (SS) relationship	25
1.8. Chemical Dosing pumps.	Activity (1.8) is a Successor of activity (1.7) in a start-to-start (SS) relationship	20
1.9. Supply and install AHU 15,000 m3/hr air	Activity (1.9) is a Successor of activity (1.8) in a start-to-start (SS) relationship	20
2. Heating water works.	Activity (2) is a Successor of activity (1.7) in a finish-to-start (FS) relationship	20
2.1 Black steel pipes installation	Activity (2.1) is a Successor of activity (1.7) in a finish-to-start (FS) relationship	20
3. Cold Water supply.	Activity (3) is a Successor of activity (2) in a start-to-start (SS) relationship	20
3.1 UPVC pipes installation.	Activity (3.1) is a Successor of activity (2) in a start-to-start (SS) relationship	20
4. Incubators.	Activity (4) is a Predecessor of activity (5) in a finish-to-start (FS) relationship	64
4.1. Biostreamer OX.	Activity (4.1) is a Predecessor of activity (5) in a finish-to-start (FS) relationship	64
4.1.1 Setters.	Activity (4.1.1) is a Predecessor of activity (4.1.2) in a start-to-start (SS) relationship	20
4.1.2 Hatchers.	Activity (4.1.2) is a Successor of activity (4.1.1) in a start-to-start (SS) relationship	20
4.1.3 Badges.	Activity (4.1.3) is a Successor of activity (4.1.2) in a start-to-start (SS) relationship	17
4.1.4 Manual.	Activity (4.1.4) is a Successor of activity (4.1.3) in a start-to-start (SS) relationship	7

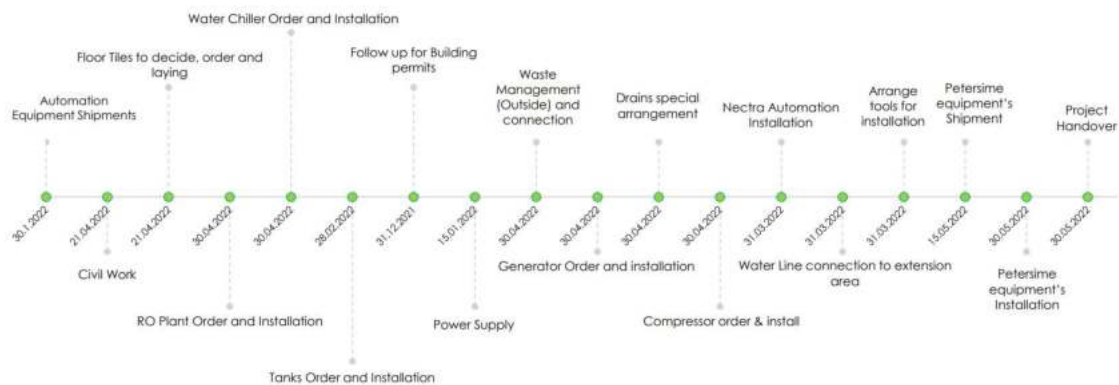
5. Hatchery Equipment.	Activity (5) is a Successor of activity (4) in a finish-to-start (FS) relationship	20
5.1 Spare parts.	Activity (5.1) is a Successor of activity (4) in a finish-to-start (FS) relationship	20
6. Hatchery Management.	Activity (6) is a Successor of activity (4) in a finish-to-finish (FF) relationship it could be in a relation of finish-to-start but the majority for FF	55
6.1 Alarm Panel.	Activity (6.1) is a Successor of activity (5) in a start-to-start (SS) relationship	15
6.2. Management software.	Activity (6.2) is a Successor of activity (6.1) in a start-to-start (SS) relationship	40
6.2.1 Eagle Eye.	Activity (6.2.1) is a Successor of activity (6.2) in a finish-to-start (FS) relationship	20
6.2.2 Eagle Eye sensors.	Activity (6.2.2) is a Successor of activity (6.2.1) in a finish-to-start (FS) relationship	20
7. Project specific equipment.	Activity (7) is a Successor of activity (6) in a finish-to-start (FS) relationship	163
7.1. Hatchery climate control	Activity (7.1) is a Successor of activity (6) in a finish-to-start (FS) relationship	163
7.1.1 Remarks.	Activity (7.1.1) is a Predecessor of activity (7.1.3) in a finish-to-start (FS) relationship	17
7.1.2 Air Handling equipment	Activity (7.1.2) is a Successor of activity (7.1.1) in a finish-to-start (FS) relationship	14
7.1.3 Air Handling equipment	Activity (7.1.3) is a Successor of activity (7.1.2) in a start-to-start (SS) relationship	14
7.1.4 Air handling equipment	Activity (7.1.4) is a Successor of activity (7.1.3) in a start-to-start (SS) relationship	14
7.1.5 Air handling equipment	Activity (7.1.5) is a Successor of activity (7.1.4) in a start-to-start (SS) relationship	14
7.1.6 Air handling equipment	Activity (7.1.6) is a Successor of activity (7.1.5) in a start-to-start (SS) relationship	14
7.1.7 Air handling equipment	Activity (7.1.7) is a Successor of activity (7.1.6) in a start-to-start (SS) relationship	14
7.1.8 Air handling equipment	Activity (7.1.8) is a Successor of activity (7.1.7) in a start-to-start (SS) relationship	14
7.1.9 Air handling equipment	Activity (7.1.9) is a Successor of activity (7.1.8) in a start-to-start (SS) relationship	14
7.1.10 Air handling equipment	Activity (7.1.10) is a Successor of activity (7.1.9) in a start-to-start (SS) relationship	14
7.1.11 Electric switch board.	Activity (7.1.11) is a Successor of activity (7.1.10) in a finish-to-finish (FF) relationship	20
ELECTRICAL WORK		
1.ELECTRICAL WORKS	Activity (1) is a successor of activity (2) in Mechanical and in a start-to-start (SS) relationship	375
1.1 Installation	Activity (1.1) is a Predecessor of activity (1.2) and in a start-to-start (SS) relationship	46
1.1.1 MV installation	Activity (1.1.1) is a Successor of activity (7.1.11) and in a finish-to-start (FS) relationship	18
1.1.1.1 OHL Modification	Activity (1.1.1.1) is a Predecessor of activity (1.1.1.2) and in a start-to-start (SS) relationship	18
1.1.1.2 MV cables laying &	Activity (1.1.1.1) is a Successor of activity (1.1.1.2) and in a start-to-start (SS) relationship	10
1.1.2 Generator Installation	Activity (1.1.2) is a Successor of activity (1.1.1.2) and in a start-to-start (SS) relationship	35
1.1.3 Transformer Installation	Activity (1.1.3) is a Successor of activity (1.1.2) and in a finish-to-start (FS) relationship	20
1.1.4 ATS Installation	Activity (1.1.4) is a Successor of activity (1.1.3) and in a finish-to-finish (FF) relationship	20
1.1.5 Main Distribution Panel (MDPB) I	Activity (1.1.5) is a Successor of activity (1.1.4) and in a start-to-start (SS) relationship	20
1.1.6 Electrical Switch Board (ESB0) Inst	Activity (1.1.6) is a Successor of activity (1.1.5) and in a start-to-start (SS) relationship	20
1.1.7 Electrical Switch Board (ESB3) Inst	Activity (1.1.7) is a Successor of activity (1.1.6) and in a start-to-start (SS) relationship	20
1.1.8 Lighting works	Activity (1.1.8) is a Successor of activity (1.1.7) and in a finish-to-start (FS) relationship	20
1.1.9 Grounding	Activity (1.1.9) is a Successor of activity (1.1.8) and in a finish-to-start (FS) relationship	30
1.1.9.1 Earthing System	Activity (1.1.9.1) is a Successor of activity (1.1.8) and in a finish-to-start (FS) relationship	15
1.1.9.2 Grounding cables	Activity (1.1.9.2) is a Successor of activity (1.1.9.1) and in a finish-to-start (FS) relationship	15
1.1.10 LV Installation	Activity (1.1.10) is a Successor of activity (1.1.9.2) and in a finish-to-start (FS) relationship	81
1.1.10.1 DPB1 Installation	Activity (1.1.10.1) is a Successor of activity (1.1.9.2) and in a finish-to-start (FS) relationship	15
1.1.10.2 DPB2 Installation	Activity (1.1.10.2) is a Successor of activity (1.1.10.1) and in a start-to-start (SS) relationship	15
1.1.10.3 LV cables laying and te	Activity (1.1.10.3) is a Successor of activity (1.1.10.2) and in a start-to-start (SS) relationship	15
Power connection to equipment	Activity (1.1.10.4) is a Successor of activity (1.1.10.3) and in a finish-to-start (FS) relationship	36
1.1.10.4.1 Cables to ESB	Activity (1.1.10.4.1) is a Successor of activity (1.1.10.3) and in a finish-to-start (FS) relationship	9
1.1.10.4.2 Cables to ESB	Activity (1.1.10.4.2) is a Successor of activity (1.1.10.4.1) and in a start-to-start (SS) relationship	9
1.1.10.4.3 Cables to chl	Activity (1.1.10.4.3) is a Successor of activity (1.1.10.4.2) and in a start-to-start (SS) relationship	9
1.1.10.4.4 Cables to Pat	Activity (1.1.10.4.4) is a Successor of activity (1.1.10.4.3) and in a start-to-start (SS) relationship	9
1.2 Testing and Commissioning	Activity (1.2) is a Successor of activity (1.1) in a finish-to-start (FS) relationship	45
1.2.1 Chiller testing and commissioni	Activity (1.2.1) is a Successor of activity (1.2) in a strat-to-start (SS) relationship	5
1.2.2 Setters testing and commission	Activity (1.2.2) is a Successor of activity (1.2.1) in a strat-to-start (SS) relationship	5
1.2.3 Hatchers testing commissioning	Activity (1.2.3) is a Successor of activity (1.2.2) in a strat-to-start (SS) relationship	5
1.2.4 Handover all works	Activity (1.2.4) is a Successor of activity (1.2.3) in a finish-to-start (FS) relationship	30
1.3-NETWORKING WORKS	Activity (1.3) is a Successor of activity (1.2) in a finish-to-start (FS) relationship	18
1.3.1 Supply and Install	Activity (1.3.1) is a Predecessor of activity (1.3.2) in a strat-to-start (SS) relationship	9
1.3.2 supply and install FTP CATSe	Activity (1.3.2) is a Successor of activity (1.3.1) in a strat-to-start (SS) relationship	9

51. To develop the logical diagram of the project activities, and identify the critical path.

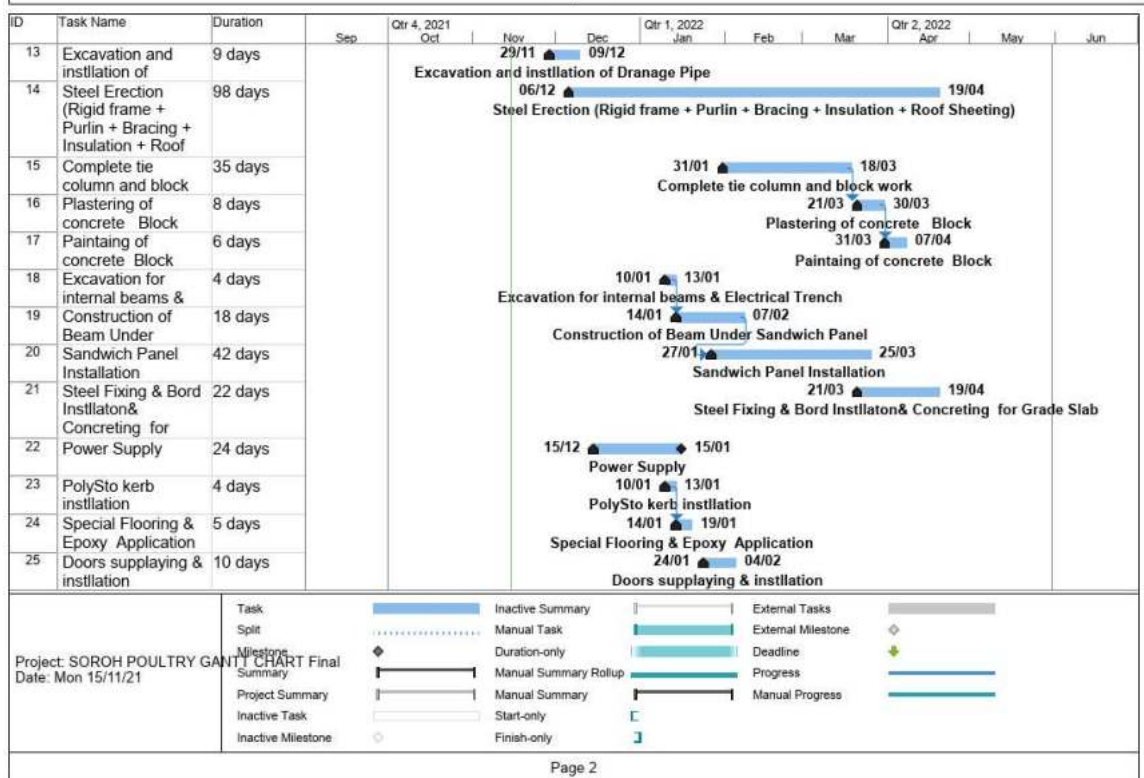
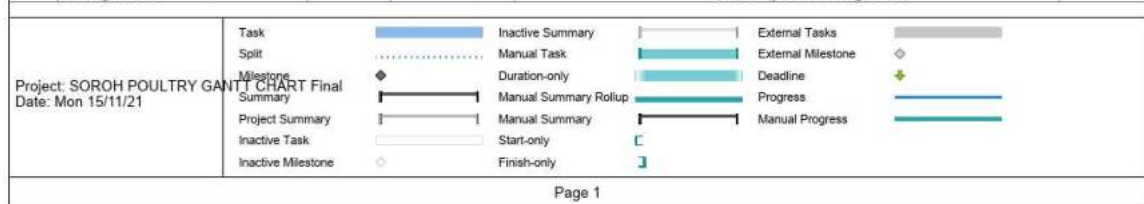
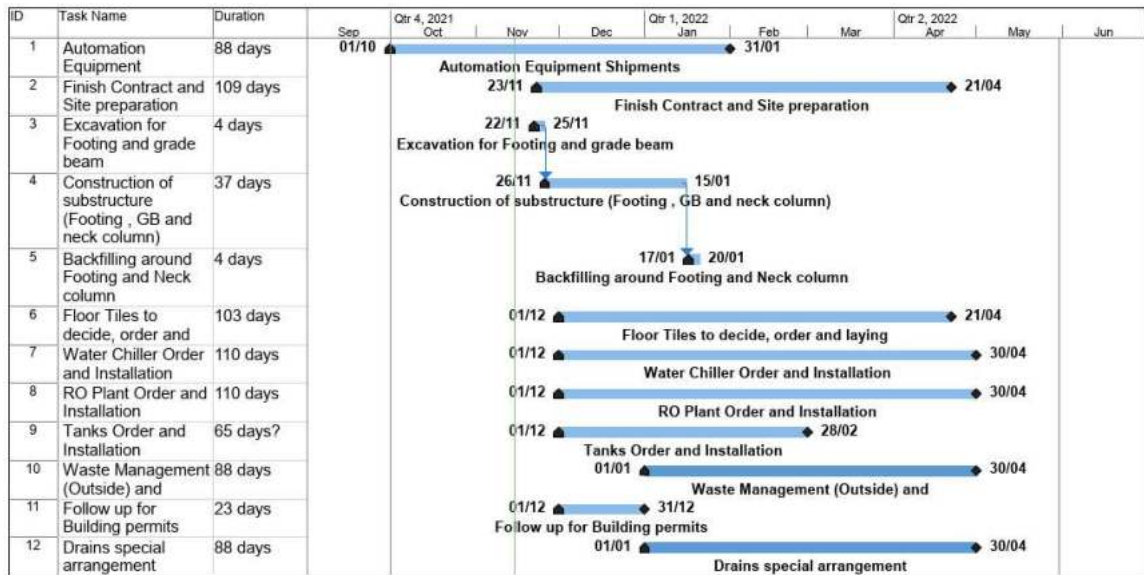


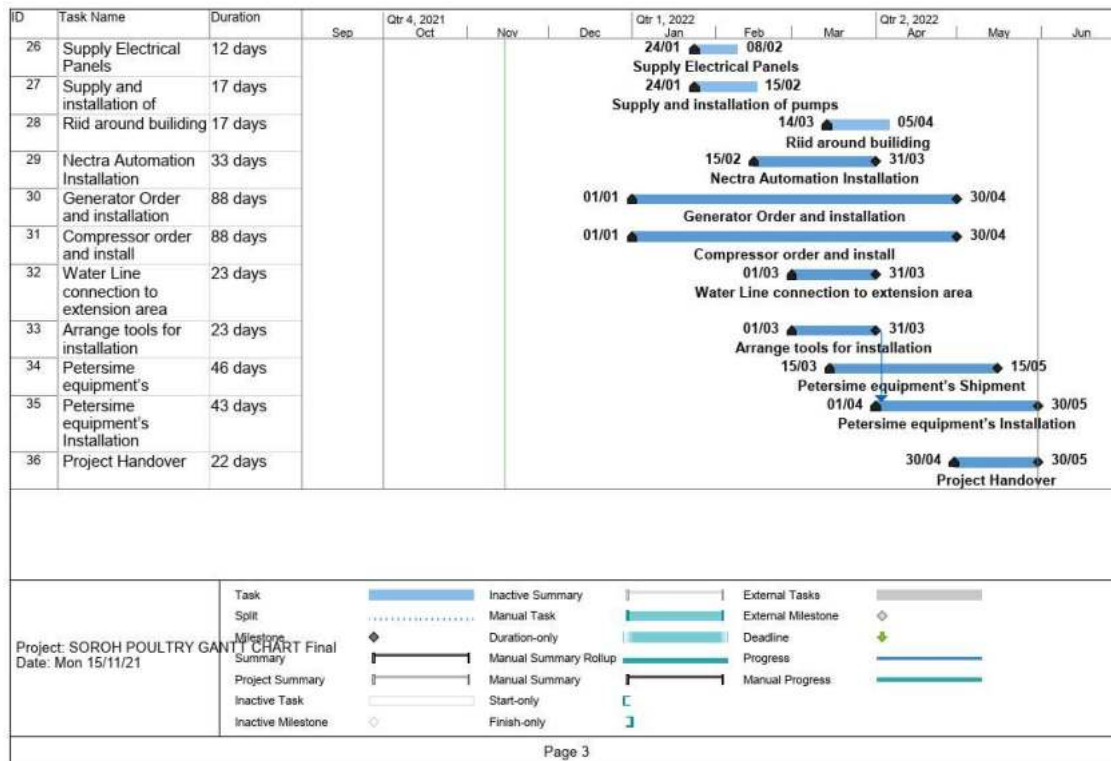
shape (21) – Network Diagram

52. To prepare Gantt chart and Milestones model:



shape (22) – Milestones





shape (23) – Gantt chart

53. To clarify Deming model for quality:

The PDSA Cycle (Plan-Do-Study-Act) is a methodical approach to acquiring valuable learning and knowledge for the continuous improvement of a product, process, or service. Also known as the Deming Cycle or the Deming Wheel, this approach will be follow in this particular project.



shape (24) – PDSA Cycle

The Plan step kicks off the cycle. Identifying a goal or purpose, developing a theory, defining success metrics, and putting a plan into action are all part of this process. These activities are followed by the Do step, in which the plan's components, such as product creation, are put into action. The following step is the Study, in which outcomes are monitored to test the validity of

the plan for signs of progress and success, as well as problems and areas for improvement. The Act step completes the cycle by integrating the learning generated by the entire process, which can then be used to adjust the goal, change methods, completely reformulate a theory, or broaden the learning – improvement cycle from a small-scale experiment to a larger implementation Plan. These four steps can be repeated indefinitely as part of an ongoing cycle of learning and improvement.

54. To develop SIPOC model, and Ishikawa for one of the issues of the project outputs:

- **SIPOC MODEL:**

	SUPPLIER	INPUT	PROCESS	OUTPUT	CUSTOMER
INDUSTRIAL PRODUCT	Petersime equipment's which can hatched approximately 83.000 eggs/day	Machines and technical support	Experienced operation staff using same technologies before and same machines just expanded the facility to hatch more eggs	healthy and good quality hatched eggs can be delivered to broiler farms	Broiler farm to grow up the hatched eggs to be complete chicken after 28 days in broiler farm

Table (18) – SIPOC

- **ISHIKAWA MODEL:**

This template illustrates a Cause-and-Effect Diagram, also called a Fishbone or **Ishikawa Diagram**.



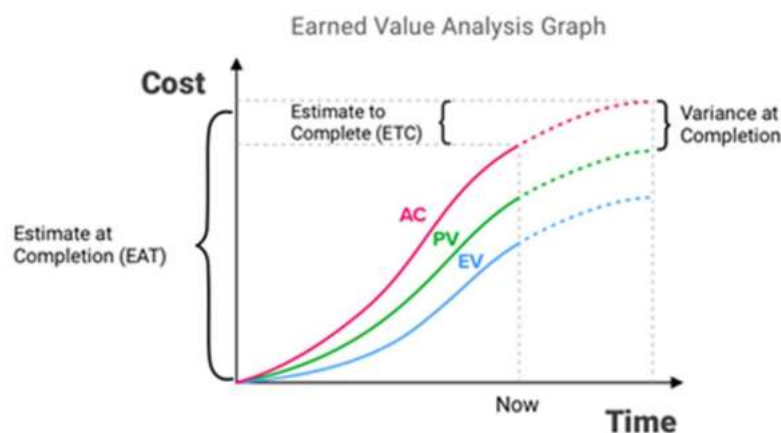
shape (25) – Ishikawa Diagram

55.To establish Cost Breakdown Structure, and the project balance in accordance with WBS.

DESCRIPTION	BUDGET	Actual Spend
Petersime Equipment	8,613,072	
Nectra Automation	4,904,608	
Crover Construction	3,956,380	
Additional amount for specail flooring	500,000	
consultant Fee	270,000	
Electrical	100,000	
Transformer	150,000	
Air Compressor	100,000	
Generator	400,000	
Water Chiller stand by for whole hatch	1,000,000	
labor for installation-petersime	177,000	
ss drains-blucher or equivalent	150,000	
Small Tools & fitting required	150,000	
Porta Cabines	100,000	
Food & Accommodation	135,000	
Water Line Connection	50,000	
Project Manager Salary	225,000	
Technician salary	48,000	
RO Upgrade	200,000	
Furniture & fixture	20,000	
Miscellaneous	175,000	
Crane & Handling	50,000	
Electrical Connections-Nectra	20,000	
Food & Accommodation-Nectra	202,500	
labor for installation	48,000	
Technician salary	48,000	
Finance Cost		
Grand Total	21,792,560	-
Kerb for flooring	141,219.00	
Fire Fight & Alarm	99,080.00	

Table (19) – Cost Breakdown (project Balance)

56.To calculate Earned Value Management of the project after ending of 20% of its period and completion of 50% of the outputs case-by-case basis.



shape (26) – Earned Value Analysis Graph

$$\text{Earned value 20\%} = 0.20 * 21,792,560 = 4358512$$

$$\text{Earned value 50\%} = 0.5 * 21792560 = 10896280$$

Name	Formula	What it says	Why you use it
BAC—Budget at Completion	No formula – it's the project budget	How much money you'll spend on the project	To tell the sponsor the total amount of value that he's getting for the project
PV—Planned Value	$PV = BAC \times \frac{\text{Planned \% Complete}}{100}$	What your schedule says you should have spent	To figure out what value your plan says you should have delivered so far
EV—Earned Value	$EV = BAC \times \frac{\text{Actual \% Complete}}{100}$	How much of the project's value you've really earned	EV lets you translate how much work the team's finished into a dollar value
AC—Actual Cost	What you've actually spent on the project	How much you've actually spent so far	The amount of money you spend doesn't always match the value you get!
SPI—Schedule Performance Index	$SPI = \frac{EV}{PV}$	Whether you're behind or ahead of schedule	To figure out whether you've delivered the value your schedule said you would
SV—Schedule Variance	$SV = EV - PV$	How much ahead or behind schedule you are	This puts a dollar value on exactly how far ahead or behind schedule you are
CPI—Cost Performance Index	$CPI = \frac{EV}{AC}$	Whether you're within your budget or not	Your sponsor is always most interested in the bottom line!
TCPI—To-Complete Performance Index	$TCPI = \frac{BAC - EV}{BAC - AC}$	How well your project must perform to stay on budget.	This will let you forecast whether or not you can stick to your budget.
CV—Cost Variance	$CV = EV - AC$	How much above or below your budget you are	Your sponsor needs to know how much it costs to get him the value you deliver

Table (20) – Earned value

the EV (Earned Value) is calculated by multiplying the Actual % Complete with the planned cost. If we take task 3 as an example, we multiply 50% by 3,600 which gives us 1,800 in Earned Value for this task. ... The Cost Variance (CV) is simply $EV - AC$, which is $6,100 - 7,300 = -1,200$.

57. To explain the concept of Resource Leveling and Smoothing.

These resource optimizing techniques are available as scheduling tools to Project Manager to effectively create a viable schedule during Develop Schedule Planning Process of Project Schedule Management.

The official version from PMBOK Ver 6.

- **“Resource Leveling:** A technique in which start and finish dates are adjusted based on resource constraints with the goal of balancing demand for resources with the available supply
Resource Smoothing: A technique that adjusts the activities of a schedule model such that the requirements for resources on the project do not exceed certain predefined resource limits"
- **Resource Leveling**
 - Resource levelling in project management is defined as a technique used in which the start and end dates are regulated depending on resource limitations. It aims to

balance the demand for sources within the available supply. While using specifically designed project software, levelling often means undertaking conflicts over allocations in the project plan by letting the software to measure delays and update tasks automatically.

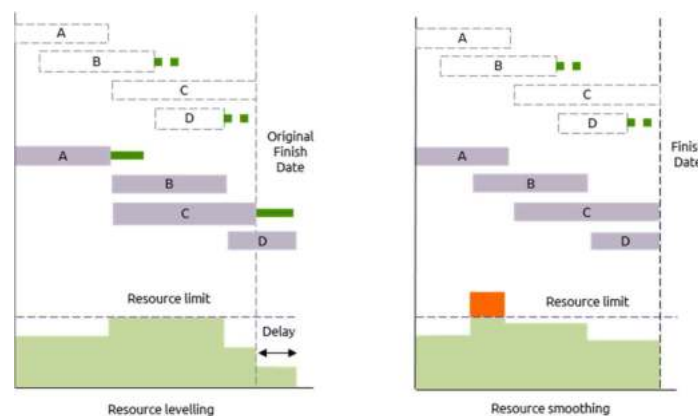
- In Resource Leveling, a critical path is a commonly used technique by project managers. It represents both the longest and shortest time interval paths in the network diagram to complete the project.
- While using this technique focus is on Resource scarcity.

- **Resource Smoothing**

- Resource smoothing is among the important project management tools used in resource optimization techniques. The procedure adjusts the practices of a schedule model to ensure all requirements for the resources doesn't go beyond the resource limitations as pre-defined during the planning phase.
- Resource smoothing is used to settle certain resources and time but with a diverse approach than resource levelling. It aims to finish the project or activity in a given time period while preventing any unnecessary resource demands. Time is an important constraint here and therefore no activity can be delayed more than their float.

- "Resource Smoothing deals with time-constrained resource scheduling i.e Optimize the resources, largely non-critical resources with the mandatory, hard or external constraint on time which cannot be breached

Resource Levelling deals with resource-constrained scheduling i.e Limited resource availability with little or no time constraint"

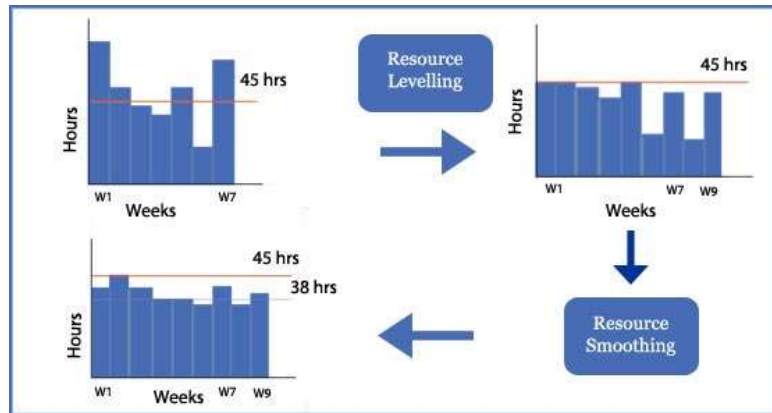


shape (27) – Resource (levelling/Smoothing)

- **Comparison:**

1. Resource Levelling may impact your critical path i.e Project could delay whereas Resource Smoothing doesn't.
2. Resource Smoothing is performed after resource levelling to eliminate the peaks and troughs from the schedule using their total and free floats.

3. Resource levelling balance the resource demands by levelling the under and overallocated critical resources.
4. Resource smoothing makes sure that resources are evenly allocated
5. Resource levelling answers the question of when you will be able to complete the project with the given resources.



shape (28) – Resource levelling & Resource Smoothing

58. To be trained on distributing the project resources of equipment and tools.

- **What is a Project Resource?**

The term "project resources" refers to anything that is required for the project to be completed. Without them, it is impossible to complete a project successfully. The identification of resource requirements and how they will be allocated is a critical component of a project's planning phase.

- **The Types of Resources that includes in the project :**

- **Human:** these resources are the various team members who will be participating in the project and are usually assigned based on their skills and specialties.
- **Financial:** The cash or financing resources that can be used to complete the project.
- **The physical equipment,** that will be used is referred to as the equipment. Laptops, cell phones, and projectors are some examples.
- **Government:** For projects deemed to be of public interest, the government may provide assistance in the form of expertise, grants, or advantageous regulatory decisions .
- **Technology:** This refers to the software, applications, or data processing tools that are available for use in the project.
- **Administrative:** This is the organizational support that the project will receive from the organization's structures, such as hiring assistance from the HR department or contract finalization from legal.

- **Property:** The structure or offices that will house the project's location.
- **External contractors:** Contractors become a resource that goes beyond purely physical assistance, such as providing expertise, preferential rates, and industry contacts.

Sr. #	PM Stages	Equipment\Tools	PMO	PED	User Dept.	Other Depts.
1	Initiation	Conversion of Business Plan into Projects	A & R			
		Development of 5 Year Projects Plan	A & R	Consultation	Consultation	
		Project Feasibility Plan	A & R			
		Project Budgeting	A & R	Consultation		
		Project Charter	A & R	Consultation	Consultation	
2	Planning	Development of Detailed Budget	A & R	Consultation	Consultation	
		Site approvals / Legal Documentation	Consultation	Information		A&R Support Svc.
		Selection of Contractors/Suppliers	Consultation	A & R	Information	Proc. Dept
		Selection of Equipment & Machinery	Consultation	A & R	Consultation	Proc. Dept
		Preparation of Contracts /Agreements	A & R	Consultation		A&R Legal Dept.
		Procurement Planning	Consultation	A & R		Proc. Dept
		Project Scheduling	Consultation	A & R	Information	
3	Execution	Creation of PRs			A & R	
		Creation of POs, Procurement of Equip. & Mach.	Information	Information		A&R Proc. Dept.
		PM of Civil, Mechanical & Electrical Work	Information	A & R		
4	Monitoring & Control	Project Monitoring w.r.t Cost & Schedule	Responsible	Accountable		
5	Closure	Handing over of completed Project to Operations	Information	Accountable	Responsible	

59. To develop the procurement execution process, and contractor selection.

1. Develop the procurement execution process:

Procurement can be divided into several categories. It can be classified as direct or indirect procurement, depending on how the items being procured will be used by the company. Depending on the items being procured, it can also be classified as goods or services procurement.

- **Direct procurement**
- **Indirect procurement**
- **Goods procurement**
- **Services procurement**

	Direct Procurement	Indirect Procurement	Goods Procurement	Services Procurement
What is it?	Any good or service required to produce an end product	All non-production-related goods or services	Physical items typically held as inventory, whether for direct or indirect procurement purposes	All people-based services procured, whether for direct or indirect procurement purposes

Examples	Raw materials, components and parts, machinery, items purchased for resale	Office supplies, marketing services, utilities	Raw materials, wholesale items, office supplies	Law firms, contractors, contingent labor, on-site security services
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Table (21) – equipment and tools

In most cases, the procurement process consists of several steps. The company identifies the goods and/or services that it requires, seeks out suppliers who can assist the company in meeting its business objectives, negotiates terms and costs, and then purchases and receives the relevant items.

To determine the company's overall requirements for some items, the team may need to solicit input from several different business groups

It's critical to remember that procurement is a continuous process, not a series of isolated acts. Businesses generally seek to establish relationships with key suppliers in order to obtain the best service at the lowest possible cost, which translates into higher profit margins. We may also need to conduct regular quality assurance checks and performance analysis to ensure that suppliers meet expectations on a consistent basis.

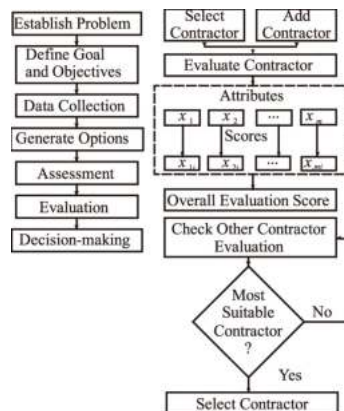


shape (29) – 9 Steps in the Procurement Process

2. Develop the contractor selection:

If a contract is advertised, a pre-qualification process may be used to reduce a large list of contractors who have submitted expressions of interest to a manageable number that can be invited to tender. Usually three or four. More than this would waste the contractors' time and reduce the likelihood of receiving reasonable tenders because the chances of a contractor being chosen would be too low. If there are fewer than this, there may not be enough competition or information to compare offers rationally.

- **Tender process:**



shape (30) – Tender Process

The lowest price should not be used to make a decision. In general, identifying the best value tender based on pre-defined selection criteria that relate to the aspects of the contractor performance that we value the most is more effective. Consideration may be given to previous performance, relevant experience, technical ability, sustainability, health and safety record, innovation, resource availability, management skills and systems, proposed methodology, and so on.

Then we can begin negotiations with the preferred contractor. Some contract elements that may necessitate negotiation include:

- The contract sum.
- The start and finish dates.
- Flexibility to modify the program.
- The ability to claim extensions of time or damages.
- The time frame for payments.
- Insurance requirements, warranties and bonds.
- The scope of work and duties.
- Valuation of payments and variations.
- Testing and inspections.
- The use of subcontractors or sub-consultants.
- Novation of consultants or consultant switch.

A reserve tenderer may be retained in the event that negotiations with the preferred tenderer are unsuccessful .

VENDOR SCORECARD (CIVIL)

CRITERIA CHECKLIST

1. Company Information	Crover	AlThamaniah	Yousef Maron	Amana
Experience with Similar Companies	5	4	3	3
Service Department	4	3	3	3
References	5	4	3	2
Partnerships	4	3	2	2
Average Score	5	4	3	3
2. Project Understanding	Crover	AlThamaniah	Yousef Maron	Amana
Overall Comprehension of Project Objectives	5	4	3	3
Understanding of the Business Requirements	4	4	2	2
Understanding of the Business Vision	4	3	2	1
Average Score	4	4	2	2
3. Requirements	Crover	AlThamaniah	Yousef Maron	Amana
Completeness of Vendor Response	5	4	3	3
Vendor Ability to Meet Requirements	5	3	3	2
Average Score	5	4	3	3
4. Product Viability & History	Crover	AlThamaniah	Yousef Maron	Amana
Technology Is Sustainable	5	4	3	3
Product Roadmap	4	4	4	3
Product Development Life-Cycle	4	3	2	2
Criteria Checklist				
New Release Process	4	3	2	2
Average Score	4	4	3	3
5. Terms & Conditions	Crover	AlThamaniah	Yousef Maron	Amana
Terms & Conditions	5	4	3	3
Purchase Agreement Details	5	3	3	2
Average Score	5	4	3	3
6. Vendor Software Demonstration	Crover	AlThamaniah	Yousef Maron	Amana
Solution Is Integrated	5	4	4	4
Aligns with Company Objectives	5	3	5	4
Third-Party Products Shown	5	4	3	3
Ease of Use	4	4	3	2

System Performance	5	4	3	3
Flow & Simplicity	4	4	3	3
System Ability To Handle Requirement	5	3	4	2
Flexibility, Tailorability, Extensibility	5	3	3	4
Ability to Answer Questions	5	3	3	3
Application Robustness	5	4	3	3
Average Score	5	4	3	3
7. Fee Summary	Crover	Althamaniah	Yousef Maron	Amana
Machines Fees	5	4	3	3
Maintenance Fees	5	4	4	3
Purchase Timeline	4	4	4	4
Licensing Period (if available)	0	0	0	0
Other Fees	4	3	2	2
Average Score	4	3	3	2

CRITERIA SCORES	WEIGHT	Crover	Althamaniah	Yousef Maron	Amana
1. Company Information	0.05	0.23	0.18	0.14	0.13
2. Project Understanding	0.20	0.87	0.73	0.47	0.40
3. Requirements	0.30	1.50	1.05	0.90	0.75
4. Product Viability & History	0.05	0.21	0.18	0.14	0.13
5. Terms & Conditions	0.05	0.25	0.18	0.15	0.13
6. Vendor Demonstration	0.30	1.43	1.08	1.02	0.93
7. Fee Summary	0.05	0.18	0.15	0.13	0.12
Total Score	1.00	4.65	3.54	2.94	2.58

Recommendations Summary :

Our conclusion on based of our benchmark study between the 4 companies i.e. Crover , Althamaniah, Maron and Amana

Our recommendation based on the above conclusion, benchmark scoring criteria in addition to the BQC (billing of quantity)processes implementations .

Also, Crover has agreed towards our terms for providing hyper care on go-live .

Finally, Crover ranked with the highest percentage to proceed with this project.

VENDOR SCORECARD (Electrical & Mechanical)

CRITERIA CHECKLIST

1. Company Information		AlEtgan	Electro Mechanical	Khamis Al Shariaa
Experience with Similar Companies		4	5	3
Service Department		3	5	3
References		4	4	2
Partnerships		3	4	2
Average Score		4	5	3
2. Project Understanding		AlEtgan	Electro Mechanical	Khamis Al Shariaa
Overall Comprehension of Project Objectives		3	5	3
Understanding of the Business Requirements		3	4	2
Understanding of the Business Vision		3	4	2
Average Score		3	4	2
3. Requirements		AlEtgan	Electro Mechanical	Khamis Al Shariaa
Completeness of Vendor Response		4	4	3
Vendor Ability to Meet Requirements		3	5	3
Average Score		4	5	3
4. Product Viability & History		AlEtgan	Electro Mechanical	Khamis Al Shariaa
Technology Is Sustainable		3	5	3
Product Roadmap		4	5	4
Product Development Life-Cycle		4	3	1
Criteria Checklist				
New Release Process		4	4	1
Average Score		4	4	2
5. Terms & Conditions		AlEtgan	Electro Mechanical	Khamis Al Shariaa
Terms & Conditions		3	4	3
Purchase Agreement Details		2	5	2
Average Score		3	5	3
6. Vendor Software Demonstration		AlEtgan	Electro Mechanical	Khamis Al Shariaa
Solution Is Integrated		5	5	4
Aligns with Company Objectives		3	3	3
Third-Party Products Shown		5	4	3
Ease of Use		4	4	2

System Performance		3	5	3
Flow & Simplicity		2	5	3
System Ability To Handle Requirements		3	4	4
Flexibility, Tailorability, Extensibility		3	4	2
Ability to Answer Questions		3	4	3
Application Robustness		3	4	3
Average Score		3	4	3
7. Fee Summary		AlEtgan	Electro Mechanical	Khamis Al Shariqa
Machines Fees		5	5	3
Maintenance Fees		5	4	4
Purchase Timeline		4	4	4
Licensing Period (if available)		0	0	0
Other Fees		4	4	2
Average Score		4	3	3

CRITERIA SCORES		WEIGHT	AlEtgan	Electro Mechanical	Khamis Al Shariqa
1. Company Information		0.05	0.18	0.23	0.13
2. Project Understanding		0.20	0.60	0.87	0.47
3. Requirements		0.30	1.05	1.35	0.90
4. Product Viability & History		0.05	0.19	0.21	0.11
5. Terms & Conditions		0.05	0.13	0.23	0.13
6. Vendor Demonstration		0.30	1.01	1.26	0.90
7. Fee Summary		0.05	0.18	0.17	0.13
Total Score		1.00	3.32	4.31	2.76

Recommendations Summary :

Our conclusion on based of our benchmark study between the 3 companies i.e. AlEtgan , Electromechanical and KhamisAlshariqa.

Finally, Elctronmechanical ranked with the highest percentage to proceed with this project.

61. To prepare agenda- Invitation and virtual record of a virtual meeting.

SOROH Poultry Company



Meeting Invitation and Agenda

Meeting No.	1 – Kick-off Meeting	Date:	01/10/2021
Venue	Topic: Kick-off Meeting Room Join Zoom Meeting https://us05web.zoom.us/j/3368472403?pwd=SG9kK052OG80SFpDTFZxY3NFczVCUT09 Meeting ID: 336 847 2403 Passcode: d26D57	Time:	10:45 am
Agenda	Introducing project stakeholders (PED– PMO–Contractor) Reviewing design Site visit and condition Steel structure supplier (Kirby)		

Meeting Attendance

Name	Position	Company	Signature
Ahmad Alasmari	Senior PM – PED	SOROH	
Rabie Radwan	Civil PM - PED	SOROH	
Muhammad Banafa	PMO	SOROH	
Mohammed Abu Zinah	PM	Crover	

Meeting Record

Item No.	Discussion	Action by	Target date for action	Status
1	Contractor to provide preliminary design, load reactions and accuracy rate from pre-engineered steel supplier	Crover PM – Moahmmmed Abu Zinah	07/10/2021	Open
2	Contractor to confirm that pre-engineered steel supplier (Kirby) follows THE SAUDI BUILDING CODE for STEEL STRUCTURES (SBC 306)	Crover PM – Moahmmmed Abu Zinah	07/10/2021	Open
3	Contractor to provide a third-party independent testing laboratory for the required testing of concrete, backfill material and compaction.	Crover PM – Moahmmmed Abu Zinah	11/10/2021	Open
4	Contractor to provide portacabin for PED engineers including office, kitchen, bathroom, and meeting room.	Crover PM – Moahmmmed Abu Zinah	11/10/2021	Open
5	Finalize drainage layout with septic tank location	Muhammad Banafa – PMO	08/10/2021	Open
6	Finalize and confirm Hatchery-Extension dimensions as per site condition and decide about current obstacles found at site.	Muhammad Banafa – PMO	08/10/2021	Open
7	Update stakeholders register to include contractor, PMO, steel supplier and hatchery manager.	Ahmad Alasmari – PED	07/10/2021	Open

62.To identify performance measurement course and submit reports, in addition to explaining the reason:

Performance measures explain how well product, services and processes are working together to keep customers satisfied. According to studies, performance measures include the study of processes within a company to see if output is in line with objective.

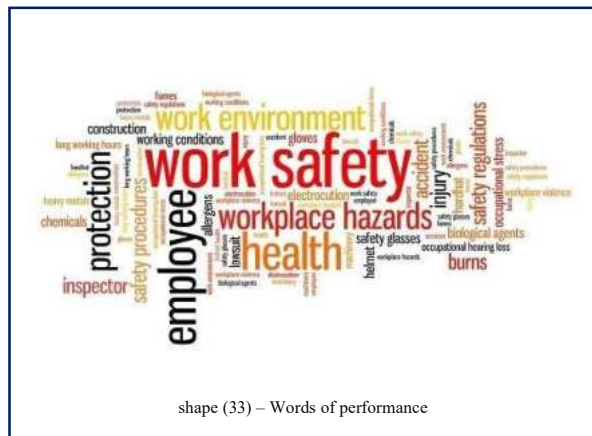
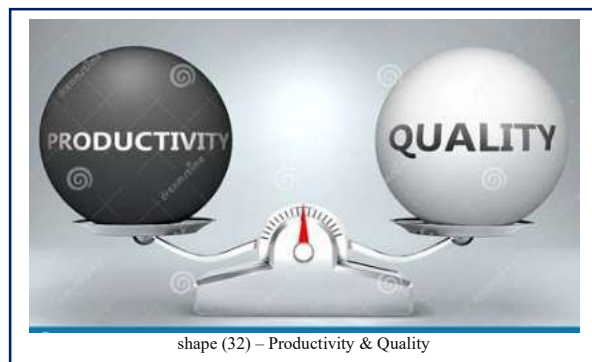
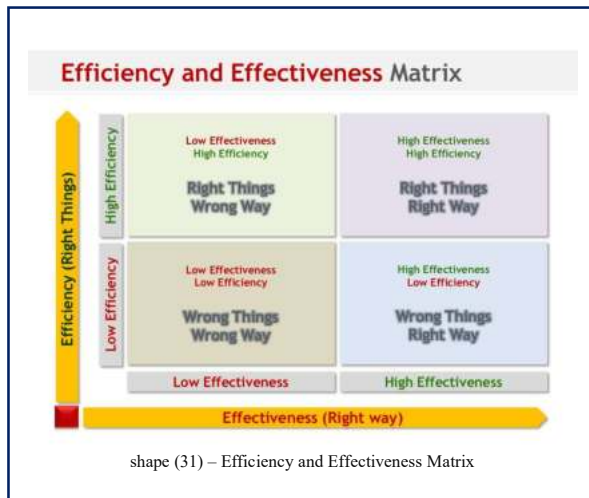
These tools help companies to understand, control and improve or maintain their internal operations. Performance measures tell companies how well they are doing, how satisfied or dissatisfied customers are, whether goals are being met and what if any improvements are necessary. A performance measure is a number and a unit of measurement, the number, which is called a magnitude, measures how much is being done and the unit tells what is being done. These measures are usually tied to a target (the company's goals) and can be measured in units such as hours, years, and the number of reports or number of errors. Most of the performance measures used, however, can be placed into one of the following categories.

- **Effectiveness** – measures if the right steps are being taken or, in other words, answers if the product is meeting the requirements.
- **Quality** – evaluate the degree to which the company's service or product meets, fails or exceeds customer requirements.
- **Efficiency** – indicates if the company is doing things right, or in other words are the designated processes producing the desired outcome.
- **Productivity** – measures the value that is added to a company once it considers and calculates the cost of labor and capital needed to complete the process.
- **Safety** – is an overall measurement of the health of the organization and the surrounding work environment for employees.
- **Timeliness** – measures if work was done efficiently and as scheduled. Each unit of work must have set guidelines for timeliness to meet the needs of the customers.

SOROH is a poultry production company with a goal of expanding the production process to meet the needs of all residents in Saudi Arabia, as well as all industrial and commercial sectors, with healthy poultry products that meet the international specifications and are slaughtered according to Islamic law using the most advanced science technology.

Ultimately, this project is designed to ensure that SOROH Poultry Company continues to grow by targeting to produce 100 million eggs, up from 70 million last year, which is a 30% increase.

According to the categories that we have define before. SOROH company has achieved with quality, effectiveness, safety and within the timeline. Its dealing with all constructions, civil, mechanical, electrical and automation very well. And that allows the company to achieve goals within the right time.



63. To develop Change Request model, including (impact analysis- alternatives analysis- recommendation):

SOROH POULTRY
Company
SOROH
POULTRY
Project
Department Rev.00

CHANGE REQUEST

Project Title: Haradh Hatchery Expansion Date Prepared: 11/14/2021

Requestor: Gordon Stevenson

Category: BOQ Mechanical work item no.21

in Scope ☐ Quality requirements
M Cost ☐ Schedule ☐ Documents

Detailed Description of Proposed Change:

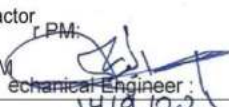
Change BOQ Mechanical work item no.21 to the following:

Supply and installation 3 of FCU-2, 100 CFM airflow inside tables eggs handling room. The work includes pump, control valves, CPVC pipes, drainage pipes, control panel and thermostat.

Justification for Proposed Change:

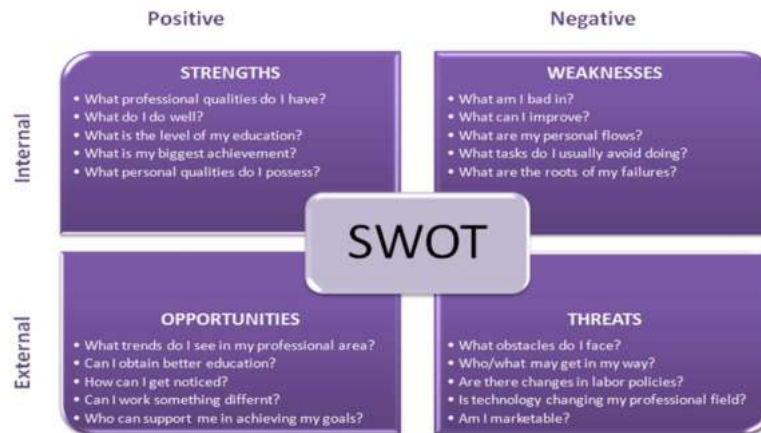
Adjusted to match existing cooling type inside original egg rooms.

Impacts of Change

Scope	☐ Increase	☐ Decrease	Modify
Description:			
Quality	☐ Increase	☐ Decrease	Equal
Description:			
PED Manager: 			
PED PM:			
Contractor PM:  14/9/21			
PED Mechanical Engineer:  14/9/21			

64. To identify Risks (threats) and opportunities, and giving examples:

- **Definition of threats:** events that have a negative impact on the project.
- **Definition of opportunities:** events that have a positive impact on the project.
- **To identify risks, we use SWOT Model:**



shape (35) – SWOT

- **Strength:**
 - Our team are professional and qualified.
 - Teamwork is strong.
- **Opportunities:**
 - Team will have new exposure by this project.
- **Weakness:**
 - Some of the member, the field of operation is new for them.
- **Threats:**
 - Others department Since of urgency is absent.
 - Finance is not paying to contractor at right time.
 - Consultant or contractor delays.
 - Unresolved project conflicts not escalated in a timely manner.

Examples:

1. Project design and deliverable definition is incomplete.
2. Project schedule is not clearly defined or understood.
3. Consultant or contractor delays.
4. Unresolved project conflicts not escalated in a timely manner.
5. Legal action delays or pauses project.
6. Theft of materials or equipment.

65.To prepare Risk register:

Risk Register

Project name: Hatchery Expansion Project - 30 Mn Egg Set Annually, Automation for 100 Mn Egg Set

Project manager: Fayez Al Dossary

ID	Risk description	Likelihood of the risk occurring	Impact if the risk occurs	Severity Rating based on Impact & likelihood.	Owner Person who will manage the risk.	Mitigating action Actions to mitigate the risk e.g. reduce the likelihood.	Contingent action Action to be taken if the risk happens.	Progress on actions	Status
1	Project design and deliverable definition is incomplete.	Low	High	Medium	Project Sponsor	Define the scope in detail via design workshops with input from subject matter experts.	Document assumptions made and associated risks. Request high risk items that are ill-defined are removed from scope.	Design workshops scheduled.	Open
2	Project schedule is not clearly defined or understood	Low	Medium	Medium	Project Manager	Hold scheduling workshops with the project team so they understand the plan and likelihood of missed tasks is reduced.	Share the plan and go through upcoming tasks at each weekly project progress meeting.	Workshops scheduled.	Open
3	No control over staff priorities	Medium	Medium	Medium	Project Manager	The Project Sponsor will brief team managers on the importance of the project. Soft book resources as early as possible and then communicate final booking dates asap after the scheduling workshops. Identify back ups for each human resource on the project.	Escalate to the Project Sponsor and bring in back up resource.	Project Sponsor has agreed to hold briefing. Now making arrangements for a meeting room.	Open
4	Consultant or contractor delays	Medium	High	High	Project Manager	Include late penalties in contracts. Build in and protect lead time in the schedule. Communicate schedule early. Check in with suppliers regularly. Query '90% done'. Ask again and again if they need anything else.	Escalate to Project Sponsor and Contracts Manager. Implement late clauses.	Lead time from each contractor built into the project schedule. Late penalties agreed to and contracts signed.	Open
5	Estimating and/or scheduling errors	Medium	High	High	Project Manager	Break this risk into two: 'cost estimating' and 'scheduling errors'. Use two methods of cost estimation, and carefully track costs and forecast cost at completion making adjustments as necessary. Build in 10% contingency on cost and scheduling. Track schedules daily and include schedule review as an agenda item in every project team meeting. Flag forecast errors and/or delays to the Project Board early.	Escalate to project sponsor and project board. Raise change request for change to budget or schedule. Pull down contingency.	Contingency agreed by Project Board.	Open
6	Unplanned work that must be accommodated	Low	High	Medium	Team Manager	Attend project scheduling workshops. Check previous projects, for actual work and costs. Check all plans and quantity surveys. Document all assumptions made in planning and communicate to the project manager before project kick off.	Escalate to the Project Manager with plan of action, including impact on time, cost and quality.	Team managers attending scheduling workshops.	Open
7	Lack of communication, causing lack of clarity and confusion.	Medium	Medium	Medium	Project Manager	Write a communication plan which includes frequency, goal, and audience of each communication. Identify stakeholders early and make sure they are considered in the communication plan. Use most appropriate channel of communication for audience e.g. don't send 3 paragraph email to Developers, have a call instead.	Correct misunderstandings immediately. Clarify areas that are not clear swiftly using assistance from Project Sponsor if needed.	Communication plan in progress.	Open
8	Pressure to arbitrarily reduce task durations and/or run tasks in parallel which would increase risk of errors.	Low	High	Medium	Project Manager	Share the schedule with key stakeholders to reduce the risk of this happening. Patiently explain that schedule was built using the expertise of subject matter experts. Explain the risks of the changes.	Escalate to Project Board with assessment of risk and impact of the change. Hold emergency risk management call with decision makers & source of pressure and lay out risk and impact.	Awaiting completion of the schedule.	Open

ID	Risk description	Likelihood of the risk occurring	Impact if the risk occurs	Severity Rating based on impact & likelihood.	Owner Person who will manage the risk.	Mitigating action Actions to mitigate the risk e.g. reduce the likelihood.	Contingent action Action to be taken if the risk happens.	Progress on actions	Status
9	Scope creep	Medium	High	High	Project Manager	Document the project scope in a Project Initiation Document or Project Charter and get it authorised by the Project Board. Refer to it throughout the project and assess all changes against it also ensuring alignment of any changes with the Business Case.	Document each and every example of scope creep NO MATTER HOW SMALL in a change order and get authorisation from the project board BEFORE STARTING WORK. This includes ZERO COST changes.	Scope clearly defined in PID.	Open
10	Unresolved project conflicts not escalated in a timely manner	Low	Medium	Medium	Project Manager	Hold regular project team meetings and look out for conflicts. Review the project plan and stakeholder engagement plan for potential areas of conflict.	When aware immediately escalate to Project Board and gain assistance from Project Sponsor to resolve the conflict.	Project team meetings scheduled.	Open
11	Delay in earlier project phases jeopardizes ability to meet fixed date.	Medium	High	High	Project Manager	Ensure the project plan is as accurate as possible using scheduling workshops and work breakdown structure. Use Tracking Gantt and Baseline to identify schedule slippage early.	Consider insurance to cover costs and alternative supplier as a back up.	Awaiting completion of the schedule.	Open
12	Legal action delays or pauses project.	Low	Medium	Medium	Project Sponsor	Ensure all contracts signed before starting the project. Follow all regulatory requirements and complete stakeholder management plan.	Escalate to Project Board who will notify legal department. Follow instructions from legal.	Contracts issued.	Open
13	Theft of materials or equipment.	Low	High	medium	Project Manager	Follow security procedures. Verify all physical security measures in place. Secure insurance.	Notify appropriate authorities e.g. police, project board and initiate internal investigations.	NDA's issued. Security certificates confirmed for contractors.	Open
14	environmental crisis, for example, extreme weather, leads to the loss of resources, materials, buildings, etc.	Low	High	Medium	Project Manager	Ensure insurance in place. Familiarise project team with emergency procedures. Where cost effective put back up systems in place e.g. generators.	Notify appropriate authorities. Follow health and safety procedures. Notify stakeholders and Project Board.	Public Liability Insurance confirmed along with additional premises insurance at site B.	Open
15	Stakeholder action delays project.	Low	High	Medium	Project Manager	Identify stakeholders, analyse power and influence and create a stakeholder engagement plan. Project Board to authorise the plan. Revisit the plan at regular intervals to check all stakeholders are managed.	Notify appropriate authorities and follow internal procedures.	Stakeholder Analysis in progress.	Open

		Likelihood		
		1	2	3
Impact	1	Low	Low	Medium
	2	Low	Medium	High
	3	Medium	High	High

Table (22) – Severity Table

66. Qualitative Risk Analysis:

Qualitative Risk Analysis							
Project name: Hatchery Expansion Project - 30 Mn Egg Set Annually, Automation for 100 Mn Egg Set							
Project manager:							
ID	Risk description	Likelihood of the risk occurring	Impact if the risk occurs	Severity Rating based on impact & likelihood.	Likelihood (A)	Impact (B)	Risk Factor (A*B)
1	Project design and deliverable definition is incomplete.	Low	High	Medium	0.30	0.90	0.27
2	Project schedule is not clearly defined or understood	Low	Medium	Medium	0.30	0.60	0.18
3	No control over staff priorities	Medium	Medium	Medium	0.60	0.60	0.36
4	Consultant or contractor delays	Medium	High	High	0.60	0.90	0.54
5	Estimating and/or scheduling errors	Medium	High	High	0.60	0.90	0.54
6	Unplanned work that must be accommodated	Low	High	Medium	0.30	0.90	0.27
7	Lack of communication, causing lack of clarity and confusion.	Medium	Medium	Medium	0.60	0.60	0.36
8	Pressure to arbitrarily reduce task durations and or run tasks in parallel which would increase risk of errors.	Low	High	Medium	0.30	0.90	0.27
9	Scope creep	Medium	High	High	0.60	0.90	0.54
10	Unresolved project conflicts not escalated in a timely manner	Low	Medium	Medium	0.30	0.60	0.18
11	Delay in earlier project phases jeopardizes ability to meet fixed date.	Medium	High	High	0.60	0.90	0.54
12	Legal action delays or pauses project.	Low	Medium	Medium	0.30	0.60	0.18
13	Theft of materials or equipment.	Low	High	medium	0.30	0.90	0.27
14	environmental crisis, for example, extreme weather, leads to the loss of resources, materials, buildings, etc.	Low	High	Medium	0.30	0.90	0.27
15	Stakeholder action delays project.	Low	High	Medium	0.30	0.90	0.27

Scale	Probability	Impact
Very low	Unlikely to occur	Negligible impact
Low	May occur occasionally	Minor impact on time, cost, or quality
Medium	Is as likely as not to occur	Substantial impact on time, cost or quality
High	Is likely to occur	Substantial impact on time, cost or quality
Very high	Is almost certain to occur	Threatens the success of the project

Table (23) – Qualitative Risk Table - scaling

67. To specify Risk response strategies:



shape (36) – Basic a strategy for responding to a risks

In all organizations, there are strategies to respond to the risks facing the organization, company, or institution, because the risks will inevitably occur, and the responsible party in the project must be prepared to face them. We, in SOROH, have used these five strategies to

deal with the risks that we faced and will face in the project, and the project's employees have a major role in identifying and dealing with them.

1- Avoidance strategy:

Avoiding risks will stop any danger that poses a threat to the institution, such as legal problems, so SOROH has conducted all the necessary permits and legal papers.

2- Mitigation strategy:

It is taking everything necessary to reduce the possibility of danger or its impact, and the use of this strategy will reduce the possibility of this danger occurring, and its use will be much better than taking measures to address the damage that will occur after its occurrence if we do not take this strategy. We have used this strategy in examining the soil of the land used in the project and using working hours Suitable for workers to protect them from sunstroke and the use of good types of concrete in the project's engineering work.

3- Transfer:

like any institution, we have used the transfer strategy for risks that cannot be avoided or reduced, such as insurance that transfers the risk to a third party, i.e. transferring responsibility for the risk to another party without removing it or avoiding it. Strategy such as paying insurance companies for insurance, and this strategy has been used by the company, fire insurance, car insurance, machinery insurance, and others.

4- Admission strategy:

Any risks that the company will not be able to identify, as the possibility of their occurrence is very terrible and threaten the institution in the future. The institution will only have to accept it. There is negative acceptance and positive acceptance in SOROH. The senior management in the SOROH project will not leave the work team facing the risk alone if no other strategy works. On the contrary, the senior management develops the edifices of the situational plan so that the risks are diagnosed to reduce the cost if the danger occurs, and also the edifices of the fallback plan are used, which are developed to face this great risk, or when the chosen strategy is not fully effective, and perhaps the clearest example is to allocate Reserve resources or develop alternatives for implementation that are ready in case of danger, including changing the project scope.

5- Taking risks:

This strategy exists in competitive companies such as ours, and it is present in SOROH's vision

68. To prepare Stakeholder engagement assessment matrix:

Following the PMI's taxonomy, the current level of engagement is documented with a "C". The desired level is represented with a "D".

A “C” can basically occur in any of these columns. However, a “D” is typically not applicable for the “unaware” or “resistant” columns for obvious reasons (do you really wish to have resistant stakeholders in your project?).

A populated stakeholder engagement assessment matrix looks like the following example (analogous fig. 13-6 in PMBOK®, 6th ed.) :

Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
CEO	C			D	
PMO			C	D	
Hatchery – End User				D C	
Supplier					
Contractor					

Example of a stakeholder engagement assessment matrix with desired (“D”) and current (“C”) levels of engagement per stakeholder.

Table (24) – Stakeholder assessment Matrix

69. Project Summary:

❖ **Project Title:**

Hatchery Expansion Project – 30 Mn Egg Set Annually, Automation for 100 Mn Egg Set.

❖ **IMPLEMENTING AGENCY:**

Contractor	
Civil	Crover
Mechanical Main Equipment	Petersime
Electrical Main Equipment	Nectra

❖ **EXECUTING AGENCY**

Supervised and executed by SOROH Project Management

❖ **START DATE**

01/10/2021

❖ **DURATION**

8 months

❖ **PROJECT COST**

- **External Financing Requirement**
70% will be taken from Bank
- **Domestic Financing Requirement**
30% will be funded internally
- **Total Project Costs**
Total project costs covering the external financing and domestic financing will be 21 M SAR

❖ **CURRENT SITUATION (PROBLEMS AND NEEDS)**

- The total production after adding this equipment's and completed the project will be 30M egg/year
- This project is expansion for existing hatchery which currently in operation with capacity of 70M egg/year, after constructed this facility we will be able to reach to 100 M egg/year

❖ **PROJECT OBJECTIVES**

- **Specific:**
 1. New building with specific requirement to accommodate installing new hatchery machines to increase the volume of production by 30%.
 2. Install new machines and upgrades the existing one

3. Integration system to enable connecting new machines with the existing ones.
 4. Work on importing feed from abroad and relying on the local feed farm to avoid the risks of import interruption.
- **Measurable:** 1. 30% increase in volume.
 - **Achievable:**
 1. 1. 8 months' project time.
 2. 2. 30 M per year increase.
 3. Maintain SOROH standard according to SFDA requirements.
 - **Realistic:**
 1. Achieved required volume.
 2. Achieved time duration.
 3. Spent according to budget given.
 - **Time:** 8 months start to end.

❖ MONITORING AND EVALUATION

There will be daily /weekly /monthly report for all stakeholders prepared by PM.

❖ Investment Plan

- Table 1: External Financing:

Description	Total (SAR)
1. ROBO BANK	14,700,000
Total (a)	14,700,000

- Table 2: Domestic Financing:

Description	Total (SAR)
1. INTERNAL FUNDING	6,300,000
Total (b)	6,300,000

- Table 3: Total Project Costs:

Description	Year 1 ...	USD/Rf
External + Domestic Cost (c)	14,700,000	6,300,000

- **12.1 Return on investment (ROI)**
- The total investment will be 21 M SAR

- The benefit after operational after calculating the operation cost in consideration Will be in 80% efficiency
 $=0.8 \times 30M \times 0.5 \text{ SAR} = 12 \text{ M SAR}$
- R.O.I= $12/21 = 0.58$.

70. Project Recommendation:

After calculating the R.O.I which will be 58% and the total investment will be return in 1.78 years, we can go forward in starting this project and finish it as soon as possible to add this capacity which will be equivalent to 30% more. Moreover, by completed this project we can supply all our customers and we able to supply them with enough babies' chickens to grow them in broilers farms.

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