

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-000237

SITE DETAILS

Site: **Fatima Fertilizer - Sadiqabad**

Address: Fatima Fertilizer Plant Site Mukhtar Garh, Sadiqabad, District Rahim Yar Khan., 64350, Sadiq abad, PAKISTAN

Contact Person: shumaila sadaf

AWS Reference Number: AWS-000450

Site Structure: Single Site

CERTIFICATION DETAILS

Certification status: Certified Core

Date of certification decision: 2022-Sep-21

Validity of certificate: 2025-Sep-21

AUDIT DETAILS

Audited Service(s): AWS Standard v2.0 (2019)

Audit Type(s): Initial Audit

Audit Start Date: 2022-May-24

Lead Auditor: Rizwan Masood

Audit team participants:

Tanya Christensen, Inspector

Site Participants:

Mr. Ahsan Sarfaraz, Department Head HSE

Ms. Shumaila Sadaf, Client representative

Mr. Muhammad Waseem, Lead Environment Section

Mr. Tofique Ahmed, Sr. Technical Services Manager

Mr. Mudasir Sharif, Business and Development Manager

Mr. Zeeshan Naseem, Engineering Manager

Mr. Muhammad Abbas, Sr. Maintenance Manager

Syed Shahzad Mehdi, Process Manager

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ADDITIONAL INFO

Summary of Audit Findings: A total of 3 major non-conformities, 18 minor non-conformities and 18 observations have been raised.

The audit team recommends certification of Fatima Fertilizer - Sadiqabad at Core level pending approval of the corrective actions plan and closure of the major non-conformities.

The Client is requested to define corrective actions for all non-conformities and submit these to WSAS via the online platform within 60 days of receipt of the audit report, by 16/10/2022.

The major non-conformities must be sufficiently addressed and proof of implementation submitted to WSAS within 90 days of receipt of the report, by 16/11/2022.

Minor non-conformities must be addressed and closed out by the time of the next annual surveillance audit.

CLOSURE OF FINDINGS AND CORRECTIVE ACTION PLAN:

The Client has successfully resolved the major non-conformities and submitted the corrective action plan addressing all findings.

Scope of Assessment: The scope of services covers the Initial certification audit for assessing the compliance of Fatima Fertilizer (Mukhtar Garh) Plant against the requirements of AWS International Water Stewardship Standard Version 2.

The Fatima Fertilizer is one of the leading fertilizer producing plants in Pakistan, its products include Nitro Phosphate, Calcium Ammonium Nitrate, Urea and CO₂. The intermediate products include Nitric Acid and Ammonia. The plant is located in district Rahim Yar Khan - Tehsil Sadiq Abad, which is located by 28.3111° N, 70.1261° E in the southern part of Punjab province and the area is actually the water stressed region. The main issues include water quality (TDS and Arsenic levels) and water scarcity. The total workforce of the facility is around 730 (including management and non management).

The audit was conducted onsite from 24 to 26 May, 2022.

The onsite site audit included the review of documents, interviews of stakeholders, visit of important water related areas at site and catchment initiatives.

FINDINGS

NUMBER OF FINDINGS PER LEVEL

Observation	18
Minor	18
Major	3

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FINDING DETAILS

Finding No: TNR-000734
Checklist Item No: 1.2.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: Stakeholders and their water-related challenges shall be identified. The process used for stakeholder identification shall be identified. This process shall:
- Inclusively cover all relevant stakeholder groups including vulnerable, women, minority, and Indigenous people;
- Consider the physical scope identified, including stakeholders, representative of the site's ultimate water source and ultimate receiving water body or bodies;
- Provide evidence of stakeholder consultation on water-related interests and challenges;
- Note that the ability and/or willingness of stakeholders to participate may vary across the relevant stakeholder groups;
- Identify the degree of stakeholder engagement based on their level of interest and influence.

Findings: Tehsil Municipal Administration (TMA) and Irrigation department are not identified as stakeholders. They are responsible for domestic water supply & sanitation and canal water governance respectively. They are main water governance bodies in catchment but there was no evidence of their engagement/ inputs while identifying shared water challenges

Corrective action: Stakeholder list will be revised. One session with TMA & irrigation department conducted on 14 Aug.

Finding No: TNR-001229
Checklist Item No: 1.3.1
Status: For information
Finding level: Observation
Checklist item: Existing water-related incident response plans shall be identified.

Findings: The HSE emergency response plan states under HSE 4.10.8: 'Discharge of water on or off site in a manner that causes groundwater pollution or contamination.'
This criterion does not mention surface water as a relevant potential risks of pollution (surface and groundwater).
The Site should identify all those facilities, storage areas and processes that could lead to accidental contamination that could affect process, water, or even groundwater or surface water in the catchment.

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Audit Number: AO-000237

Finding No:	TNR-000737
Checklist Item No:	1.3.3
Status:	In Progress - CA plan approved
Finding level:	Minor
Due date:	2023-May-08
Checklist item:	Site water balance, inflows, losses, storage, and outflows, including indication of annual variance in water usage rates, shall be quantified. Where there is a water-related challenge that would be a threat to good water balance for people or environment, an indication of annual high and low variances shall be quantified.
Findings:	Site water balance is mostly based on measured values obtained from flow meters. However, The quantity of canal water (32 % of total site consumption) is not measured but calculated indirectly by the pump operation time. Insufficient supply of canal (fresh) water has been identified as a shared water challenge. However, the Site has not presented indications of annual high and low variances (only 2021) on water usage rates.
Corrective action:	Canal water pumps amperes and running hours are taken into account to calculate flow, however flow meter will be installed at Canal water inlet for variance measurement.
Finding No:	TNR-001246
Checklist Item No:	1.3.5
Status:	For information
Finding level:	Observation
Checklist item:	Potential sources of pollution shall be identified and if applicable, mapped, including chemicals used or stored on site.
Findings:	Given the size of the site and nature of Fatima Fertilizer's processes, the site should prepare a map showing the potential sources of pollution, their nature, their risks and protective measures.
Finding No:	TNR-001013
Checklist Item No:	1.3.6
Status:	In Progress - CA plan approved
Finding level:	Minor
Due date:	2023-May-08
Checklist item:	On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.
Findings:	The site has identified but not mapped the identified onsite IWRAs. The map shall include a description of the status of the IWRAs including indigenous cultural values. It is recommended that the site reviews the definition of IWRA in the AWS Standard Guidance and in the glossary of the AWS Standard.
Corrective action:	Will Re-define the IWRA as per standard definition.

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Audit Number: AO-000237

Finding No: TNR-001232
Checklist Item No: 1.3.7
Status: For information
Finding level: Observation
Checklist item: Annual water-related costs, revenues, and a description or quantification of the social, cultural, environmental, or economic water-related value generated by the site shall be identified and used to inform the evaluation of the plan in 4.1.2.
Findings: In addition to the water-related costs, the site shall collect information on water-related revenues, and of the social, cultural, environmental, or economic water-related value generated by the site. This information shall be used to inform the evaluation of the water stewardship plan in 4.1.2

Finding No: TNR-001233
Checklist Item No: 1.3.8
Status: For information
Finding level: Observation
Checklist item: Levels of access and adequacy of WASH at the site shall be identified.
Findings: The site shall have written description of the WASH related arrangements on site and on how these are in compliance with local laws and international guidelines.

Finding No: TNR-001016
Checklist Item No: 1.4.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: The embedded water use of primary inputs, including quantity, quality and level of water risk within the site's catchment, shall be identified.
Findings: The site has not collected information on the quantity, quality and level of risk of the embedded water originating from the identified source.
Corrective action: Embedded water related risk will be define in water related challenges.

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Audit Number: AO-000237

Finding No: TNR-001018
Checklist Item No: 1.5.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: Water governance initiatives shall be identified, including catchment plan(s), water-related public policies, major publicly-led initiatives under way, and relevant goals to help inform site of possible opportunities for water stewardship collective action.
Findings: In addition to their own initiatives, the Site should identify water governance initiatives (by government agencies, institutions and other organisations), including catchment plan(s), water related public policies, major public policy-led initiatives under way, and relevant goals to help inform site of possible opportunities for water stewardship collective action. The Tehsil Municipal Administration (TMA) and Irrigation department should be included in this identification process.
Corrective action: TMA & Irrigation department will be including as a stakeholder through Admin department.

Finding No: TNR-001020
Checklist Item No: 1.5.3
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: The catchment water-balance, and where applicable, scarcity, shall be quantified, including indication of annual, and where appropriate, seasonal, variance.
Findings: The catchment water-balance should include an indication of annual (or seasonal) variance.
The site is located in a water stressed region.
Corrective action: FFL will collect the annual water variance data from irrigation department .Same will be incorporated in Annual Catchment water balance study to identify the water related scarcity in region.

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Finding No: TNR-001023
Checklist Item No: 1.5.5
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: Important Water-Related Areas shall be identified, and where appropriate, mapped, and their status assessed including any threats to people or the natural environment, using scientific information and through stakeholder engagement.
Findings: The site has identified IWRA in the catchment, however, their status including any threats to people or the natural environment have not yet been assessed.
Corrective action: Will strengthen the system by stakeholder feedback.

Finding No: TNR-001027
Checklist Item No: 1.6.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: Shared water challenges shall be identified and prioritized from the information gathered.
Findings: Shared challenges are presented in the water stewardship plan, however there is no prioritization of these challenges based on the information gathered.
Corrective action: Water stewardship program will be categorized as per FFL priority. e.g fresh water availability & WASH arrangements are prioritizing action.

Finding No: TNR-001029
Checklist Item No: 1.7.1
Status: For information
Finding level: Observation
Checklist item: Water risks faced by the site shall be identified, and prioritized, including likelihood and severity of impact within a given timeframe, potential costs and business impact.
Findings: The Site should prioritize their water related risks.

Finding No: TNR-001030
Checklist Item No: 1.7.2
Status: For information
Finding level: Observation
Checklist item: Water-related opportunities shall be identified, including how the site may participate, assessment and prioritization of potential savings, and business opportunities.
Findings: The Site should prioritize their water related opportunities.

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Finding No:	TNR-001034
Checklist Item No:	1.8.4
Status:	For information
Finding level:	Observation
Checklist item:	Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.
Findings:	Some best practices for site maintenance of IWRA's have been identified. This shall be expanded once more information is available on the status of the IWRA's (1.5.5)
Finding No:	TNR-001035
Checklist Item No:	2.1.1
Status:	Closed
Finding level:	Major
Due date:	2022-Nov-16
Checklist item:	A signed and publicly disclosed site statement OR organizational document shall be identified. The statement or document shall include the following commitments: <ul style="list-style-type: none">- That the site will implement and disclose progress on water stewardship program(s) to achieve improvements in AWS water stewardship outcomes- That the site implementation will be aligned to and in support of existing catchment sustainability plans- That the site's stakeholders will be engaged in an open and transparent way- That the site will allocate resources to implement the Standard.
Findings:	The Site has shared with stakeholders but has not publicly disclosed the site statement. The statement does not include the following commitments: <ul style="list-style-type: none">- That the site will implement and disclose progress on water stewardship program(s) to achieve improvements in AWS water stewardship outcomes- That the site implementation will be aligned to and in support of existing catchment sustainability plans- That the site's stakeholders will be engaged in an open and transparent way- That the site will allocate resources to implement the Standard.
Corrective action:	AWS policy statement revised & add the missing content. same Disclosed publicly in newspaper (same attached)
Evidence of implementation:	Revised AWS policy statement with missing content submitted. The statement was disclosed in the local newspaper.

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Audit Number: AO-000237

Finding No:	TNR-001237
Checklist Item No:	2.2.1
Status:	For information
Finding level:	Observation
Checklist item:	The system to maintain compliance obligations for water and wastewater management shall be identified, including: <ul style="list-style-type: none">- Identification of responsible persons/positions within facility organizational structure- Process for submissions to regulatory agencies.
Findings:	The SOP should include a description of the process for submissions to the regulatory agencies.
Finding No:	TNR-001039
Checklist Item No:	2.3.1
Status:	Closed
Finding level:	Major
Due date:	2022-Nov-16
Checklist item:	A water stewardship strategy shall be identified that defines the overarching mission, vision, and goals of the organization towards good water stewardship in line with this AWS Standard.
Findings:	The Site has not defined a water stewardship strategy including the overarching mission, vision, and goals of the organization towards good water stewardship in line with this AWS Standard.
Corrective action:	Strategy is developed. FFL water stewardship strategy & action plan document is attached.
Evidence of implementation:	FFL's water stewardship strategy and action plan document submitted.
Finding No:	TNR-001238
Checklist Item No:	2.3.2
Status:	For information
Finding level:	Observation
Checklist item:	A water stewardship plan shall be identified, including for each target: <ul style="list-style-type: none">- How it will be measured and monitored- Actions to achieve and maintain (or exceed) it- Planned timeframes to achieve it- Financial budgets allocated for actions- Positions of persons responsible for actions and achieving targets- Where available, note the link between each target and the achievement of best practice to help address shared water challenges and the AWS outcomes.
Findings:	The Water Stewardship plan shall include new and separate targets for 2023 based on learnings from previous years. Future budgets should be calculated and reflect future expenditure and not retrospectively calculated at cost. The WSP shall include actions towards meeting the target related to water balance. Also, the targets set for IWRAs will need to be revised following the actions related to 1.3.6 & 1.5.5.

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Finding No:	TNR-001239
Checklist Item No:	2.4.1
Status:	For information
Finding level:	Observation
Checklist item:	A plan to mitigate or adapt to identified water risks developed in co-ordination with relevant public-sector and infrastructure agencies shall be identified.
Findings:	The Site should engage relevant stakeholders (eg. relevant public-sector and infrastructure agencies) to develop plans to mitigate or adapt to identified external water risks outside of the site's direct control or responsibility.
Finding No:	TNR-001240
Checklist Item No:	3.1.1
Status:	For information
Finding level:	Observation
Checklist item:	Evidence that the site has supported good catchment governance shall be identified.
Findings:	The site should engage with relevant stakeholders to support good catchment governance more effectively.
Finding No:	TNR-001247
Checklist Item No:	3.3.2
Status:	For information
Finding level:	Observation
Checklist item:	Where water scarcity is a shared water challenge, annual targets to improve the site's water use efficiency, or if practical and applicable, reduce volumetric total use shall be implemented.
Findings:	The site should consider including targets to improve the site's water use efficiency.
Finding No:	TNR-001241
Checklist Item No:	3.5.1
Status:	For information
Finding level:	Observation
Checklist item:	Practices set in the water stewardship plan to maintain and/or enhance the site's Important Water-Related Areas shall be implemented.
Findings:	This indicator (3.5.1) will be reviewed in the next surveillance audit along with any new information gathered under 1.3.6 and 1.5.5 and related plans defined and actions taken.

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Audit Number: AO-000237

Finding No: TNR-001048
Checklist Item No: 3.7.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: Evidence that indirect water use targets set in the water stewardship plan, as applicable, have been met shall be quantified.
Findings: There is only one source of indirect/embedded water in catchment. The site has not yet quantified the embedded water use or the level of related water risk (see 1.4.1.). Thus, no targets or actions have been set in the Water Stewardship Plan related to indirect water use within the catchment.
Corrective action: Embedded water related risk will be define in challenges & action plan

Finding No: TNR-001242
Checklist Item No: 3.7.2
Status: For information
Finding level: Observation
Checklist item: Evidence of engagement with suppliers and service providers, as well as, when applicable, actions they have taken in the catchment as a result of the site's engagement related to indirect water use, shall be identified.
Findings: Any actions taken in the catchment as a result of the site's engagement related to indirect water use will be evaluated in the next surveillance audit.

Finding No: TNR-001051
Checklist Item No: 3.9.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: Actions towards achieving best practice, related to water governance, as applicable, shall be implemented.
Findings: To date actions towards achieving best practice, related to water governance have not been set in advance. These should include best practice related to water governance in the catchment in coordination with relevant catchment governance bodies.
Corrective action: Site water saving best practices will be implemented in catchment area with the help of governance bodies, same will be incorporated in AWS action plan

Finding No: TNR-001248
Checklist Item No: 3.9.2
Status: Open
Finding level: Observation
Checklist item: Actions towards achieving best practice, related to targets in terms of water balance shall be implemented.
Findings: The site should consider defining targets related to catchment water balance.

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Audit Number: AO-000237

Finding No: TNR-001243
Checklist Item No: 3.9.4
Status: For information
Finding level: Observation
Checklist item: Actions towards achieving best practice, related to targets in terms of the site's maintenance of Important Water-Related Areas shall be implemented.
Findings: This indicator (3.9.4) will be reviewed in the next surveillance audit along with any new information gathered under 1.3.6 and 1.5.5 and related plans defined and actions taken (3.5.1) .

Finding No: TNR-001244
Checklist Item No: 3.9.5
Status: For information
Finding level: Observation
Checklist item: Actions towards achieving best practice related to targets in terms of WASH shall be implemented.
Findings: The site should include specific targets related to WASH in their Water Stewardship Plan.

Finding No: TNR-001055
Checklist Item No: 4.1.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: Performance against targets in the site's water stewardship plan and the contribution to achieving water stewardship outcomes shall be evaluated.
Findings: Several projects included on the site's WSP have been marked as completed. For those 17 projects the site should evaluate the contribution to achieving water stewardship targets.
Corrective action: This will be evaluated & disclosed in annual site report

Finding No: TNR-000740
Checklist Item No: 4.1.2
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: Value creation resulting from the water stewardship plan shall be evaluated.
Findings: Value creation resulting from the water stewardship plan has not been evaluated.
Corrective action: The value creation resulting from water related projects will be calculated based on catchment area survey & stakeholder feedback. All net cost will be included e.g. initiative which helps to avoid any unexpected higher costs, any improvement which ultimately effect the long time water security etc.

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Finding No: TNR-000741
Checklist Item No: 4.1.3
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: The shared value benefits in the catchment shall be identified and where applicable, quantified.
Findings: The shared value benefits in the catchment were not identified, nor quantified.
Guidance:
4.1.3 Where identified, the organization should report on the value benefit to the catchment and/or catchment stakeholders, preferably with quantified contributions. This may be a financial benefit, but it may also be a value benefit such as improved natural capital and ecosystem services or improved long term water security across the catchment and reduced risks. Evaluating quantitatively the water-related value generated by the site to the benefit of the catchment may pose challenges in some cases and often it may be only possible to give a qualitative assessment.
Examples include:
• Free provision of water or treated waste water for general water supply or irrigation
• Improving water quality of a water body through improved wastewater treatment or installation of wetland treatment system;
• Helping to improve an IWRA feature and providing social and natural capital benefits to nature and communities (e.g. for recreation and wellbeing).
Corrective action: Based on evaluation FFL will report value benefit to the catchment and/or catchment stakeholders, preferably with quantified contributions & any benefit to aquifer, ecosystem etc. .

Finding No: TNR-000742
Checklist Item No: 4.3.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: Consultation efforts with stakeholders on the site’s water stewardship performance shall be identified.
Findings: Stakeholder contact was undertaken, but no consultation efforts was focussed on facilitating input on the site’s water stewardship performance.
Corrective action: Water stewardship plan progress discussion makes a agenda part of stakeholder meetings.

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Alliance for Water Stewardship (AWS)

Audit Number: AO-000237

Finding No: TNR-001057
Checklist Item No: 4.4.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: The site’s water stewardship plan shall be modified and adapted to incorporate any relevant information and lessons learned from the evaluations in this step and these changes shall be identified.
Findings: As no evaluation of the water stewardship plan was undertaken, the plan has not been adapted or modified to incorporate any relevant information and lessons learned from the evaluations.
Corrective action: Will evaluated on annual basis .

Finding No: TNR-000743
Checklist Item No: 5.1.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: The site’s water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations shall be disclosed.
Findings: The site’s related internal governance, including positions of those accountable for compliance with water laws and regulations has not been disclosed.
Corrective action: FFL has well stablished AWS core team including all interference representative. Team meeting was organized with auditors during audit. Responsible person position disclosed with community through local newspaper
Same attached please. .
Evidence of implementation: The position of the responsible person has been disclosed with the community through the local newspaper, evidence was provided. For future communication the site should provide a summary of how water-related issues at the site are governed and indicate the hierarchy between those accountable for water and the senior-most leadership at the site level. This NC has been downgraded to a minor NC to be checked at the next surveillance audit.

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Audit Number: AO-000237

Finding No: TNR-001245
Checklist Item No: 5.2.1
Status: For information
Finding level: Observation
Checklist item: The water stewardship plan, including how the water stewardship plan contributes to AWS Standard outcomes, shall be communicated to relevant stakeholders.
Findings: For future communication to stakeholders on the water stewardship plan, the site shall include information on how the plan contributes to AWS Standard outcomes.

Finding No: TNR-000744
Checklist Item No: 5.3.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: A summary of the site's water stewardship performance, including quantified performance against targets, shall be disclosed annually at a minimum.
Findings: A summary of the site's water stewardship performance, including quantified performance against targets, has not been disclosed .
Corrective action: FFI will disclosed the AWS performances in annual report.

Finding No: TNR-001059
Checklist Item No: 5.4.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2023-May-08
Checklist item: The site's shared water-related challenges and efforts made to address these challenges shall be disclosed.
Findings: No evidence of disclosure regarding site' shared water-related challenges and efforts made to address these challenges was provided.
Corrective action: We will share in FFL annual progress report .

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Audit Number: AO-000237

Finding No:	TNR-000745
Checklist Item No:	5.4.2
Status:	Closed
Finding level:	Major
Due date:	2022-Nov-16
Checklist item:	Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified.
Findings:	The Site has not described efforts made to engage stakeholders and coordinate and support public - sector agencies.
Corrective action:	An extensive effort was made to engage the stakeholder. Same communicated during audit .Local bodies TMA & irrigation department session was conducted on 14th .Aug. stakeholder engagement pics are attached.
Evidence of implementation:	Stakeholder engagement pictures & public disclosure evidence were submitted.

Signature WSAS

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Report Details

Report	Value
Report prepared by	Rizwan Masood
Report approved by	Lisa Seufert
Report approved on (Date)	15/08/2022

Surveillance

Proposed date for next audit
2023-May-08

Comment Tentative date of next surveillance audit

Stakeholder Announcements

Date of publication	Location
2022-Mar-15	https://watersas.org/stakeholder-announcements/
2022-Mar-15	https://a4ws.org/certification/stakeholder-announcements/

Catchment Information

Catchment Information

The Fatima Fertilizer Plant is located in the Lower Indus Plain Aquifer (LIPA) catchment in the southern part of Punjab province which is actually the water stressed region. The main issues include water quality (TDS and Arsenic levels) and water scarcity.

The site water inputs are canal water (around 30%) and underground water (70 %). The effluent ultimate receiving body is Salinity Control and Reclamation Project (SCARP IV) water channel.

The site has defined 45 km area around the site, as its catchment. This declaration of catchment is duly supported by the hydrological study of its tube-wells.

Client Description and Site Details

Client/Site Background

The Fatima Fertilizer is one of the leading fertilizer producing plants in Pakistan, its products include Nitro Phosphate, Calcium Ammonium Nitrate, Urea and carbon dioxide (CO₂). The intermediate products include Nitric Acid and Ammonia. The plant is located in southerner part of Punjab province which is actually the water stressed region. The main issues include water quality (TDS and Arsenic levels) and water scarcity. The total workforce of the facility is around 730 (including management and non management).

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Summary of Shared Water Challenges

Summary of Shared Water Challenges

The site is located in a water stressed region. The most prominent challenge is poor quality of underground water (high Total Dissolved Solids and Arsenic). The catchment also have canal water supply, but that is seasonal and also not fulfilling the needs. The catchment doesn't have adequate WASH arrangement, especially the poor sewerage system leading to water borne diseases.

The prominent shared water challenges are;

- Poor quality of underground water
- Insufficient supply of canal (fresh) water
- Poor WASH arrangements

0.1 General Requirements for Single Sites, Multi-Sites and Groups

0.1.1 *Eligibility Criteria*

0.1.1.1 *The site(s) occupy one catchment OR an exception has been granted.* ✔
Yes

0.1.1.2 *The scope of the proposed certification shall be under the control of a single management system.* ✔
Yes

Comment: The Site has a single management system

0.1.1.3 *The scope of the proposed certification shall be homogeneous with respect to primary production system, water management, product or service range, and the main market structures.* ✔
Yes

Comment: The primary production system is homogeneous the site has a unique purpose the production of fertilizers.

1 STEP 1: GATHER AND UNDERSTAND

1.1 *Gather information to define the site’s physical scope for water stewardship purposes, including: its operational boundaries; the water sources from which the site draws; the locations to which the site returns its discharges; and the catchment(s) that the site affect(s) and upon which it is reliant.*

1.1.1 *The physical scope of the site shall be mapped, considering the regulatory landscape and zone of stakeholder interests, including:*

- Site boundaries;
- Water-related infrastructure, including piping network, owned or managed by the site or its parent organization;
- Any water sources providing water to the site that are owned or managed by the site or its parent organization;
- Water service provider (if applicable) and its ultimate water source;
- Discharge points and waste water service provider (if applicable) and ultimate receiving water body or bodies;
- Catchment(s) that the site affect(s) and is reliant upon for water.



Yes

Comment The Site has two sources of water: canal water (around 30 %) and underground water (70 %). The site has control on all water lines in plant and are under continuous monitoring. Site Layout (PDF "As Built" Drawing) and FFL Physical Scope (PPT file containing details of water sources and discharge, site important water related areas and catchment details) are attached. Water input sources are 2 km and 15 km, canal and underground (well) water respectively, away from the site. Initially, The water is collected in raw water reservoirs and further processed as required. The site has two categories of effluents; one is compliant with local effluent water quality standards and other is not. The compliant stream is discharged to SCARP channel and it ultimately reaches to the SCARP lakes (45 km away from site). Water source is Lower Indus Plain Aquifer (LIPA) and the water balance of the same has been presented in attached PPT File 1.5.3

1.2 *Understand relevant stakeholders, their water related challenges, and the site’s ability to influence beyond its boundaries.*

1.2.1 *Stakeholders and their water-related challenges shall be identified. The process used for stakeholder identification shall be identified. This process shall:*

- Inclusively cover all relevant stakeholder groups including vulnerable, women, minority, and Indigenous people;
- Consider the physical scope identified, including stakeholders, representative of the site’s ultimate water source and ultimate receiving water body or bodies;
- Provide evidence of stakeholder consultation on water-related interests and challenges;
- Note that the ability and/or willingness of stakeholders to participate may vary across the relevant stakeholder groups;
- Identify the degree of stakeholder engagement based on their level of interest and influence.



in progress

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Comment The site has identified the stakeholders which include near by communities, Salinity Control and Reclamation Programme (SCARP), Environmental Protection Agency, Horticulture Department, neighboring industry, Trust school and Hospital etc. The identified stakeholders consultation process is satisfactory. The consultation process includes meetings, awareness campaigns and formal feedback letters etc. Tehsil Municipal Administration (TMA) and Irrigation department are not identified in stakeholders list. They are responsible for domestic water supply & sanitation and canal water governance respectively. They are main water governance bodies in catchment but there was no evidence of their engagement/ inputs while identifying shared water challenges. The water related infrastructure of catchment is governed by the TMA and Irrigation department. They must be engaged while identifying shared water challenges.

Finding No: TNR-000734

1.2.2 *Current and potential degree of influence between site and stakeholder shall be identified, within the catchment and considering the site's ultimate water source and ultimate receiving water body for wastewater.*


Yes

Comment As mentioned in 1.2.1, source water governance bodies haven't been onboard for AWS. But effluent ultimate water governance body (SCARP) is actively engaged. The influence of stakeholders (EPA and SCARP) on site effluent related compliance has been addressed, which also the reason of their inclusion in stakeholders. Also, site's influence on local community and neighbouring industry also identified and included them in stakeholders. The potential influence is mentioned in stakeholder list as reason of inclusion (attached)

1.3 *Gather water-related data for the site, including: water balance; water quality, Important Water-Related Areas, water governance, WASH; water-related costs, revenues, and shared value creation.*

1.3.1 *Existing water-related incident response plans shall be identified.*


Obs.

Comment The site has HSE related emergency response plan which includes the water related emergencies (like spillages of chemicals). List of emergency situations and response in case of acid spillage are attached.

Also, the site has covered the risk of its operational deviations and their response, which might affect the water related compliances and this is covered in (attached) Incident Investigation and Communication Manual sec. 4.10 Environmental Incident & Sec. 4.14.5 Environmental Near Miss

1.3.2 *Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped*


Yes


Comment Water input sources are 2 km and 15 km, canal and underground (well) water respectively, away from the site. Initially, The water is collected in raw water reservoirs and further processed as required.

The site has two categories of effluents; one is compliant with local effluent water quality standards and other is not. The compliant stream is discharged to SCARP channel and it ultimately reaches to the SCARP lakes (45 km away from site). Site has detailed working on water balance. Every water stream at site is under monitoring and site is improving its water balance by reducing water consumption and recycling water (where possible). Site has distributed control system (DCS) which enables continuous mentoring and values can be taken for any time step. Water flow rates and consumption data was monitored live in DCS control room during the audit. Around 50% of site water consumption is going in evaporative losses.

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1.3.3 *Site water balance, inflows, losses, storage, and outflows, including indication of annual variance in water usage rates, shall be quantified. Where there is a water-related challenge that would be a threat to good water balance for people or environment, an indication of annual high and low variances shall be quantified.* in progress 

Comment Site has developed water balance over the one year time step (Jan to Dec 2021). It has been noted that around 50% of site water consumption is going in evaporative losses. (water balance for 2021 is attached).
Site water balance is mostly based on measured values obtained from flow meters. However, the quantity of canal water (32 % of total site consumption) is not measured but calculated indirectly by the pump operation time. This seems not very accurate. It is recommended to install a flow meter on the supply line of canal water.


Finding No: TNR-000737

1.3.4 *Water quality of the site's water source(s), provided waters, effluent and receiving water bodies shall be quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be quantified.* Yes 

Comment The quality of underground water at site is very poor i.e. high TDS and Arsenic levels and not usable. So, Site Water input sources are 2 km and 15 km, canal and underground (well) water respectively, away from the site. Initially, the water is collected in raw water reservoirs and further processed as required.
Site is continuously monitoring the quality of source water, at inlet and outlet of equalization basin, prior to discharge, evaporation ponds and bore holes around evaporation ponds. The portable/ drinking water quality is also checked/ tested frequently. The quality of effluent discharged in SCARP channel, is monitored on monthly basis through EPA approved laboratory.
Drinking Water Management (SOP attached) describes the monitoring parameters and frequency for potable water at site. some basic test is done on daily basis and rest parameters are tested on bi-monthly basis. Last complete parameters report is also attached.
3rd Party effluent quality monitoring is done through an EPA approved lab. The results are also submitted to EPA. Copies of last 2 submitted reports are attached.

1.3.5 *Potential sources of pollution shall be identified and if applicable, mapped, including chemicals used or stored on site.* Obs. 

Comment Inventories are controlled and stored in protected environment with multi layer protection against water contamination threat
The site has a list of chemicals that could cause pollution in their operation:
Ammonia
Nitric Acid
Hydrochloric Acid
Sodium hypo chloride
Caustic soda
Sulphuric Acid

1.3.6 *On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.* in progress 

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Comment	Site has identified and documented (but not mapped) important water related areas, in addition to site water infrastructure and related processes. The site has over defined the IWRA. However the actual IWRA at site are. 1. Raw water reservoirs 2. Fire water reservoirs 3. Equalization basin and final discharge point (this is the point of effluent quality control before discharge) 4. Evaporation ponds (this hold potential to pollute/contaminate underground water if malfunctioned). It is recommended that the site reviews the definition of IWRA in the AWS Standard Guidance and in the glossary of the AWS Standard. Finding No: TNR-001013	
1.3.7	<i>Annual water-related costs, revenues, and a description or quantification of the social, cultural, environmental, or economic water-related value generated by the site shall be identified and used to inform the evaluation of the plan in 4.1.2.</i>	Q Obs.
Comment	The water related costs are under continuous monitoring and reconciliation. The cost includes raw water cost and processing costs. Raw water cost includes irrigation bills and pumping cost of underground water to site. Further, on site different processing costs add to the water as per process requirements. the detailed costing sheet (O&U Cost Sheet) is attached and some basic costs are are follow; Also the water costs include the annual charges for disposal in SCARP, annual charges for 10 cusec canal water.	
1.3.8	<i>Levels of access and adequacy of WASH at the site shall be identified.</i>	Q Obs.
Comment	WASH related arrangements were observed at site during the audit. These arrangements are not only for the staff but also workers and contractors at site. Adequate numbers of toilet and drinking water stations maintained. Special focus on Hygiene and hand washing facilities because of Covid 19 precautions.	
1.4	<i>Gather data on the site's indirect water use, including: its primary inputs; the water use embedded in the production of those primary inputs the status of the waters at the origin of the inputs (where they can be identified); and water used in out-sourced water-related services.</i>	
1.4.1	<i>The embedded water use of primary inputs, including quantity, quality and level of water risk within the site's catchment, shall be identified.</i>	↑ in progress
Comment	There is only one source of embedded water in catchment. Which is water consumed in manufacturing of packing bags of fertilizer. These are being produced by RSL packaging limited, which is identified as stakeholder and also included in AWS engagements. Finding No: TNR-001016	
1.4.2	<i>The embedded water use of outsourced services shall be identified, and where those services originate within the site's catchment, quantified.</i>	✓ Yes
Comment	Site has not outsourced its processes. Raw and packing material are purchased. One manufacturer (supplier) of packing material lies within catchment which already discussed in 1.4.1.	
1.5	<i>Gather water-related data for the catchment, including water governance, water balance, water quality, Important Water-Related Areas, infrastructure, and WASH</i>	
1.5.1	<i>Water governance initiatives shall be identified, including catchment plan(s), water-related public policies, major publicly-led initiatives under way, and relevant goals to help inform site of possible opportunities for water stewardship collective action.</i>	↑ in progress

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Comment	<p>Water governance related initiatives identified and are part of AWS plan these include;</p> <ul style="list-style-type: none">- Drinking water facilities for communities- Implementation of drip irrigation systems- Awareness and engagement sessions with schools, hospital and near by communities- Funding to trust hospital of treatment of water borne diseases (Hap & kidney). supply of potable water and installation of RO units for dialysis machines. <p>However, the Tehsil Municipal Administration (TMA) and Irrigation department not identified in stakeholders. They are responsible for domestic water supply & sanitation and canal water governance respectively.</p> <p>They are main water governance bodies in catchment but there was no evidence of their engagement/ inputs while identifying shared water challenges or any collaborative initiative.</p>	
		Finding No: TNR-001018
1.5.2	<p><i>Applicable water-related legal and regulatory requirements shall be identified, including legally-defined and/or stakeholder-verified customary water rights.</i></p>	 Yes
Comment	<p>Applicable legal requirements adequacy documented (FLL Legal Register) and compliance maintained. Also, water usage quota allocated by Gov. of Pakistan, conserving rights of others</p>	
1.5.3	<p><i>The catchment water-balance, and where applicable, scarcity, shall be quantified, including indication of annual, and where appropriate, seasonal, variance.</i></p>	 closed
Comment	<p>Site has performed basic water balance of their catchment based on the hydrological studies and Literature.</p> <p>Site Underground water sources is Lower Indus Plain Aquifer (LIPA) and the water balance of same has been presented in attached PPT File</p>	
		Finding No: TNR-001020
1.5.4	<p><i>Water quality, including physical, chemical, and biological status, of the catchment shall be identified, and where possible, quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be identified.</i></p>	 Yes
Comment	<p>The catchment has two water sources, canal water and underground water. The canal water quality is good but availability is only seasonal basis. Where as the TDS and especially the Arsenic levels are high in underground water (publications attached).</p>	
1.5.5	<p><i>Important Water-Related Areas shall be identified, and where appropriate, mapped, and their status assessed including any threats to people or the natural environment, using scientific information and through stakeholder engagement.</i></p>	 in progress
Comment	<p>The important water related areas of catchment are;</p> <p>(Slides 9 to 12 of attached PPT)</p> <ul style="list-style-type: none">- The Tibbi minor canal- Tube-well area at Ahmed Pure Lama Drop of static head of underground water- The SCARP lakes (in catchment) are ultimate receiving body for site NEQS compliant effluents	
		Finding No: TNR-001023
1.5.6	<p><i>Existing and planned water-related infrastructure shall be identified, including condition and potential exposure to extreme events.</i></p>	 Yes
Comment	<p>FLL has evaluated the water related infrastructure. Following key concerns were identified;</p> <ul style="list-style-type: none">- Poor quality of underground water- Insufficient supply of canal (fresh) water- Poor WASH arrangements <p>The Site could include the potential exposure to extreme events.</p>	

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1.5.7	<i>The adequacy of available WASH services within the catchment shall be identified.</i>	 Yes
Comment	<p>FFL has identified that the WASH arrangements in catchment are very poor. There is scarcity of drinking water, lack of sanitation infrastructure and lack of hygiene related awareness.</p> <p>FFL is providing safe drinking water to nearby communities and also involved in spreading awareness about WASH (Evidences attached)</p>	
1.6	<i>Understand current and future shared water challenges in the catchment, by linking the water challenges identified by stakeholders with the site's water challenges.</i>	
1.6.1	<i>Shared water challenges shall be identified and prioritized from the information gathered.</i>	 in progress
Comment	<p>The shared water challenges identified by engaging stakeholders (as attached). The prominent shared water challenges are;</p> <ul style="list-style-type: none"> - Poor quality of underground water - Insufficient supply of canal (fresh) water - Poor WASH arrangements 	
	Finding No: TNR-001027	
1.6.2	<i>Initiatives to address shared water challenges shall be identified.</i>	 Yes
Comment	<p>FFL has identified that the WASH arrangements in catchment are very poor. There is scarcity of drinking water, lack of sanitation infrastructure and lack of hygiene related awareness. FFL is providing safe drinking water to nearby communities and involved in spreading awareness about WASH. The initiatives mentioned in attached AWS plan.</p>	
1.7	<i>Understand the site's water risks and opportunities: Assess and prioritize the water risks and opportunities affecting the site based upon the status of the site, existing risk management plans and/or the issues and future risk trends identified in 1.6.</i>	
1.7.1	<i>Water risks faced by the site shall be identified, and prioritized, including likelihood and severity of impact within a given timeframe, potential costs and business impact.</i>	 Obs.
Comment	<p>FFL has conducted a water related risk and opportunity assessment for the plant site. This assessment has considered both risk and opportunities related source water as well as effluents. The water critical chemicals inventory and process improvements and deviations also considered the attached water related risk register includes the potential cost and business impact as well,</p>	
1.7.2	<i>Water-related opportunities shall be identified, including how the site may participate, assessment and prioritization of potential savings, and business opportunities.</i>	 Obs.
Comment	<p>Water related opportunities are identified and documented as action items in AWS plan. These includes site and catchment opportunities for better governance and fresh water conservation.</p>	
1.8	<i>Understand best practice towards achieving AWS outcomes: Determining sectoral best practices having a local/catchment, regional, or national relevance.</i>	
1.8.1	<i>Relevant catchment best practice for water governance shall be identified.</i>	 Yes
Comment	<p>As discussed, the site is located in water stressed area and the company is engaged to promote drip irrigation technology to get better crop yields in limited water supply. (action item 10 - 12 of AWS plan)</p>	

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1.8.2	<i>Relevant sector and/or catchment best practice for water balance (either through water efficiency or less total water use) shall be identified.</i>	 Yes
Comment	The site is located in water stressed area and the company is engaged to promote drip irrigation technology to get better crop yields in limited water supply.	
1.8.3	<i>Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.</i>	 Yes
Comment	<p>The fertilizer manufacturing process has some inherent water related challenges. These include;</p> <ul style="list-style-type: none"> - Hazardous effluents - High water losses on cooling tower evaporative and blowdowns - water critical chemical inventories <p>These inherent challenges are controlled some of the actions are as follow;</p> <ul style="list-style-type: none"> - Evaporation ponds (lined with membrane) for non compliant effluents. This is done with strict monitoring of bore hole water quality around ponds, ambient air mentoring and safe sludge disposal - Purate system installation to reduce water consumption at cooling tower - All large storage are equipped with containment wall - RO reject and cooling tower blowdown water recycling for plantation <p>FFL is also working on feasibility of treatment and recycling of non compliant effluent (evaporation pond, proposal attached).</p>	
1.8.4	<i>Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.</i>	 Obs.
Comment	The effluent monitoring and controls on water disposed to SCARP found rigorous. Any deviation in effluent quality diverts effluent stream to evaporation ponds. This is to prevent contamination of land aquifer. Also borehole water quality monitoring is carried out for evaporation pits to detect any seepage of pond water due to membrane damage.	
1.8.5	<i>Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified.</i>	 Yes
Comment	Though FFL has very few female employees but female washrooms/toilets were available all across Special focus on Hygiene and hand washing facilities related of Covid 19 precautions.	

2 STEP 2: COMMIT & PLAN - Commit to be a responsible water steward and develop a Water Stewardship Plan	
2.1	<p><i>Commit to water stewardship by having the senior-most manager in charge of water at the site, or if necessary, a suitable individual within the organization head office, sign and publicly disclose a commitment to water stewardship, the implementation of the AWS Standard and achieving its five outcomes, and the allocation of required resources.</i></p>
2.1.1	<p><i>A signed and publicly disclosed site statement OR organizational document shall be identified. The statement or document shall include the following commitments:</i></p> <ul style="list-style-type: none"> - <i>That the site will implement and disclose progress on water stewardship program(s) to achieve improvements in AWS water stewardship outcomes</i> - <i>That the site implementation will be aligned to and in support of existing catchment sustainability plans</i> - <i>That the site's stakeholders will be engaged in an open and transparent way</i> - <i>That the site will allocate resources to implement the Standard.</i>
Comment	<p>An AWS Commitment statement has been signed by General Manager Manufacturing. The statement does not include the commitments listed in this indicator. This commitment has been shared with identified stakeholders.</p> <p style="text-align: right;">Finding No: TNR-001035</p>
2.2	<p><i>Develop and document a process to achieve and maintain legal and regulatory compliance.</i></p>
2.2.1	<p><i>The system to maintain compliance obligations for water and wastewater management shall be identified, including:</i></p> <ul style="list-style-type: none"> - <i>Identification of responsible persons/positions within facility organizational structure</i> - <i>Process for submissions to regulatory agencies.</i>
Comment	<p>FFL has developed and implemented SOP for identification of applicable legal requirements. Manager HSE is responsible for compliance evaluation of applicable legal requirements. the compliance responsibilities lies with concerned managers, mentioned in legal register.</p> <p>The FFL legal is not specific for water and wastewater and does not appoint responsible persons/positions (rather mentions unit or department) as well as the process for submissions to regulatory agencies.</p>
2.3	<p><i>Create a water stewardship strategy and plan including addressing risks (to and from the site), shared catchment water challenges, and opportunities.</i></p>
2.3.1	<p><i>A water stewardship strategy shall be identified that defines the overarching mission, vision, and goals of the organization towards good water stewardship in line with this AWS Standard.</i></p>
Comment	<p>FFL has outlined the AWS strategy based on identified shared challenges. Areas of focus are set and AWS action items are based on these areas. the focus area are;</p> <ul style="list-style-type: none"> - Water conservation at site - Better control on effluents to preserve natural water resources - Provision of safe drinking water to community - Community awareness about important of WASH - Contribute in treatment of water borne diseases - Water efficiency enhancement initiatives in agriculture <p style="text-align: right;">Finding No: TNR-001039</p>

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2.3.2 *A water stewardship plan shall be identified, including for each target:*

- How it will be measured and monitored
- Actions to achieve and maintain (or exceed) it
- Planned timeframes to achieve it
- Financial budgets allocated for actions
- Positions of persons responsible for actions and achieving targets
- Where available, note the link between each target and the achievement of best practice to help address shared water challenges and the AWS outcomes.

🔍
Obs.

Comment FFL has prepared a comprehensive AWS Plan which includes SMART actions, costing and responsibilities. The projects/ actions in AWS plan are aligned with identified shared challenges and AWS strategy.

2.4 *Demonstrate the site’s responsiveness and resilience to respond to water risks*

2.4.1 *A plan to mitigate or adapt to identified water risks developed in co-ordination with relevant public-sector and infrastructure agencies shall be identified.*

🔍
Obs.

Comment The water related risks are well identified and control measures documented. The implementation of control measures were verified during the audit. FFL has set a hotline with SCARP for communication, if non compliant effluent is discharged to SCARP channel, to prevent ecological damage at ultimate receiving body. However, this never happened due to strict internal controls.

This indicator applies mainly to how the site will plan to address external risks outside of the site’s direct control or responsibility, and particularly for those risks associated with dependence on public infrastructure. This indicator also acknowledges that not all risks are associated with emergencies.

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3 STEP 3: IMPLEMENT - Implement the site's stewardship plan and improve impacts		
3.1	<i>Implement plan to participate positively in catchment governance.</i>	
3.1.1	<i>Evidence that the site has supported good catchment governance shall be identified.</i>	Q Obs.
Comment	<p>FFL has been engaged in different activities for better governance of water related issues. Some of the activities are as follow (details included in attached AWS plan);</p> <ul style="list-style-type: none"> - Installation, water supply and maintenance of 5 drinking water stations for nearby community. - Installation of Sprinkler, Raingun, Bubbler & Drip Irrigation Systems on 100 (Acres). This is experimental project for Implementation of Irrigation best practices and introduction of technology to agriculture water efficiency enhancement - Financial support to trust hospital for treatment of waterborne disease (Hepatitis & Kidney filtration facilities) - Community engagement for spreading awareness about WASH <p>However it has been noted (see 1.2.1) that the main water governance bodies in catchment were not engaged to effectively implement the initiatives in the catchment.</p>	
3.1.2	<i>Measures identified to respect the water rights of others including Indigenous peoples, that are not part of 3.2 shall be implemented.</i>	✓ Yes
Comment	The organization is providing treated/ safe drinking water to nearby community through 5 drinking water stations.	
3.2	<i>Implement system to comply with water-related legal and regulatory requirements and respect water rights.</i>	
3.2.1	<i>A process to verify full legal and regulatory compliance shall be implemented.</i>	✓ Yes
Comment	<p>HSE manager is responsible for evaluation of legal and regulatory compliance on quarterly basis. last evolution was done for quarter 1, 2022.</p> <p>As far water related requirements, compliance was verified during the audit. This includes effluent quality monitoring, EPA approval, effluent discharge permissions, water extraction and canal water quota approvals and etc.</p> <p>No legal or regulatory noncompliance was observed</p>	
3.2.2	<i>Where water rights are part of legal and regulatory requirements, measures identified to respect the water rights of others including Indigenous peoples, shall be implemented.</i>	✓ Yes
Comment	Fatima group own 100 acres land in area, this includes the land of FFL plant land and land in vicinity. The area has system of canal water allocation per acre. The water allocation to FFL has been regulated by Irrigation and power department in lieu of the land owned by the group. (water allocation letter attached)	
3.3	<i>Implement plan to achieve site water balance targets.</i>	
3.3.1	<i>Status of progress towards meeting water balance targets set in the water stewardship plan shall be identified.</i>	✓ Yes

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Comment	Site has target to reduce water fresh water consumption by 51300 m3/year. for current year almost 50000 m3 saving has been achieved with different water governance related initiative. Some initiatives have been implemented and some under progress to achieve the target. Attached is AWS Plan showing the progress and time lines for achieving the target.	
3.3.2	<i>Where water scarcity is a shared water challenge, annual targets to improve the site's water use efficiency, or if practical and applicable, reduce volumetric total use shall be implemented.</i>	Q Obs.
Comment	Site has target to reduce water fresh water consumption by 51300 m3/year. Different water governance related initiative have been implemented and some under progress to achieve this target on site initiative have been implemented: - Site-wide Sensor taps installation - Purifier Water installation in office buildings. - Purate unit installation - NP Effluent reduction - Sewage water use at plant - RO reject water usage in horticulture	
3.3.3	<i>Legally-binding documentation, if applicable, for the re-allocation of water to social, cultural or environmental needs shall be identified.</i>	✓ Yes
Comment	The site does not re-allocate water savings for external benefits or uses.	
3.4	<i>Implement plan to achieve site water quality targets</i>	
3.4.1	<i>Status of progress towards meeting water quality targets set in the water stewardship plan shall be identified.</i>	✓ Yes
Comment	Water Quality for potable, effluent and extracted ground water is being regularly monitored. Also, Quality monitoring is for evaporation ponds and bore hole around evaporation ponds. The quality monitoring is done to evaluate the compliance status with reference water quality standards. The water quality targets for bore holes around evaporation ponds are set and strictly monitored and maintained. Site has plan (in feasibility phase) to improve the quality of effluent stream going to evaporation ponds and reuse it.	
3.4.2	<i>Where water quality is a shared water challenge, continual improvement to achieve best practice for the site's effluent shall be identified and where applicable, quantified.</i>	✓ Yes
Comment	The water quality is shared water challenge and it is majorly due to natural salinity in the area. Also some areas in catchment have high Arsenic levels. - FFL is providing treated/ safe drinking water through 5 drinking water stations. - FFL actually two effluent streams. One is of compliant quality parameters which is being discharged from the site. The other effluents are non compliant, which is evaporated at evaporation ponds. Now, FFL is considering to recycle the noncompliant effluent after treatment and this project is under feasibility stage.	
3.5	<i>Implement plan to maintain or improve the site's and/or catchment's Important Water-Related Areas.</i>	
3.5.1	<i>Practices set in the water stewardship plan to maintain and/or enhance the site's Important Water-Related Areas shall be implemented.</i>	Q Obs.

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Comment	<p>The water related risks are well identified and control measures documented. The implementation of control measures was verified during the audit.</p> <ul style="list-style-type: none">- FFL has set a hotline with SCARP for communication, if non compliant effluent is discharged to SCRAP channel, to prevent ecological damage at ultimate receiving body. However, this never happened due to strict internal controls. these controls includes continuous effluent quality monitoring before equalization basin and before final discharge.- The non compliant effluent is being disposed through evaporation and sludge disposal at evaporation ponds. Controls found implemented to prevent non compliant effluents to any water body or seep into under ground water. These controls include regular monitoring of water quality for bore holes around the ponds, area ambient air quality monitoring and pond water quality monitoring. all the monitoring results are reviewed at expert level and any any deviation addressed proactively. <p>Various water governance related initiative have been implemented and some under progress to achieve the target. to achieve this target many on site initiative have been implemented. some of these are;</p> <ul style="list-style-type: none">- Purifier Water installation in office buildings.- NP Effluent reduction- Sewage water use at plant- RO reject water usage in horticulture	
3.6	<i>Implement plan to provide access to safe drinking water, effective sanitation, and protective hygiene (WASH) for all workers at all premises under the site's control.</i>	
3.6.1	<i>Evidence of the site's provision of adequate access to safe drinking water, effective sanitation, and protective hygiene (WASH) for all workers onsite shall be identified and where applicable, quantified.</i>	 Yes
Comment	<p>WASH related arrangements were observed at site. These arrangements not only for the staff but also workers and contractors at site. Adequate numbers of toilet and drinking water stations maintained. Though FFL has very few female employees but female washrooms/toilets were available all across. Special focus on Hygiene and hand washing facilities because of Covid 19 precautions.</p>	
3.6.2	<i>Evidence that the site is not impinging on the human right to safe water and sanitation of communities through their operations, and that traditional access rights for indigenous and local communities are being respected, and that remedial actions are in place where this is not the case, and that these are effective.</i>	 Yes
Comment	<p>During the visit and interviews didn't found any scenario of impingement of human right to water and sanitation. Stakeholders belonging to community were also interviewed and they expressed that the community appreciated the provision of safe drinking water to the nearby areas</p>	
3.7	<i>Implement plan to maintain or improve indirect water use within the catchment:</i>	
3.7.1	<i>Evidence that indirect water use targets set in the water stewardship plan, as applicable, have been met shall be quantified.</i>	 in progress
Comment	<p>There is only one source of indirect/embedded water in catchment, which is water consumed in manufacturing of packing bags of fertilizer. These are being produced by RSL packaging limited, which is identified as stakeholder and also included in AWS engagements. FFL has engaged them for water conservation projects and water consumption benchmarking.</p> <p style="text-align: right;">Finding No: TNR-001048</p>	
3.7.2	<i>Evidence of engagement with suppliers and service providers, as well as, when applicable, actions they have taken in the catchment as a result of the site's engagement related to indirect water use, shall be identified.</i>	 Obs.

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Comment	There is only one source of indirect/embedded water in catchment, which is water consumed in manufacturing of packing bags of fertilizer. These are being produced by RSL packaging limited, which is identified as stakeholder. FFL is providing free of cost potable water to RSL and has engaged them for water conservation projects and water consumption benchmarking.	
3.8	<i>Implement plan to engage with and notify the owners of any shared water-related infrastructure of any concerns the site may have.</i>	
3.8.1	<i>Evidence of engagement, and the key messages relayed with confirmation of receipt, shall be identified.</i>	 Yes
Comment	The FFL is discharging its treated effluent in SCARP channel, which is finally going into in lake. The terms and conditions found set with the owner of shared water body.	
3.9	<i>Implement actions to achieve best practice towards AWS outcomes: continually improve towards achieving sectoral best practice having a local/catchment, regional, or national relevance.</i>	
3.9.1	<i>Actions towards achieving best practice, related to water governance, as applicable, shall be implemented.</i>	 in progress
Comment	The site has not set best practices, related to water governance (see 1.8.1) Finding No: TNR-001051	
3.9.2	<i>Actions towards achieving best practice, related to targets in terms of water balance shall be implemented.</i>	 Obs.
Comment	Actions toward achieving best practice water balance are; - Site-wide Sensor taps installation - Purifier Water installation in office buildings. - Purate unit installation - NP Effluent reduction - Sewage water use at plant - RO reject water usage in horticulture	
3.9.3	<i>Actions towards achieving best practice, related to targets in terms of water quality shall be implemented.</i>	 Yes
Comment	Water Quality for potable, effluent and extracted ground water is being regularly monitored. Also, Quality monitoring is for evaporation ponds and bore hole around evaporation ponds. The quality monitoring is done to evaluate the compliance status with reference water quality standards.	
3.9.4	<i>Actions towards achieving best practice, related to targets in terms of the site's maintenance of Important Water-Related Areas shall be implemented.</i>	 Obs.
Comment	The water related risks are well identified and control measures documented. The implementation of control measures was verified during the audit. FFL has set a hotline with SCARP for communication, if non compliant effluent is discharged to SCARP channel, to prevent ecological damage at ultimate receiving body. However, this never happened due to strict internal controls. these controls includes continuous effluent quality monitoring before equalization basin and before final discharge. The non compliant effluent is being disposed through evaporation and sludge disposal at evaporation ponds. Controls found implemented to prevent non compliant effluents to any water body or seep into under ground water. These controls include regular monitoring of water quality for bore holes around the ponds, area ambient air quality monitoring and pond water quality monitoring. all the monitoring results are reviewed at expert level and any any deviation addressed proactively.	

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3.9.5	<i>Actions towards achieving best practice related to targets in terms of WASH shall be implemented.</i>	 Obs.
Comment	<p>Excellent WASH related arrangements were observed at site. These arrangements not only for the staff but also workers and contractors at site. Adequate numbers of toilet and drinking water stations maintained. Special focus on Hygiene and hand washing facilities because of Covid 19 precautions.</p> <p>FFL is providing safe drinking water to nearby communities and involved in spreading awareness about WASH.</p>	

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4		STEP 4: EVALUATE - Evaluate the site's performance.
4.1	<i>Evaluate the site's performance in light of its actions and targets from its water stewardship plan and demonstrate its contribution to achieving water stewardship outcomes.</i>	
4.1.1	<i>Performance against targets in the site's water stewardship plan and the contribution to achieving water stewardship outcomes shall be evaluated.</i>	 in progress
Comment	AWS Plan for 2022 is the first AWS plan FFL ever had, as they have recently opted the standard implementation. In the past a lot of water related initiatives have been implemented but no specific plan was documented. AWS action plan continuous monitoring is being performed and the status of action items are mentioned in AWS plan itself. Finding No: TNR-001055	
4.1.2	<i>Value creation resulting from the water stewardship plan shall be evaluated.</i>	 in progress
Comment	Site has separately calculated costs of different types of waters (Raw, potable, demin, polish etc.) but the value creation has not been focused in water saving projects. The site has calculated costs of raw and processed water. The value creation resulting from water related projects should also be documented. This may not or may not result in net overall savings, but still important to mention. Finding No: TNR-000740	
4.1.3	<i>The shared value benefits in the catchment shall be identified and where applicable, quantified.</i>	 in progress
Comment	Value creation aspect has not been considered for catchment initiatives. Finding No: TNR-000741	
4.2	<i>Evaluate the impacts of water-related emergency incidents (including extreme events), if any occurred, and determine the effectiveness of corrective and preventative measures.</i>	
4.2.1	<i>A written annual review and (where appropriate) root-cause analysis of the year's emergency incident(s) shall be prepared and the site's response to the incident(s) shall be evaluated and proposed preventative and corrective actions and mitigations against future incidents shall be identified.</i>	 Yes
Comment	No water related emergency or serious incident occurred / reported so far. However, potential emergencies found identified and response plan set. One effluent quality related near-miss was recorded and its potential consequences were controlled immediately. The root cause and corrective action found adequate. (Report attached)	
4.3	<i>Evaluate stakeholders' consultation feedback regarding the site's water stewardship performance, including the effectiveness of the site's engagement process.</i>	
4.3.1	<i>Consultation efforts with stakeholders on the site's water stewardship performance shall be identified.</i>	 in progress
Comment	FFL has engaged stakeholder for identification of shared challenges. However, the performance/ results of AWS action has not been shared with stakeholders. Finding No: TNR-000742	
4.4	<i>Evaluate and update the site's water stewardship plan, incorporating the information obtained from the evaluation process in the context of continual improvement.</i>	

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4.4.1 *The site’s water stewardship plan shall be modified and adapted to incorporate any relevant information and lessons learned from the evaluations in this step and these changes shall be identified.*  in progress

Comment AWS Plan for 202 is the first AWS plan FFL ever had, as they have recently opt the standard implementation. In the past a lot of water related initiatives have been implemented but no specific plan documented.

Finding No: TNR-001057

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5 STEP 5: COMMUNICATE & DISCLOSE - Communicate about water stewardship and disclose the site's stewardship efforts	
5.1	<i>Disclose water-related internal governance of the site's management, including the positions of those accountable for legal compliance with water-related local laws and regulations.</i>
5.1.1	<i>The site's water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations shall be disclosed.</i>
Comment	Though the information related to AWS has been disclosed in parts, but the site has not defined a mechanism for public disclosure of the AWS related information. Finding No: TNR-000743
5.2	<i>Communicate the water stewardship plan with relevant stakeholders.</i>
5.2.1	<i>The water stewardship plan, including how the water stewardship plan contributes to AWS Standard outcomes, shall be communicated to relevant stakeholders.</i>
Comment	The site has communicated their Water Stewardship Plan with stakeholders on different forums, though not in a systematic way. Finding No: TNR-000744
5.3	<i>Disclose annual site water stewardship summary, including: the relevant information about the site's annual water stewardship performance and results against the site's targets.</i>
5.3.1	<i>A summary of the site's water stewardship performance, including quantified performance against targets, shall be disclosed annually at a minimum.</i>
Comment	A summary of the site's performance against the Water Stewardship Plan has not been prepared or disclosed. Finding No: TNR-000744
5.4	<i>Disclose efforts to collectively address shared water challenges, including: associated efforts to address the challenges; engagement with stakeholders; and co-ordination with public-sector agencies.</i>
5.4.1	<i>The site's shared water-related challenges and efforts made to address these challenges shall be disclosed.</i>
Comment	The information related to AWS has been disclosed in bits and pieces but the site has not defined mechanism for public disclosure of the AWS related information. FFL has recently presented its agri-water yield enhancement initiatives in international symposium at KFUEIT. (details attached) Finding No: TNR-001059
5.4.2	<i>Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified.</i>
Comment	The Site has not describe efforts made to engage stakeholders and coordinate and support public - sector agencies. Finding No: TNR-000745
5.5	<i>Communicate transparency in water-related compliance: make any site water-related compliance violations available upon request as well as any corrective actions the site has taken to prevent future occurrences.</i>

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5.5.1 Any site water-related compliance violations and associated corrections shall be disclosed. ✔ Yes

Comment No compliance violation reported so far

5.5.2 Necessary corrective actions taken by the site to prevent future occurrences shall be disclosed if applicable. ✔ Yes

Comment No compliance violation reported so far

5.5.3 Any site water-related violation that may pose significant risk and threat to human or ecosystem health shall be immediately communicated to relevant public agencies and disclosed. ✔ Yes

Comment No compliance violation reported so far

Photographic Evidence from Audit

✔ Yes

Comment Photographic Evidences of IWRAs and other audit activities



Drinking_water_station.jpg

WSAS

Water Stewardship Assurance Service Meeting Attendance Register

First Name	Last Name	Designation	Opening Meeting	Closing Meeting	Signature
Muhammad	Aslam	Chief Environmental Officer	Y	Y	[Signature]
[Name]	[Name]	[Designation]	Y	Y	[Signature]
[Name]	[Name]	[Designation]	Y	Y	[Signature]
[Name]	[Name]	[Designation]	Y	Y	[Signature]
[Name]	[Name]	[Designation]	Y	Y	[Signature]
[Name]	[Name]	[Designation]	Y	Y	[Signature]
[Name]	[Name]	[Designation]	Y	Y	[Signature]
[Name]	[Name]	[Designation]	Y	Y	[Signature]
[Name]	[Name]	[Designation]	Y	Y	[Signature]
[Name]	[Name]	[Designation]	Y	Y	[Signature]

Audit Attendance.jpeg