

Welcome to your CDP Water Security Questionnaire 2021

W0. Introduction

W0.1

(W0.1) Give a general description of and introduction to your organization.

GAR is one of the leading palm oil plantation companies located in Indonesia with Integrated operations focused on the production of palm-based edible oils, fats, and fuels. GAR is focused on sustainable palm oil production and its primary activities range from cultivating and harvesting oil palm trees, processing fresh fruit bunches (FFB) into crude palm oil (CPO) and palm kernel (PK), to refining CPO into industrial and consumer products such as cooking oil, margarine, shortening, and specialty fats, as well as merchandising palm products throughout the world.

GAR aims to be the leader in sustainable palm oil production by adopting the best industry practices and standards, managing the environment responsibly and empowering the communities where we operate while delivering shareholder value. Our sustainability strategy is based on implementing best practices holistically in all dimensions of sustainability (the environment, community, work environment, supply chain and marketplace); benchmarking our practices against the Roundtable on Sustainable Palm Oil (RSPO) Principles and Criteria and the core principles of the United Nations Global Compact (UNGC); and engaging stakeholders.

W-FB0.1a

(W-FB0.1a) Which activities in the food, beverage, and tobacco sector does your organization engage in?

- Agriculture
- Processing/Manufacturing
- Distribution

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	January 1, 2020	December 31, 2020

W0.3

(W0.3) Select the countries/areas for which you will be supplying data.

Indonesia

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

USD

W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which operational control is exercised

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Plantations	Plantations are rainfed and not irrigated and we do not measure water consumption/discharge data in plantations.
Indirect operations/operations not owned by us	We only report on water data from our wholly-owned direct operations.
Operations outside Indonesia	All our palm oil operations are based in Indonesia (contributing 99% of revenue) and this represents the area where we have the biggest environmental footprint and impact – we have therefore focused on reporting water data from our Indonesian operations.

W1. Current state

W1.1

(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Important	Important	Water is the main supplementary component in Crude Palm Oil processing and refining in our operations as well as those of our third-party supplier mills. Significant amounts of freshwater that have been treated to meet the required quality is used during the process. We have ranked water issues as 'important' to our mill and refinery operations and to our third-party supplier mills. We expect this dependency on treated freshwater to continue for the foreseeable future.
Sufficient amounts of recycled, brackish and/or produced water available for use	Neutral	Neutral	<p>We require water of a certain quality for CPO processing in our mills and refineries. This also applies to our third-party supplier mills. While we aim to reuse and recycle, recycled or brackish water is not suitable for use in mill and refinery processes.</p> <p>We do reuse treated wastewater known as POME (palm Oil Mill Effluent) which is treated either in open or closed ponds. The treated POME consists of water mixed with solids and is reused as fertilizer through Land Application in our own plantation. We have therefore ranked recycled/brackish water's importance as neutral. We do not foresee this dependency changing in the foreseeable future.</p>

W-FB1.1a

(W-FB1.1a) Which water-intensive agricultural commodities that your organization produces and/or sources are the most significant to your business by revenue? Select up to five.

Agricultural commodities	% of revenue dependent on these agricultural commodities	Produced and/or sourced	Please explain
Palm oil	More than 80%	Both	The company's primary activities are located in Indonesia and range from cultivating and harvesting oil palm trees, processing fresh fruit bunches (FFB) into crude palm oil (CPO) and palm kernel (PK), to

			refining CPO into industrial and consumer products. Palm oil is the main source of revenue for the company and we do not have any other water-intensive agricultural commodities. Water is required during all stages of the palm oil growth and production process for us and our third-party supplier mills. We measure and monitor water data at all our owned mills and refineries. All our plantations are rainfed and not irrigated and we do not measure water consumption/withdrawal or discharge at the plantation.
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W1.2

(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	76-99	The total volume of water withdrawals is measured and monitored regularly in all our mills and refineries facilities. (Note: we operate 48 mills and 6 refineries throughout Indonesia). All our plantations are rainfed and not irrigated and we do not measure water withdrawals at the plantation.
Water withdrawals – volumes by source	76-99	The total volume of water withdrawals from different sources is measured and monitored regularly in all our mills and refineries. The water sources recorded include surface water, ground water, sea water, public utility, and recycled water. Our plantations are rainfed and not irrigated and we do not measure water withdrawal by source at the plantation.
Water withdrawals quality	100%	The raw water quality is monitored regularly according to quality parameters such as pH, TDS, silica and turbidity.
Water discharges – total volumes	76-99	We measure the quality and quantity of Palm Oil Mill Effluent (POME) which consists of liquids mixed with solids discharged from our palm oil mills. POME is treated in a wastewater treatment facility. Discharged treated POME is not separated into solids and liquids and is reused as fertilizer in our plantations. In our refineries, wastewater is discharged to third

		parties (municipal facilities). Our plantations are rainfed and not irrigated, and we do not measure discharge at the plantation.
Water discharges – volumes by destination	76-99	We measure the volumes of Palm Oil Mill Effluent (POME) which consists of liquids mixed with solids discharged from our palm oil mills. POME is treated in a wastewater treatment facility. Discharged treated POME is not separated into solids and liquids and is reused as fertilizer in our plantations. In our refineries, we measure volumes of wastewater discharged to third parties (municipal facilities). Our plantations are rainfed and not irrigated, and we do not measure discharge at the plantation. We also measure the water recycled from WWTP and Reverse Osmosis in our 6 refineries.
Water discharges – volumes by treatment method	76-99	We measure the volumes of treated Palm Oil Mill Effluent (POME) which consists of liquids mixed with solids discharged from our palm oil mills. POME is treated in a wastewater treatment facility. Discharged treated POME is not separated into solids and liquids and is reused as fertilizer in our plantations. In our refineries, we measure volumes of wastewater discharged to third parties (municipal facilities). We also measure the water recycled from WWTP and Reverse Osmosis in our 6 refineries. Our plantations are rainfed and not irrigated, and we do not measure discharge at the plantation.
Water discharge quality – by standard effluent parameters	100%	We monitor the quality of POME discharge from palm oils mills to ensure the quality complies with standard effluent parameters set by the government. We also monitor the quality of wastewater from the refineries according to a set of standard effluent parameters set by the government. Our plantations are rainfed and not irrigated, and we do not measure discharge at the plantation.
Water discharge quality – temperature	100%	We monitor the quality of POME discharge from palm oils mills including the temperature to ensure the quality complies with standard effluent parameters set by the government. We also monitor the quality (including the

		temperature) of wastewater from the refineries according to a set of standard effluent parameters set by the government. Our plantations are rainfed and not irrigated, and we do not measure discharge at the plantation.
Water consumption – total volume	76-99	The total volume of water consumption is measured and monitored regularly in all our owned mills and refineries. Our plantations are rainfed and not irrigated, and we do not measure discharge at the plantation.
Water recycled/reused	76-99	We measure the percentage of water that is recycled back to the system. We also measure our reuse of treated POME – a mixture of liquids and solids as fertilizer on our plantations.
The provision of fully-functioning, safely managed WASH services to all workers	100%	The company monitors all WASH services provided for employees at all our operational areas as well as the quality of WASH services and utilities provided at employee housing facilities.

W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	18,600.95	Lower	Refinery production decreased leading to decreased water usage.
Total discharges	11,575.57	Higher	This year we used a different calculation method from last year's report, which was adapted to the definition of water discharge from CDP W1.2b Guidance. We have expanded our reporting of water data this year to include the discharge of treated POME (palm oil mill effluent) which is reused as fertilizer in our plantations. We have also included the volume of discharge to third parties (municipal facilities) from our refineries. The amount of POME increased within the reporting period.
Total consumption	7,025.38	Lower	Decrease in refinery production.

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress and provide the proportion.

	Withdrawals are from areas with water stress	Identification tool	Please explain
Row 1	No	Other, please specify Environmental Impact Assessment	GAR plantations are not opened/developed in any water scarce or stressed areas and our plantations are all rainfed and not irrigated. As part of our Environmental Impact Assessment we assess water risks prior to any new development. In addition, we have stopped opening new plantations since 2014.

W-FB1.2e

(W-FB1.2e) For each commodity reported in question W-FB1.1a, do you know the proportion that is produced/sourced from areas with water stress?

Agricultural commodities	The proportion of this commodity produced in areas with water stress is known	The proportion of this commodity sourced from areas with water stress is known	Please explain
Palm oil	Not applicable	Not applicable	Palm oil trees require a constant, abundant supply of water. Hence, palm oil plantations are only viable in and around tropical regions where there is fairly constant and abundant rainfall throughout the year. Plantations are therefore not opened/developed in any water scarce or stressed areas and our plantations are all rainfed and not irrigated. As part of our Environmental Impact Assessment we assess water risks prior to any new development. In addition, we have stopped opening new plantations since 2014.

W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous	Please explain
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			reporting year	
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	13,827.92	Lower	Water consumption was lower during the reporting period due to decrease in refinery production .
Brackish surface water/Seawater	Relevant	3,002.58	Higher	The data for brackish surface water/seawater usage was expanded to include seawater and seawater reverse osmosis (SWRO) from three refineries. We strive to meet all our water needs through surface water that is processed to meet the quality standards required for the production process and use seawater only in very limited quantities in refinery locations where no surface water is available. We continue to improve our water efficiency by recycling and reusing where appropriate.
Groundwater – renewable	Relevant	302.82	Lower	Groundwater consumption was lower during the reporting period due to lower production.
Groundwater – non-renewable	Not relevant			We do not use non-renewables groundwater - we only use renewable groundwater, and we use it only in minimal quantities in locations where no surface water is available.
Produced/Entrained water	Not relevant			The produced water is water withdrawn from condensate water from a facility at one refinery. During the reporting period, the facility did not produce condensate.
Third party sources	Relevant	1,223.68	Lower	Lower due to decreased production.

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Not relevant			We are not discharging our waste to the surface water. The wastewater produced from our palm oil mill is treated in an open or closed wastewater treatment system to render the chemical and physical characteristics compliant with national regulations. 100% of the treated wastewater is applied in the field as organic fertiliser.
Brackish surface water/seawater	Not relevant			We are not discharging our waste to the sea. The wastewater produced from our palm oil mill is treated in an open or closed wastewater treatment system to render the chemical and physical characteristics compliant with national regulations. 100% of the treated wastewater is applied in the field as organic fertiliser.
Groundwater	Not relevant			We do not discharge our waste to groundwater. The wastewater produced from our palm oil mill is treated in an open or closed wastewater treatment system to render the chemical and physical characteristics compliant with national regulations. 100% of the treated wastewater is applied in the field as organic fertiliser.
Third-party destinations	Relevant	4,400.24	Higher	The wastewater produced from our palm oil mill is treated in an open or closed wastewater treatment system to render the chemical and physical characteristics compliant with national regulations. 100% of the

				treated wastewater is applied in the field as organic fertiliser. We have expanded our water data reporting to include discharge data from refineries.
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W1.2j

(W1.2j) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Relevant	4,400.24	Higher	31-40	Approximately 8% of water used in the process is reused (refluxed) into the system in downstream operation. The wastewater from our 6 refineries is treated in an open or closed wastewater treatment system to render the chemical and physical characteristics compliant with national regulations before discharged to

					nature/leaving the company boundary. The facilities available for tertiary water treatment is Reverse Osmosis and WWTP.
Secondary treatment	Relevant	7,175.32	Higher	91-99	Approximately 4% of water used in the process is reused (refluxed) into the system in upstream operation. The wastewater produced from our 47 palm oil mills is treated in an open or closed wastewater treatment system to render the chemical and physical characteristics compliant with national regulations. 100% of the treated wastewater is called POME (palm oil mill effluent), which is

					<p>applied on our plantations land as organic fertiliser. The amount of POME increased within the reporting period.</p>
<p>Primary treatment only</p>	<p>Not relevant</p>				<p>We follow strict land management practices that are designed to reduce the risk of surface and ground water pollution. These include not applying herbicides or chemicals near and around riparian areas; restricting the application of treated liquid waste (POME) which is used as fertiliser to 50 metres from riparian areas; and planting vetiver grass to minimise soil erosion at riparian</p>

					areas. We submit water sample analyses to the environmental agencies at least twice yearly.
Discharge to the natural environment without treatment	Not relevant				We follow strict land management practices that are designed to reduce the risk of surface and ground water pollution. These include not applying herbicides or chemicals near and around riparian areas; restricting the application of treated liquid waste (POME) which is used as fertiliser to 50 metres from riparian areas; and planting vetiver grass to minimise soil erosion at riparian areas. We submit water

					sample analyses to the environmental agencies at least twice yearly.
Discharge to a third party without treatment	Not relevant				We follow strict land management practices that are designed to reduce the risk of surface and ground water pollution. These include not applying herbicides or chemicals near and around riparian areas; restricting the application of treated liquid waste (POME) which is used as fertiliser to 50 metres from riparian areas; and planting vetiver grass to minimise soil erosion at riparian areas. We submit water sample analyses to the

					environmental agencies at least twice yearly.
Other	Not relevant				

W-FB1.3

(W-FB1.3) Do you collect/calculate water intensity for each commodity reported in question W-FB1.1a?

Agricultural commodities	Water intensity information for this produced commodity is collected/calculated	Water intensity information for this sourced commodity is collected/calculated	Please explain
Palm oil	Yes	No, not currently and we have no plans to collect/calculate this data within the next two years	Water consumption per metric tonne of CPO during this reporting year is 4.11m3. The calculation is based on water used solely for production process.

W-FB1.3a

(W-FB1.3a) Provide water intensity information for each of the agricultural commodities identified in W-FB1.3 that you produce.

Agricultural commodity

Palm oil

Water intensity value (m3)

4.11

Numerator: water aspect

Other, please specify

Water used solely for production process in 46 mills

Denominator

Tons

Comparison with previous reporting year

Lower

Please explain

Water consumption per metric tonne of CPO during this reporting year is 4.11m3, which is lower compared to 4.27m3 in previous reporting year. The calculation is based on water used solely for production process. In 2020, water intensity is still high due to a relative decrease in volume of CPO produced.

W1.4

(W1.4) Do you engage with your value chain on water-related issues?

No, we do not engage on water with our value chain

W1.4d

(W1.4d) Why do you not engage with any stages of your value chain on water-related issues and what are your plans?

	Primary reason	Please explain
Row 1	Important but not an immediate business priority	<p>Our critical supply chain consists of third-party suppliers of palm oil fresh fruit bunches, crude palm oil and palm kernel. Their most material environmentally-related issues are therefore similar to ours, and include no deforestation, forest conservation, no development on peat and conservation of biodiversity. We are therefore focused on ensuring that our supply chain is compliant with these environmental management commitments in the GAR Social and Environmental Policy. Through our efforts to transform our supply chain, we are supporting the conservation commitments of 100,000 hectares of forests by our suppliers which helps to maintain freshwater resources.</p> <p>Palm oil trees require a constant, abundant supply of water. Hence, palm oil plantations are only viable in and around tropical regions where there is fairly constant and abundant rainfall throughout the year. Plantations are therefore not opened/developed in any water scarce or stressed areas and plantations are rainfed and not irrigated.</p> <p>Nevertheless we recognize the growing importance of water-related issues and risks and we are at the initial stages of gauging awareness of water-related issues in our supply chain.</p>

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?

No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

No

W3. Procedures

W-FB3.1

(W-FB3.1) How does your organization identify and classify potential water pollutants associated with its food, beverage, and tobacco sector activities that could have a detrimental impact on water ecosystems or human health?

Regular monitoring of water and wastewater is carried out and reported to the government's environmental agency. We submit water sample analyses to the environmental agencies at least twice yearly. This allows us to monitor and determine the presence of water pollutants.

We also take steps to minimize risk of pollution of surface and ground water and we follow strict land management practices that are designed to reduce these risks. This is monitored and supervised by our in-house research facility – SMART Research Institute. These include NOT applying herbicides or chemicals near and around riparian areas; restricting the application of treated liquid waste (POME) which is used as fertilizer to 50 meters from riparian areas; and planting vetiver grass to minimize soil erosion at riparian areas. On the plantations we also have sensors to monitor the impact of fertilizer and other chemical use on water quality. We are also increasingly deploying advanced technology and new techniques as part of precision agriculture. This includes more precise and reduced application of fertilizers through using new techniques which in turn reduces the risk of pollutants and chemical run-offs.

W-FB3.1a

(W-FB3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your food, beverage, and tobacco sector activities.

Potential water pollutant

Fertilizers

Activity/value chain stage

Agriculture – direct operations

Agriculture – supply chain

Description of water pollutant and potential impacts

The use of fertilizers can contribute to water pollution if not properly managed.

Fertilizers, which are both rich in nitrogen and phosphorus, are the primary sources of

nutrient pollution from agricultural sources. Excess nutrients can impact water quality when it rains or when water and soil containing nitrogen and phosphorus wash into nearby waters or leach into ground water.

Management procedures

- Soil conservation practices
- Fertilizer management
- Calculation of fertilizer intensity data
- Follow regulation standards
- Other, please specify
 - Precision agriculture

Please explain

We employ strict guidelines and standard operational procedures in the application of fertilizer.

These guidelines are monitored, supervised and updated by our in-house research facility – SMART Research Institute.

Proper fertilizer management includes applying fertilizers in the proper amount, at the right time of year and with the right methods. This can significantly reduce the potential for pollution.

We practice this on our own plantations as well as share the best practices with plasma and independent smallholders.

We use sensors in the plantations to actively monitor the impact of fertilizers on the environment including water quality.

We also use precision agriculture and are deploying new technology such as AI and new techniques. This allows us to be more precise with fertilizer application and reduce the amount of fertilizer applied.

Potential water pollutant

Pesticides and other agrochemical products

Activity/value chain stage

- Agriculture – direct operations
- Agriculture – supply chain

Description of water pollutant and potential impacts

The use of chemicals such as pesticides and herbicides can contribute to water pollution if not properly managed.

Pesticides and herbicides can reach surface water through runoff from treated plants and soils. The impact of excessive pesticide application is water contamination and disturbance of ecosystem balance and detrimental impacts on human health.

Management procedures

Soil conservation practices
Crop management practices
Pesticide management
Calculation of fertilizer intensity data
Substitution of pesticides for less toxic or environmentally hazardous alternatives
Change raw material inputs
Product innovation
Follow regulation standards
Other, please specify
 Precision agriculture and Integrated Pest Management

Please explain

We employ strict guidelines and standard operational procedures in pesticide and herbicide application. These guidelines are monitored, supervised and updated by our in-house research facility – SMART Research Institute.

Our usage of agrochemicals is low and we continue to minimise this through Integrated Pest Management methods. This includes using biological controls such as barn owls and leopard cats to control rats, pheromones to control beetles, and the use of parasitoids to control caterpillars. We also use biopesticides to further minimise dependence on chemical pesticides. We are also implementing soil conservation practices.

We practice this on our own plantations as well as share the best practices with plasma and independent smallholders.

We also use precision agriculture and deploy new technology such as AI and new techniques. This allows us to be more precise in the application of pesticides and reduce the amount applied.

Potential water pollutant

Wastewater and sludge with high organic or suspended solids content

Activity/value chain stage

Agriculture – direct operations

Agriculture – supply chain

Description of water pollutant and potential impacts

Palm Oil Mill Effluent or POME is the effluent that is produced during the the processing of oil palm fruit into CPO. This could potentially have polluting effects if not properly treated and contained.

Management procedures

Waste water management

Follow regulation standards

Please explain

POME is treated at our waste water treatment pond to reduce acidity, Biological Oxygen Demand (BOD) & Chemical Oxygen Demand (COD) levels so that it becomes safe for use as an organic land fertilizer. A specific application permit is obtained for each location, with close monitoring of environmental impact as required by the authorities. POME can also be processed with a methane capture technique where the end result is biogas which can be used as energy.

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?

No, water risks-related are not assessed

W3.3e

(W3.3e) Why does your organization not undertake a water-related risk assessment?

	Primary reason	Please explain
Row 1	Important but not an immediate business priority	We are currently focused on managing and mitigating risks related to our most material (environmentally-related) issues which include: no deforestation, forest conservation, no development on peat and conservation of biodiversity. We also focus on riparian zone conservation and rehabilitation and the conservation of water catchment areas. These are also priorities for our key stakeholders such as customers and third-party suppliers. Palm oil trees require a constant, abundant supply of water. Hence, palm oil plantations are only viable in and around tropical regions where there is fairly constant and abundant rainfall throughout the year. Plantations are therefore not opened/developed in any water scarce or stressed areas, and plantations are rainfed and not irrigated.

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

No

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

Our organisation defines substantive impact as an impact that has a significant or important effect to our business, which affects a large proportion of our business units, creates further impacts on those business units, and potentially becomes a real concern for our stakeholders.

These impacts occur due to risks such as extreme weather events, forest fires, declining ecosystem services, changes to national legislation, changes to international law and bilateral agreements, changes in land tenure regulations, conflicts of land ownership and occupancy rights, negative media coverage, local community opposition, as well as uncertainty about product origin and legality.

Those risks create substantive impacts on our business, which are:

- a. Reduction or disruption in production capacity (in tonnes): production capacity is calculated as the sum of fresh fruit bunch output and palm product output.
- b. Increased operational costs: operational cost consists of selling expenses, general and administrative expenses such as export tax and levy, transportation and delivery, export administration, salaries, wages, and employees' benefits, as well as advertising and promotions. General and administrative expenses comprise of salaries, wages and employees' benefits, rent, taxes and licenses, depreciation and amortisation, repairs and maintenance, travelling, and professional fees.
- c. Disruption in product supply (in million MT)
- d. Reduced demand for products and services (in million MT)
- e. Disruption to sales: Our sales mostly comprise Crude Palm Oil (CPO) and Palm Kernel (PK) including their derivative products, such as cooking oil, margarine, shortening and biodiesel.
- f. Brand damage

W4.2b

(W4.2b) Why does your organization not consider itself exposed to water risks in its direct operations with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Evaluation in progress	<p>We are currently focused on managing and mitigating substantive risks related to our most material (environmentally-related) issues. These include no deforestation, forest conservation, no development on peat and high biodiversity conservation value area.</p> <p>Palm oil trees require a constant, abundant supply of water. Hence, palm oil plantations are only viable in and around tropical regions, where there is relatively consistent and abundant rainfall throughout the year. Plantations are therefore not opened/developed in any water scarce or stressed areas, and are rainfed and not irrigated.</p> <p>We focus on riparian zone conservation and rehabilitation and the conservation of water catchment areas. Our efforts in forest conservation (over 78,000 hectares of conservation area) also contribute to maintaining the health of</p>

		<p>freshwater resources. We have completed the rehabilitation and revegetation of over 2,700 hectares of riparian buffer zone.</p> <p>We recognise the growing importance of water-related issues. We are in the process of evaluating potential future substantive impacts stemming from water-related issues.</p> <p>We are aware that climate change can result in drier climate conditions and that water deficits can develop in certain areas. This can lead to higher water consumption and less yield in fruit. Thus, we have begun R&D into climate change resilience/ adaptation. We are exploring the use of advanced technology such as AI and developing fertigation (fertiliser-irrigation) systems in our nurseries that optimises the use of water and fertiliser. SMARTRI is also continuing to work on developing more climate-resilient seed stock such as seeds which are more drought-resistant.</p> <p>Risks of pollution: we follow strict land management practices that are designed to reduce the risk of surface and ground water pollution. These include not applying herbicides or chemicals near and around riparian areas; restricting the application of treated liquid waste (POME) which is used as fertiliser to 50 metres from riparian areas; and planting vetiver grass to minimise soil erosion at riparian areas. We submit water sample analyses to the environmental agencies at least twice yearly.</p>
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W4.2c

(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Not yet evaluated	<p>Our critical supply chain consists of third-party suppliers of palm oil fresh fruit bunches, crude palm oil and palm kernel. Their most material environmentally-related issues are therefore similar to ours, and include no deforestation, forest conservation, no development on peat and conservation of biodiversity. We are therefore focused on ensuring that our supply chain is compliant with these environmental management commitments in the GAR Social and Environmental Policy.</p> <p>GAR currently supports the conservation of 220,000 hectares forest, directly and indirectly. This includes 78,000 hectares of HCS and HCV areas across our operations which we have been identified for conservation. We are also supporting the commitments to conserve over 100,000 hectares of forests by our suppliers. This conservation contributes to maintenance of freshwater resources.</p>

		<p>Nevertheless we recognize the growing importance of water-related issues and risks and we are at the initial stages of gauging awareness of water-related issues in our supply chain. We are in the process of evaluating potential future substantive impacts stemming from water-related issues.</p> <p>We are using our model of community conservation partnership to carry out the protection and rehabilitation of 2,600 hectares of degraded peatland in our PT Agro Lestari Mandiri (AMNL) concession in West Kalimantan. This project was launched at the end of 2015 following a severe El Niño which led to widespread peat fires. To date, we have revegetated 1,000 hectares of the area as a buffer zone and we continue to monitor and maintain optimum water levels to keep the peat wet. This helps on two fronts: improving food security and livelihoods, and forest conservation. We are working with partners including the University of Tanjungpura (UNTAN), L'Oréal and the South Pole Group.</p> <p>In 2020, we developed a water management plan with University of Tanjungpura. This is a key long-term step to keep the peat area wet and reduce the risk of peat fires which contribute to haze. We also carried out an educational initiative for local communities on adaptive cultivation in peat areas.</p>
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W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

No

W4.3b

(W4.3b) Why does your organization not consider itself to have water-related opportunities?

	Primary reason	Please explain
Row 1	Not yet evaluated	<p>We are currently focused on managing and mitigating substantive risks related to our most material (environmentally-related) issues. Based on our latest materiality assessment these include no deforestation, forest conservation, no development on peat and high biodiversity conservation value area. We also focus on riparian zone conservation and rehabilitation and the conservation of water catchment areas.</p> <p>Our efforts in forest conservation also contributes to maintaining the health of freshwater resources. GAR currently oversees and supports the conservation of 220,000 hectares forest, directly and indirectly. This includes 78,000 hectares of</p>

		<p>HCS and HCV areas across our operations which we have been identified for conservation. To date, this has resulted in agreements to protect around 43,000 hectares of forests. We are also supporting the commitments to conserve over 100,000 hectares of forests by our suppliers. We are also involved in landscape initiatives in Siak and Aceh Tamiang.</p> <p>We recognise the growing importance of water-related issues, and we have already implemented water recycling and reuse including the reuse of 100% POME discharge as fertiliser in our plantations.</p> <p>Our management of HCV areas involves the rehabilitation of riparian zones that have previously been cleared or planted. These riparian buffer zones play a crucial role in providing wildlife habitats and maintaining water systems.</p> <p>Since 2015, GAR has been carrying out a riparian rehabilitation programme in our 18 concessions. We have completed the rehabilitation and revegetation of over 2,700 hectares of riparian buffer zone.</p> <p>To further improve our understanding of riparian zone rehabilitation, we are participating in the Riparian Ecosystem Restoration in Tropical Agriculture (RERTA) Project with Cambridge University.</p> <p>This project will provide specific recommendations on the most appropriate options for restoring riparian margins in established oil palm plantations, and an evidence base to improve sustainability in tropical agricultural landscapes.</p> <p>Data is collected on biodiversity, ecosystem functions, and crop yield before, during, and after riparian restoration. Outputs will be published in peer-reviewed academic and industry journals, presented at conferences, and delivered as policy guidance for the industry. For more information, see the RERTA Project here: http://oilpalmdiversity.com/research/rerta-project/</p>
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W6. Governance


W6.1


(W6.1) Does your organization have a water policy?

Yes, we have a documented water policy that is publicly available

W6.1a

(W6.1a) Select the options that best describe the scope and content of your water policy.

	Scope	Content	Please explain
Row 1	Company-wide	Recognition of environmental linkages, for example, due to climate change	<p>As part of our environmental management commitments under the GAR Social and Environmental Policy (GSEP), we are committed to protecting riparian zones and water catchment areas.</p> <p>We currently have 78,000 hectares of conservation area in our concessions as well as partnerships with the community to conserve another 43,000 hectares of forests.</p> <p>Our efforts in forest conservation contributes to maintaining the health of freshwater resources. We have also rehabilitated and revegetated 2,700 hectares of riparian zones.</p> <p>Our policy also applies to all our operations as well as our supply chain and we are at the initial stages of assessing our suppliers' awareness of water-related issues.</p> <p> 1, 2</p>

 1GAR_Social_and_Environmental_Policy.pdf

 22020 - GAR Sustainability Report.pdf

W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?

Yes

W6.2a

(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.

Position of individual	Please explain
Chief Executive Officer (CEO)	The Board and Senior Management are fully involved in and supports GAR's sustainability efforts and commitments under the GSEP including water-related issues. A Sustainability Committee (SC), which is chaired by GAR Corporate Strategy and Business Development Director, oversees all matters related to responsible palm oil. The SC comprises the senior leadership team from the upstream, downstream, and corporate business units, as well as the Head of the

	Sustainability and Strategic Stakeholder Engagement Directorate and other staff members from the department. It reports directly to the Chairman and CEO of GAR, and the Board, and meets regularly to oversee the development and implementation of the GSEP and the monitoring of performance across all our business operations.
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W6.2b

(W6.2b) Provide further details on the board’s oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Sporadic - as important matters arise	Reviewing and guiding strategy Reviewing innovation/R&D priorities	Water-related issues which come under the GAR Social and Environmental Policy are reviewed by the Sustainability Committee and reported to CEO and Chairman and the Board.

W6.3

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

Name of the position(s) and/or committee(s)

Facilities manager

Responsibility

Other, please specify
Implementing/monitoring water SOP

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

Implementation and monitoring of operational standard and policy in operational units are carried out by Senior Managers, including water standards and policy. Should an important issue arise, the Senior Manager will report to the Vice President and Management Committee.

W6.4

(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

Provide incentives for management of water-related issues	Comment
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Row 1	No, and we do not plan to introduce them in the next two years	
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W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

No

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?

No, but we plan to do so in the next two years

W7. Business strategy

W7.1

(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Please explain
Long-term business objectives	No, water-related issues not yet reviewed, but there are plans to do so in the next two years	We have not seen any substantive impacts from water-related issues on our business as palm oil plantations are not developed in water-stressed areas. Nevertheless, we recognise the growing importance of water-related issues, and we are at the initial phase of conducting a water footprint assessment prior to evaluating the future impacts on our business.
Strategy for achieving long-term objectives	No, water-related issues not yet reviewed, but there are plans to do so in the next two years	We have not seen any substantive impacts from water-related issues on our business as palm oil plantations are not developed in water-stressed areas. Nevertheless, we recognise the growing importance of water-related issues, and we are at the initial phase of conducting a water footprint assessment before evaluating future impacts on our business and subsequently setting goals and strategy.
Financial planning	No, water-related issues not yet reviewed, but there are plans to do so in the next two years	We have not seen any substantive impacts from water-related issues on our business. Nevertheless, we recognise the growing importance of water-related issues, and we are at the initial phase of conducting a water footprint assessment before evaluating future impacts on our

		business and subsequently setting goals and strategy, including financial planning.
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W7.2

(W7.2) What is the trend in your organization’s water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

0

Anticipated forward trend for CAPEX (+/- % change)

0

Water-related OPEX (+/- % change)

0

Anticipated forward trend for OPEX (+/- % change)

0

Please explain

These are considered as operational costs of the individual business units, and currently, we do not have a separate overall water CAPEX/OPEX figure.

W7.3

(W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?

	Use of climate-related scenario analysis	Comment
Row 1	No plans for the next two years	We do not yet have the climate modelling to enable us to complete climate-related scenario analysis. We need to explore the possibility of commissioning climate modelling before being able to carry out a climate-related scenario analysis in the future.

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

No, and we do not anticipate doing so within the next two years

Please explain

We are currently at the initial phase of carrying out a water footprint assessment and do not yet have the full data and methodology to calculate an internal price for water.

W8. Targets

W8.1

(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals	Targets are monitored at the corporate level	<p>We set targets based on our commitments in the GAR Social and Environmental Policy (GSEP). Under the GSEP, we are committed to conserving and restoring riparian zones and water catchment areas. Our targets include analysis of riparian zones and water catchment areas and subsequent restoration and conservation. We have completed the rehabilitation and revegetation of over 2,700 hectares of riparian zones.</p> <p>Regarding water consumption, we note a general rising trend. Our targets in this area include carrying out a water footprint assessment to understand and better manage water consumption and exploring the use of advanced technology such as AI to maximise efficient use of water and fertiliser.</p> <p>Our targets and progress are monitored and reported publicly in our annual Sustainability Report.</p>

W8.1a

(W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.

Target reference number

Target 1

Category of target

Watershed remediation and habitat restoration, ecosystem preservation

Level

Company-wide

Primary motivation

Reduced environmental impact

Description of target

Under the GSEP, our management of High Conservation Value areas also involves the rehabilitation of riparian zones that have previously been cleared or planted. These riparian buffer zones have particular ecological importance, providing specific wildlife habitats and playing a key role in water systems.

Quantitative metric

Total number of watershed remediation and habitat restoration, ecosystem preservation activities

Baseline year

2015

Start year

2015

Target year

2020

% of target achieved

100

Please explain

Since 2015, GAR has been implementing a riparian rehabilitation programme in its 18 concessions. We have completed the rehabilitation and revegetation of over 2,700 hectares of riparian buffer zone. To further improve our understanding of riparian zone rehabilitation, we are participating in the Riparian Ecosystem Restoration in Tropical Agriculture (RERTA) Project with Cambridge University. This project will provide specific recommendations on the most appropriate options for restoring riparian margins in established oil palm plantations, and an evidence base to improve sustainability in tropical agricultural landscapes.

For more information see the RERTA Project:

<http://oilpalmbiodiversity.com/research/rerta-project/>

Target reference number

Target 2

Category of target

Watershed remediation and habitat restoration, ecosystem preservation

Level

Company-wide

Primary motivation

Climate change adaptation and mitigation strategies

Description of target

Rehabilitation and maintenance of peat ecosystem (revegetate 980 hectares by 2020)

Quantitative metric

Total number of watershed remediation and habitat restoration, ecosystem preservation activities

Baseline year

2015

Start year

2016

Target year

2020

% of target achieved

100

Please explain

The project is in line with GAR's commitments to protect and not develop any peatlands in its concessions and is also in line with the Indonesian Government's efforts to restore up to 2 million ha of peatlands. The project was launched following fire damage in the severe El Nino fire season of 2015. We were able to continue working on rehabilitating the 2,600 hectare Peat Ecosystem in West Kalimantan despite the COVID-19 pandemic. In collaboration with Tanjung Pura University, we have devised a water management master plan that will ensure the peat area's water levels are maintained to eliminate future fires. Over 1,000 hectares have also been revegetated and will be regularly monitored.

This is a key long-term step to keep the peat area wet and reduce the risk of peat fires which contribute to haze.

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?

No, we do not currently verify any other water information reported in our CDP disclosure


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W10. Sign off

W-FI

(W-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

GAR continuously publicize the water consumption and recycle data annually on Sustainability Report. The report is accessible for public, which can be accessed at <https://www.goldenagri.com.sg/sustainability/sustainability-report/>

 GAR_forest_conservation_policy-fcp.pdf

 GAR-Peat-Ecosystem-Rehabilitation-Project.pdf

 2020 - GAR Annual Report.pdf

 GAR_Social_and_Environmental_Policy.pdf

 2020 - GAR Sustainability Report.pdf

 2020 - GAR Sustainability Report.pdf

W10.1

(W10.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Managing Director Sustainability and Strategic Stakeholder Engagement	Chief Sustainability Officer (CSO)

W10.2

(W10.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

No

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission
I am submitting my response	Investors	Public

Please confirm below

I have read and accept the applicable Terms