

Part III Annex J

Community Health, Safety and Security Management Plan

Version 2.0

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LIST OF ACRONYMS

Abbreviation	Full Definition
AIDs	Acquired Immunodeficiency Syndrome
ANRS	Afar National Regional State
AQMP	Air Quality Management Plan
BMP	Biodiversity Management Plan
CDP	Community Development Plan
CHS	Community, Health and Safety
CHSS	Community, Health, Safety and Security
CHSSMP	Community Health, Safety and Security Management Plan
EPA	Environmental Protection Authority
ES-MS	Environmental and Social Management System
ESIA	Environmental and Social Impact Assessment
GoE	Government of Ethiopia
HIV	Human Immunodeficiency Virus
HR	Human Resources
IFC	International Finance Corporation
IMCP	Integrated Mine Closure Plan
IMMP	In-Migration Management Plan
LLITNs	Long Lasting Insecticide Treated Nets
LoM	Life of Mine
LRP	Livelihood Restoration Plan
OHS	Occupational Health and Safety
PIIM	Project-Induced In-Migration
PS	Performance Standard
RAP	Resettlement Action Plan
RTAs	Road Traffic Accidents
SEP	Stakeholder Engagement Plan
SES	Stakeholder Engagement Strategy
SPCCP	Spill Prevention Control and Contamination Plan
STIs	Sexually Transmitted Infections
TMP	Traffic Management Plan
VPs	Voluntary Principles
WHO	World Health Organisation
WMP	Waste Management Plan
WkMP	Worker Management Plan

DEFINITIONS

The following definitions are of relevance within this report:

- **Contractors** – persons working for external companies (or employed by an employment agency) that are under contract to carry out for the unit, but not being part of the unit's workforce.
- **Decommissioning and closure** – is the process by which options for the final status of structures at the end of their working life are assessed for their dismantling, physical removal, disposal or modification (if beneficial usage of existing Project infrastructure is a component of the closure scheme).
- **Employer** – the organisation, Yara Dallol BV, which utilises the services of someone for remuneration or compensation in return.
- **Employees** – full time and part time employees of Yara Dallol BV (i.e. – salaries paid directly to individuals by Yara Dallol BV).
- **Recruitment** – the process of advertising, selecting and appointing a suitable candidate for a vacant position.

Yara International is a leading global fertilizer company with sales of fertilizer to about 150 countries globally. As part of Yara International's overall upstream strategy, the company is exploring for suitable raw sources that can be developed and used as a source to Yara International's global fertilizer production and directly as finished product in its product portfolio. To complement these upstream processes, Yara International has recently started a subsidiary company, Yara Dallol BV, which is involved in the exploration and mining development of potash concessions in Ethiopia. These concessions are located in the Danakil Depression, Afar National Regional State (ANRS), Ethiopia. Yara International, through its subsidiary, proposes to develop a potash mine - the Yara Dallol Potash Project (hereafter referred to as the Project) within these concession areas.

As part of the environmental approval process for the Project a suite of environmental and social management plans is needed to address the issues identified in the Environmental and Social Impact Assessment (ESIA). Several management plans have been developed to address impacts identified in the ESIA and are implemented as part of an environmental management system for the Yara Dallol Potash Project.

Several activities associated with the Project may impact upon the health safety and security of the local community. This Community Health, Safety and Security Management Plan (CHSSMP) has been compiled to address the specific impacts that are anticipated to occur as a result of planned mining developments as identified in the ESIA. This plan sets out a formal system by which Yara Dallol BV can manage and implement mitigation measures that will avoid or reduce the significance of impacts related to community health safety and security.

1.1***POLICY STATEMENT AND OBJECTIVES***

The development of this CHSSMP has been guided by the Yara Dallol BV Health, Environment, Safety, Quality and Product Stewardship Policy, as set out in *Box 1.1*. This Policy is a high-level corporate statement of intent and establishes the principles to be followed in the management of environmental and health & safety issues.

Box 1.1

Health, Environment, Safety, Quality and Product Stewardship Policy Statement

COMPANY COMMITMENT

Yara Dallol BV's aim is to establish sustainable growth and the creation of shareholder and societal value. Yara Dallol BV affirms to its stakeholders, including employees, customers and the public, its commitment to continuously improve and reach standards of excellence in Health Environment, Safety, Quality and Product Stewardship through its operations.

ENVIRONMENTAL POLICY

Yara Dallol BV will manage their business in a life cycle perspective. In its operations, Yara Dallol BV will contribute to eco-efficiency by continuously improving energy consumption and reducing waste, emissions and discharges. Waste that is generated will be handled and disposed of safely and responsibly.

Yara Dallol BV will design its products and develop product applications to have the minimum adverse effect on the environment throughout their lifecycle.

HEALTH AND SAFETY

Injuries and occupational illnesses, as well as safety and environmental incidents, are preventable, and Yara Dallol BV's goal for each of these is zero. Yara Dallol BV will encourage their employees to adopt a healthy, safe life-style for themselves and their families.

Yara Dallol BV will be prepared for emergencies and cooperate with local authorities to establish and improve their emergency preparedness.

1.1.1

Objectives

The objectives of the CHSSMP are to:

- Continuously identify, evaluate and prioritise the risks and impacts of Yara Dallol BV's activities on the health, safety and security of local communities;
- Proactively prevent and avoid impacts to community health safety and security, and enhance any positive impacts related to community health, safety and security;
- Identify strategies that provide adequate health related information and prevention measures through which communities can manage their own health and safety in an optimum manner; and
- Implement security that protects Yara Dallol BV's employees, assets and business continuity in a manner that adheres to Ethiopian legislation, and

is consistent with the Voluntary Principles on Security and Human Rights (VPs) ⁽¹⁾.

1.2 *PURPOSE AND SCOPE*

The purpose of the CHSSMP is to provide a clear set of actions and responsibilities for the control of impacts affecting the health and safety of the communities within the Project's area of influence.

The scope of this CHSSMP covers construction, operational and decommissioning and closure phases of the Project. The CHSSMP is relevant to Yara Dallol BV and all contractors.

The CHSSMP includes measures to respond to the following potential impacts identified in the ESIA:

- Changes to community health profile including exposure to disease, changes in availability and quality of water resources and food insecurity and nutritional status;
- Changes to livelihoods and income generating opportunities and subsequent effects on community access to social and physical infrastructure;
- Changes to community health and wellbeing including changes to social and cultural cohesion; and
- Changes to community safety profile related to traffic, emergency responses, unplanned events, crime and conflict.

Community health includes the concept of well-being, which looks beyond physical health or absence of disease, and incorporates a broader psycho-social concept of mental and social health. Wellbeing also considers the ability of an individual to realise their potential within society, work productively, build strong and positive relationships with others and contribute to their community ⁽²⁾. Factors such as self-esteem, coping mechanisms, resilience and stress response are important in determining an individual's wellbeing.

This CHSSMP is considered to be a 'live' document and will need to be amended periodically in light of operational changes and learnings experienced during its implementation.

¹ The VPs are a set of principles developed by the governments of the UK and USA and companies in the extractive and energy sectors and NGOs to guide companies in maintaining the safety and security of their operations within an operating framework that ensures respect for human rights and fundamental freedoms.

⁽²⁾ World Health Organisation, 2012 and Government Office for Science, 2005

This CHSSMP should be read in the context of the Environmental and Social Management System (ES-MS) (discussed in *Chapter 13* of *Part I* of the *ESIA*), which has been structured to provide a vehicle for the integrated management of the suite of management plans described in *Part III*. These plans have been designed to address a broad range of social and environmental risks.

It is recognised that the ES-MS and associated plans are living tools that will be constantly updated to accommodate changing circumstances.

The CHSSMP links with a number of other social and environmental management plans, the details of this link are described in *Table 1.1*.

Table 1.1 *Details of Linkages between the CHSSMP and Other Management Plans associated with the Yara Dallol Potash Project*

Management Plan	Overlap of this Plan with Content of Other Plans
ENVIRONMENTAL PLANS	
Air Quality Management Plan (AQMP)	Air quality has a direct consequence for human health. The AQMP discusses the avoidance, mitigation and management measures required to protect human health.
Waste Management Plan (WMP)	Management of waste is directly related to community health and safety. The WMP includes measures related to management of hazardous materials and environmental and natural resources and considers human health.
Integrated Mine Closure Plan (IMCP)	Discusses measures related to the long-term health and safety related to closure planning.
OCCUPATIONAL HEALTH, SAFETY AND RISK PLANS	
Emergency Response Plan (ERP)	The ERP outlines emergency response measures in the event of unplanned events occurring as a result of the Project. This includes stakeholder engagement during emergency events.
SOCIAL PLANS	
In-Migration Management Plan (IMMP)	The IMMP discusses mitigation and management measures related to in-migration and the consequences for community health, safety and security.
Worker Management Plan (WkMP)	The WkMP discusses worker code of conduct, and includes measures to avoid or manage impacts related to workers health and wellbeing.

A summary of the legal requirements and standards relevant to the CHSSMP are presented below.

2.1 NATIONAL LEGISLATION AND POLICY

There are several legislative instruments in Ethiopia pertaining to the protection of the environment. The relationship between environmental protection and integrity, and community health and safety is indicated within some of these instruments.

2.1.1 *Constitution of the Federal Democratic Republic of Ethiopia*

Article 44 of the Constitution states that all persons have the right to a clean and healthy environment. This is echoed in Article 92 which outlines environmental objectives of the Constitution stating that the Government of Ethiopia (GoE) shall endeavour to ensure that all Ethiopians live in a clean and healthy environment. Furthermore it stipulates that the design and implementation of programmes and projects of development shall not damage or destroy the environment, and people have the right to full consultation and to the expression of views in the planning and implementation of environmental policies and projects that affect them directly.

2.1.2 *Environmental Policy of Ethiopia (1997)*

Consistent with Article 44 and 92 of the Constitution, the Environmental Policy states that the people are assured of their fundamental rights to an environment that is clean and healthy.

2.1.3 *Environmental Pollution Control Proclamation (300/2002)*

The Proclamation advocates a 'polluter pays' policy and the relevant environmental authority has the right to close or relocate any enterprise if the activity being carried out poses a risk to human health or to the environment. The Proclamation also outlines authority requirements on the management of municipal wastes, hazardous waste, and chemical and radioactive substances.

2.1.4 *Prevention of Industrial Pollution Council of Ministers Regulation (159/2008)*

Certain sections of the Regulation can be deemed applicable to the Project. These sections include the need for emergency response systems and the need for monitoring of environmental safety.

2.1.5 *Water Resource Management Proclamation (197/2000)*

This proclamation addresses the protection and management of surface and groundwater resources, requiring that environmental conservation and water resource protection measures are incorporated into water resource planning and project development.

2.1.6 *Public Health Proclamation (200/2000)*

This proclamation prohibits discharging of untreated liquid waste generated from septic tanks, seepage pits and industries into water bodies or water convergences. It also prohibits the disposal of solid or liquid or any other waste in a manner which contaminates the environment or affect the health of civil society.

2.1.7 *Environmental Standards for Industrial Pollution Control in Ethiopia*

The Ethiopian Federal Government has developed a list of environmental standards for the purposes of preventing significant industrial pollution. These standards present pollution limits for emissions to atmosphere and water resources and noise emissions. These limits are discussed in the Air Quality Management Plan, Water Management Plan and Noise Management Plan respectively.

2.2 *INTERNATIONAL LEGISLATION AND STANDARDS*

2.2.1 *IFC Performance Standards*

Yara Dallol BV have committed to meeting the International Finance Corporation's Performance Standards on Environmental and Social Sustainability (IFC PSs). Specifically in relation to the CHSSMP, this means that Yara Dallol BV and its contractors will satisfy the requirements of IFC PS4 (Community, Health, Safety and Security).

IFC PS4 outlines a project's responsibility to avoid or minimise the risks and impacts to community health, safety and security that may arise from proposed activities, paying particular attention to vulnerable groups. Focused attention and effort should be made in conflict or post-conflict areas where a project could exacerbate an already sensitive local situation and stress scarce local resources potentially leading to further conflict.

2.2.2 *IFC General EHS Guidelines*

These guidelines cover a variety of issues related to emergency response planning and preparedness including fire prevention, disease prevention, management and transport of hazardous materials, traffic safety, general site hazards, management of change and financing.

2.2.3 *IFC Mining Sector Guidelines*

The mining sector guidelines cover community health and safety specific to mining activities including management of water storage dams, emergency response and preparedness, disease transmission and control.

2.2.4 *Voluntary Principles on Security and Human Rights*

Several governments (USA, UK, Netherlands and Norway), companies in the extractive and energy sectors, and Non-governmental Organisations (NGOs) have engaged in a dialogue on security and human rights. The participants recognise the importance of the promotion and protection of human rights throughout the world and the constructive role business and civil society - including NGOs, labour/trade unions, and local communities - can play in advancing these goals.

To achieve this, a set of Voluntary Principles has been developed to guide companies in maintaining the safety and security of their operations within an operating framework that ensures respect for human rights and fundamental freedoms.

2.2.5 *United Nations Guiding Principles for "Protect, Respect and Remedy" Human Rights Framework*

The United Nations (UN) Human Rights Council have endorsed the Guiding Principles for the Implementation of the UN "Protect, Respect and Remedy" Framework. The UN Guiding Principles provide a standard for preventing and addressing the risk of adverse impacts on human rights linked to business activity. The Guiding Principles clarify the meaning of the corporate responsibility to respect human rights, which is also a key component of Global Compact Principle 1.

With respect to this CHSSMP, Yara Dallol BV has the responsibility to ensure that adequate measures are developed and implemented by parties, including third parties, to adhere to this CHSSMP.

Furthermore, Yara Dallol BV has the responsibility for ensuring that specific responsibilities allocated to them are organised and implemented. Yara Dallol BV has the responsibility to ensure that their employees and contractors are trained and aware of all required Community Health, Safety and Security procedures.

The overall accountability and responsibility for implementing these mitigation and avoidance measures will lie with the Community Development Department; however, other functions will also be responsible for implementation of measures including the Health and Safety Manager, Security Manager and Human Resources (HR) functions.

Table 7.1 (at the end of this Plan) identifies the specific targets and management measures associated with the identified impacts, including monitoring measures and personnel responsible.

4 *IMPACT MANAGEMENT*

4.1 *SUMMARY OF IMPACT MANAGEMENT*

As with any project of this scale and nature, there are certain impacts that cannot be entirely eliminated, i.e. residual impacts after implementing mitigation measures. The proposed Project will seek to avoid impacts wherever possible (by changes to Project planning and/or design) and implement measures to mitigate impacts where they remain (to reduce impacts that cannot be avoided to acceptable levels).

The following sections include a description of the potential impacts and the mitigation measures proposed to reduce them to acceptable levels. These mitigation measures essentially comprise the management plan to avoid or mitigate negative impacts and enhance positive impacts related to the health, safety and security of local communities.

The following sections will:

- Identify potential impacts associated with each phase of the Project;
- Identify the objectives and targets related to the impacts;
- Describe the management measure(s) to minimise the impact; and
- Assign responsibilities for the management measures.

4.2 *MANAGEMENT DURING CONSTRUCTION*

4.2.1 *Potential Impacts*

Potentially significant impacts during the construction phase are related to reduced access to natural resources, and project-induced and the related indirect consequences for community health safety and security

If not managed correctly, construction activities may limit access to natural resources in the Project Area, in particular areas used for palm collection and grazing, thereby impacting income generating / subsistence opportunities from these livelihoods (with indirect consequences for community health safety and security).

The commencement of Yara Dallol BV's construction activities, in addition to other activities occurring in the area (i.e. the presence of other mining companies and the construction of the Government road) may encourage in-migration. This may cause an increase in vector borne and communicable

disease, community conflict etc. The likely impacts identified during the construction phase include:

- Decreased Availability of Palms;
- Decreased Availability of Water;
- Increased Incidence of Communicable Diseases;
- Increased Transmission of Malaria;
- Increased Incidences of Chronic/ Acute Respiratory Infections;
- Nutrition Related Illnesses;
- Increased incidences of chronic/ acute respiratory infections;
- Nutrition related illnesses;
- Increased anti-social behaviours; and
- Increase in injuries/ accidents.

4.2.2 *Objectives and Targets*

The objectives of the CHSSMP during construction will be consistent with those identified in *Section 1.1.1*. Specifically during construction this will include measures to:

- Avoid, minimise or compensate for the potential for community exposure to hazardous materials and substances during construction;
- Avoid, minimise or compensate for the potential for traffic related accidents;
- Avoid, minimise or compensate for the proposed Project's direct impacts on priority ecosystem services which may result in subsequent impacts to local income generating opportunities;
- Avoid, minimise or compensate for the potential for community exposure to communicable and vector-borne diseases;
- Avoid, minimise or compensate for a decline in the availability and / or quality of water resources available to local communities;
- Assist and collaborate with the local communities, local government, and other relevant partners, in their preparations to respond effectively to emergency situations; and
- Assess and manage risks and impacts posed by Yara Dallol BV's security arrangements to those within and outside the Project site.

In achieving these objectives Yara Dallol BV will consider the differentiated exposure of different local communities to impacts and the higher sensitivity of vulnerable groups.

Management Actions

The management actions required to fulfil the objectives of the CHSSMP during construction are discussed in greater detail below:

Measures Related to Palm Derived Livelihoods

- In order to manage impacts related to reduced availability of palms Yara Dallol BV will continue to conduct groundwater, ecological and livelihood analysis to define the spatial extent and magnitude of impact to palms.
- Yara Dallol BV will transplant all mature palms that may be directly impacted by road construction or surface water alterations as supervised and managed by a trained and specialist horticulturalist. Transplanted palms will be relocated to a defined palm 'plantation' or offset area managed by Yara Dallol BV, and other relevant stakeholders.
- Yara Dallol BV will prepare a palm nursery to provide suitable 'feedstock' supervised by a qualified horticulturalist with palms replanted as agreed with local communities. The nursery will be jointly managed between Yara Dallol BV and identified members of the community (and will specifically involve local capacity development).

Yara Dallol BV will undertake a thorough review of all Project specific road design and implement a comprehensive culvert design process to avoid or reduce potential impacts to surface flows. The results of this will inform the development of a Livelihood Restoration Framework / Plan (LRF / LRP) that will identify the geographical extent to which people rely on the impacted palm resource, and the specific required mitigation and / or compensation for affected households. The measures for such a plan may include:

PLEASE NOTE:

The undertaking of the following *potential* specific mitigation measures is dependent on the results of ongoing monitoring and analysis of potential impacts to Doum Palms.

- Develop a palm plantation or offset area managed by a trained and specialist horticulturalist to provide a continuous source of palm resources to local communities. This area will be irrigated with water provided by Yara Dallol BV and training will be given to local users concerning the sustainable management of the resource. Yara Dallol BV will also engage with relevant communities prior to establishment of the nursery, and discuss how the nursery will be managed.
- Develop a comprehensive Doum Palm livelihoods protection management plan that includes the proactive measures to monitor and respond to potential increases in palm mortality. This plan will be based on on-going monitoring of the palm population baseline to benchmark the health of the population (to be carried out by a trained and qualified botanist or ecologist) and a comprehensive monitoring program that records mortality trends in a meaningful and appropriate timeframe. Depending

on monitoring results the Doum Palm livelihoods protection management plan will include detailed protocols to rapidly implement a suit of bespoke mitigation and management measures including:

- Irrigate selected areas of palms to delay or avoid palm mortality; and
 - Proactive palm plantation, as informed by a timely pilot and feasibility study conducted by a suitably skilled horticulturalist, to increase palm availability to local communities.
- In coordination with relevant government and potential partner organisations implement livelihood diversification programs that may allow increased productivity of alternative livelihoods not dependant on palm resources. This program will be particularly targeted at women and female headed households.

Measures Related to Decreased Availability of Water

PLEASE NOTE:

Yara Dallol BV's water abstraction is recognised by MWH to be unlikely to impact community water resources; however, the management and mitigation measures below should be implemented where monitoring results show significant variation in groundwater levels or quality.

The following management measures focus on avoiding, minimising and restoring potential impact to groundwater; and will be based on further research to determine the likely scenario of groundwater abstraction and the appropriate response. These measures include:

- Conduct a recurring survey of all settlements in the affected area to record the location, extent, and quality of water sources, the size of the population reliant on these water sources and their usage patterns, particularly with regard to seasonality, and differences in water use or access by vulnerable populations, including women.
- Collaborate with other solution mining companies in the area to assess the cumulative impact of groundwater abstraction and develop a comprehensive local and regional monitoring system to ensure that an early warning system provides a timely indication of the impact of abstraction.
- Develop and model different abstraction strategies to minimise the impacts of water abstraction.
- The drilling of monitoring boreholes to monitor the effects of groundwater abstraction on community water supplies.
- Participate in a joint committee to assess water use on affected areas that are common to all parties.

- Guarantee water supply to potentially impacted communities based on water monitoring. Replacement infrastructure will ensure supply of potable water to all potentially impacted communities should monitoring indicate that access / quality of water may be impacted. These water sources will provide water of a higher standard than previously occurring.

Management of Communicable Disease

Management of potential incidence of communicable diseases in relation Yara Dallol BV's workforce are outlined in the WkMP (refer to *Annex M* in *Part III* of this ESIA), and includes pre-placement medical examination of all workers. This will be supported by periodic medical examinations that are supplemented by regular voluntary Worker Medical Screening Program onsite and a Monitoring and Evaluation (M&E) system. In addition a workplace policy and programme on HIV prevention and mitigation of HIV impacts will be implemented.

As a means to improve the health context in which the Project operates, Yara Dallol BV will collaborate with regional/local Government and relevant NGOs to support improvements to existing health services to handle the potential increase in population numbers and changes to the existing health profile of the area. This may include improving health facilities, the quality of medical personnel, the diagnostic capacity and treatment, the provision of vaccines, and the capacity to address epidemics and pandemics.

Yara Dallol BV, in collaboration with the local and regional Government, local emergency providers and local health care facilities will develop and implement Emergency Prevention, Preparedness and Response Plans (EPPRPs) to cover all incidents presenting risks to public safety and the affected communities in proximity to the Project Sites and the environment. The EPPRPs must:

- Be applicable to all contractors as well as local communities;
- Consider access to health care, major incidences, exposure to hazardous materials, multiple casualty events, epidemics and pandemics; and
- Make provisions for awareness-raising activities and emergency response training to the communities that are considered to be at higher risks.
- Yara Dallol BV will monitor the emergence of major pandemics through World Health Organisation (WHO) alerts. If the WHO Pandemic Alert Scale reaches Phase 4 ⁽¹⁾ the Project will implement the relevant EPPRPs.

(1) Phase 4: characterized by verified human-to-human transmission of an animal or human-animal influenza reasserting virus able to cause "community-level outbreaks." The ability to cause sustained disease outbreaks in a community marks a significant upwards shift in the risk for a pandemic. Phase 4 indicates a significant increase in risk of a pandemic but does not necessarily mean that a pandemic is a forgone conclusion.

As a means to mitigate impacts related to the increased incidences of HIV/AIDS and other STIs Yara Dallol BV will develop and implement an HIV/AIDS Prevention Programmes for its workforce.

In addition, the following measures will be implemented:

- Yara Dallol BV will develop and implement a Workforce Code of Conduct. The key health and safety elements of the code will include:
 - Zero tolerance of illegal activities by all personnel;
 - Forbidding the use of prostitution;
 - Forbidding illegal sale or purchase of alcohol;
 - Forbidding the sale, purchase or consumption of drugs; and
 - Forbidding illegal gambling and fighting.
- The Workforce Code of Conduct will be adhered to by all Contractors and Yara Dallol BV employees. Any employee or Contractor found in violation of the Code shall face disciplinary hearing which may result in dismissal.
- Yara Dallol BV will ensure that company medical services have sufficient capacity and capability to implement the company's policy on care and treatment of HIV-positive employees.
- Yara Dallol BV will ensure there is access to free condoms (including female condoms) at the worker camp to promote safe sexual practices.
- In partnership with local health officials and relevant NGOs, Yara Dallol BV will undertake information, education and communication campaigns around safe sexual practices and transmission of STIs and HIV/AIDS as well as condom distribution (including female condoms) at (Yara Dallol BV) stopping locations within the transport corridor targeting commercial sex workers.
- In partnership with local authorities and relevant NGOs Yara Dallol BV will support women's empowerment and education programmes to promote women's rights and safe sexual practices (including the use of condoms and female condoms) and support.

As a means to mitigate impacts related to sanitation and water-borne diseases Yara Dallol BV will:

- Conduct information, education and communication campaigns amongst Project personnel on hygiene and sanitation.
- Partner with local authorities and relevant organisations as (e.g. donors, civil society and NGOs) to facilitate delivery of sufficient supply, and adequate quality, of water to affected settlements (including schools).

Management of the Transmission of Malaria

To mitigate impacts related to the transmission of malaria Yara Dallol BV will develop and implement an Integrated Malaria Control, Prevention and Treatment Programme. The programme will include the following key aspects:

Vector Management

- Yara Dallol BV will avoid the creation of mosquito breeding conditions/habitats through creation of proactive surface water management during all phases, in particular, reduce the presence of standing water onsite through strict environmental controls. Such measures include repairing leaking pipes, dewatering of open excavations and effective drainage systems along access roads.

Control or Reduction of Individual Risk

- Personal protection and behaviour modification measures e.g., awareness raising and education programmes, and mandating compliance with appropriate anti-malarial chemoprophylaxis when recommended.
- Reduce the potential for mosquito-human interactions in workforce accommodation, office space and other buildings through the use of screens at windows and doors, application of air conditioners and fans, the use of bed nets and other measures.
- Ensure that the workforce has access to prompt, accurate and effective diagnosis and treatment while working on site or in remote areas.
- Develop and implement a malaria information booklet and training material for the workforce. These materials will be used as part of a new employee induction, as well as part of annual refresher training sessions on malaria.

Limit Effect of Infection

- The malaria immunity status of all employees and malaria transmission patterns of labour source areas will be considered and catered for when considering treatment options.
- Partnership and collaboration in community programs with key external stakeholders to ensure community collaboration and enhance program sustainability.
- Ensure availability of malaria treatment at all clinics used by the workforce and local communities. This will be achieved through a partnership with the ministry of health and / or relevant NGOs.

Box4.1 shows an example of an integrated malaria control programme.

Example of an Integrated Malaria Control, Prevention and Treatment Programme

PRIMARY CONTROL	
<i>Vector Management</i>	
ENVIRONMENTAL Site Selection Buffer zone; distance from vector breeding areas/ population with active malaria transmission.	CHEMICAL Larval control Destruction through biological, mechanical or physical means. No DDT may be used!!
Source Reduction Environmental modification to reduce vector habitats; environmental manipulation to produce unfavourable conditions for vectors	Adult Mosquito Control In-door residual spraying, space spraying and long lasting insecticide-treated bed-nets and other materials.
SECONDARY CONTROL (A,B,C)	
<i>Control/ Reduction of individual risk</i>	
AWARENESS Malaria and personal protection information distribution	BITE PROTECTION Bed-nets (LLITN), physical exclusion, personal protection
CHEMOPROPHYLAXIS Regular chemoprophylaxis for those considered at risk	
TERTIARY CONTROL (D)	
<i>Limiting Effect of Infection</i>	
DIAGNOSIS Prompt diagnosis through blood sampling or rapid diagnostic tests.	TREATMENT Use of artemisinin-based combination therapy; emergency standby treatment.

Source: ICMG Guidelines on HIV/ AIDs, Tuberculosis, and Malaria; 2007

Management of Increased Incidences of Chronic/ Acute Respiratory Infections

Impacts on the ambient air quality as a result of Project activities (construction and operation) are associated with:

- The generation of dust during site clearance and preparation;
- The generation of dust from road traffic (secondary unpaved roads); and
- Exhaust emissions (which may include sulphates, nitrogen oxides and particulate matter) from construction and operational vehicles (including approximately 96 vehicle movements per day related to potash shipment by road) as well as machinery (e.g., generators).

The measures and recommendations included in this *Section* should be read in conjunction with measures included in the Air Quality Management Plan (*Annex A of Part III* of the ESIA).

In partnership with the government, and NGOs; Yara Dallol BV will develop and implement educational campaigns to inform families about the early warning signs of acute respiratory infections that indicate the need to seek care.

Yara Dallol BV will adhere to WHO guidelines for infection prevention and control of epidemic- and pandemic-prone acute respiratory infections in Yara Dallol BV managed health care facilities.

Yara Dallol BV will implement the following mitigation measures with regard to road transportation:

- Commit to the lowest sulphur fuel usage possible so as to minimise harmful emissions.
- Develop and implement equipment and vehicle maintenance program to reduce emissions and dust generation.
- A speed limit of approximately 32kph should be maintained on gravel roads where surface binding agents or salt encrusting have not been applied.
- Yara Dallol BV will implement a dust suppression programme (on Yara Dallol BV controlled roads), including covered loads, vehicle washing and road wetting, particularly in areas where the road passes close to dwellings, schools and businesses. This may include chemical binding (e.g. MgCl₂) on unpaved road surfaces or use of saline water to develop a salt crust.
- Any directly affected individuals will be able to lodge grievances with the Yara Dallol BV using the grievance procedure regarding dust emissions that could be linked to the Project.

Management of Nutrition Related Illness

The Project will not directly affect food security concerns; however, the Project may induce in-migration which may in turn lead to increased competition for arable land. Decreased food security may result in a number of health impacts associated with decreased access to nutrition. The following measures will help to avoid or reduce this impact:

- Partner with appropriate organisation to provide community training related to pastoralist and agricultural livelihood improvement. This may include equipment provision, microfinance and help in the establish market linkages between producers and potential customers (e.g., support for cooperatives, local market infrastructure, procurement contracts).
- Proactively engage relevant stakeholders (government / NGOs) in advance of emerging humanitarian emergency situations regarding provision of Yara Dallol BV support should an emergency occur. In the event of emergency lobby stakeholders to provide timely support.

Management of Increased Anti-Social Behaviours

Anti-social behaviour in this context refers to behaviour that is perceived to lack consideration to others and cause damage to wider society, whether intentionally or through negligence. Anti-social behaviour therefore can be

understood as actions that are contrary to the prevailing norms, and influences the way that a community functions.

The proposed Project may attract in-migration of businesses and job seekers into the Project Area in addition to migrants recruited to work for Yara Dallol BV. The in-migrants have the potential to change the way that the local community function and increase the practice of activities that are currently forbidden in the ANRS, but more widespread across the rest of Ethiopia.

All mitigation measures related to helping reduce, avoid or manage potential in-migration, and helping to preserve Afar culture will be relevant to this impact (refer to In-Migration Management Plan in *Annex K of Part III* of this ESIA).

In addition the Project will partner with the local Government, community leaders and NGOs to promote an education and awareness programme targeted at managing anti-social behaviour. This programme will provide training and awareness raising events around the dangers and consequences of substance abuse, violence and others.

Management of Increased Risk of Road Traffic Accidents

Given the previously rural nature of the Project Area and surrounds, communities are unaccustomed to high levels of road traffic, and have not been exposed to common road safety measures, thus increasing their vulnerability to road traffic accidents. Construction activities will increase the road traffic levels in the area.

Yara Dallol BV will develop and implement a Traffic Management Plan that provides specific traffic calming measures related to identify sensitivities along the transport route. The Plan will make provisions for the following:

- Develop and implement a Driving Policy. This will include:
 - Restrictions on vehicle speeds;
 - Forbidding non-Project passenger transport;
 - Forbidding alcohol and drug use (including *khat*);
 - Forbidding reckless driving;
 - Forbidding cellular telephone use whilst driving;
 - Forbidding stopping at any location except Yara Dallol BV controlled compounds; and
 - General safe driving practices.
- Develop and implement a Road Safety Awareness Campaign. Yara Dallol BV will implement a road safety awareness campaign throughout the route of the proposed road connection to improve community knowledge of the dangers of industrial road traffic and safe behaviour in and around roads. This programme will be implemented with a suitable and experienced local partner or NGO and in partnership with the local

government. Such a program may be targeted at schools to help disseminate road safety information to children who may be particularly vulnerable to vehicle traffic.

- Mandatory defensive driving training for all staff that drive vehicles.
- Installation of GPS vehicle trackers to collect live updates on vehicle locations and reports on average speeds, speeding infractions, variations from agreed routes, stopping times etc. This would help to ensure adherence to driving policies and provide required data for driver audits.
- Mechanically limit heavy goods vehicles speeds.
- Install alarms in heavy goods vehicles that sound when driver and passenger do not have seatbelts engaged.
- Install cameras in heavy goods vehicles to observe that unauthorised passengers are not allowed into the cabin and that driving protocols are followed.
- Yara Dallol BV will establish a livestock compensation framework that defines the process and rates for compensation for livestock that are injured or killed in RTAs involving Yara Dallol BV vehicles.
- Yara Dallol BV will implement a stakeholder engagement, consultation and information disclosure process prior to use of the proposed road connection. This will allow stakeholders to understand the upcoming increases in vehicle traffic, the plans for vehicle movements and driving policies, and to provide feedback on construction / transportation plans.
- Yara Dallol BV will establish an Emergency Response Plan (ERP) for the proposed road connection that details the agreed protocols, process, engagement and investigation processes for various relevant potential emergencies (Road Traffic Accidents - RTAs, spillage etc.) along the road connection. The ERP will include management and monitoring requirements as well Key Performance Indicators (KPIs) related to emergencies and emergency response.
- Yara Dallol BV will, where engineering or financially feasible, engage the governments of Ethiopia and Djibouti to take responsibility to construct settlement 'bypasses' for certain towns and villages along the portions of the road connection where existing roads are present. This will include settlements that are bisected by the road connection and / or have structures in close proximity to the edge of the road. This series of bypasses will help to avoid potential RTAs and the need for physical resettlement.

4.3 *MANAGEMENT DURING OPERATION*

4.3.1 *Potential Impacts*

Impacts to community health, safety and security that occur during operation will be similar to those identified during construction (*Section 4.2.1*). The implementation of the mitigation measures highlighted during the construction phase will also mitigate these impacts during operations.

The transmission of vector borne and communicable disease may continue during operation. This may occur at a lower rate due to a smaller workforce; however, rates of transmission will also be dependent on rates on in-migration.

In addition the social and demographic dynamic of the Project Area may change as result of numerous factors, and may result in changes to groups that are identified to be vulnerable or marginalised.

4.3.2 *Objectives and Targets*

The objectives of the CHSSMP during operations will be similar to those detailed for construction in *Section 4.2.2*.

Yara Dallol BV will continue to collaborate with local healthcare services, government and relevant partners in ensuring that measures implemented during construction focused on community access to social and physical infrastructure continue. This may involve Yara Dallol BV monitoring the accessibility and functionality of infrastructure, and providing training to communities on maintaining and developing infrastructure.

Yara Dallol BV will continue to monitor the impacts to vulnerable and marginalised groups, and their inclusion and benefit from measures implemented. A key way in which this will be addressed is through on-going stakeholder and vulnerability analysis, and the establishment of engagement 'working groups' that represent the interests of vulnerable parties who may not be able to speak out during other engagement activities.

4.3.3 *Management Actions*

During operations Yara Dallol BV will continue to monitor impacts to community health, safety and security including:

- Monitoring of the quality and availability of water resources in and around the proposed Project;
- Continued monitoring of impacts to local livelihoods and the applicability of the livelihood restoration plan for managing impacts;

- In partnership with local health authorities, monitor increased demands on health infrastructure;
- Continue to provide induction, training and voluntary testing facilities for communicable diseases and STIs including HIV / AIDS for new personnel;
- Implementation of a tailored TMP for traffic requirements during operations; and
- Continue to implement the Yara Dallol BV External Feedback and Grievance Mechanism.

As the operational phase nears completion Yara Dallol BV will partner with government to implement a financial planning programme for local employees and residents to prepare financially for closure, and the loss of economic resources needed to ensure adequate nutrition.

4.4 *MANAGEMENT FOR DECOMMISSIONING AND CLOSURE*

4.4.1 *Potential Impacts*

The impacts during decommissioning and closure will be similar to those identified during construction (*Section 4.2.1*); however, as a result of the cessation of operations impacts related to access and pressure on social and physical infrastructure, and decreased availability and quality of water resource will not occur.

Key impacts will relate to reduced health and well-being as a result of lost income associated with the downsizing and decommissioning and closure of the mine. Those affected will include local employees and their families and those providing goods and services to the mine and to its employees.

4.4.2 *Objectives and Targets*

The objectives during decommissioning and closure will be to ensure that the objectives identified in *Section 4.2.2* are achieved, and in addition, to ensure that impacts arising from the loss of income and reduction in the local economy are reduced as far as is practicable.

In addition, planning for this phase will be focused on the objective of ensuring public health and safety post-closure. Where Yara Dallol BV has been contributing to the improvement of local health and safety, sustainable alternatives should be identified that include planned and measured withdrawal from any responsibilities and handover to government / other partner organisation.

Management Actions

Management actions during the decommissioning and closure phase include:

- Manage environmental pollution including impacts to air quality during the dismantling of proposed Project infrastructure. The AQMP (refer to *Annex A* in *Part III* of this ESIA) contain further detail on management actions;
- Train employees on driving standards, and the transportation and handling of hazardous materials where relevant;
- Implement a handover and exit strategy for projects implemented that are aligned to community health and safety;
- Manage the retrenchment of employees, and the associated loss of income, in a manner that will avoid or minimise potential impacts through a retrenchment plan in advance of decommissioning and closure;
- Actively plan to promote livelihood diversification and skill and capacity development, seeking to reduce the economic impact of decommissioning and closure on the local socio-economic system; and
- Ensure timely and open information sharing about proposed Project activities, and expected changes in proposed Project activities.
- Continue to implement the Yara Dallol BV External Feedback and Grievance Mechanism.

5.1

OVERVIEW

In order to verify the management measures, Yara Dallol BV will require several monitoring systems as part of its overall Environmental and Social Management System (ES-MS). These will include the following:

- **Road Traffic Database** – this will log all vehicles entering or leaving the site, registration number, drivers and passengers' names, date and time of arrival and departure etc. This will be linked to the Traffic Surveillance and Monitoring System to log and identify any accidents or non-compliance related to traffic.
- **Community Feedback and Grievance Mechanism** – this will log all grievances, issues and concerns raised during engagement sessions. The system will also include information on actions required to address issues, timeframes, personnel responsible and any subsequent feedback that is required.
- **Stakeholder Engagement Database** – this will be used to track and record the dates, minutes and attendance at engagement activities. In addition the database will be used to log relevant stakeholders and contact details.
- **Road Traffic Surveillance and Monitoring System** – this will be used to record number and type of accidents occurring, actions required to address incidents, and the re-occurrence of type of incidents. In addition the system will identify personnel responsible for addressing incidents.
- **Health Surveillance and Monitoring System** – this system will include both an occupational health and safety and community health and safety monitoring system so as to avoid duplication in creation of two separate systems. Both systems will be configured to record health details, identifying actions or follow-up where necessary, and the type of healthcare that is being sought. This information can be used to tailor health awareness and training programmes put in place. Records will be kept strictly confidential.
- **Emergency Response System** – this system will include a risk-based approach which assesses vulnerability to key hazards and emergencies, identify the roles and responsibilities of personnel in the event of an emergency, communication channels with relevant local authorities and activities to be executed. Following an emergency, actions to prevent the recurrence of an event will be identified and implemented.

- **Water Quality Database** - a database of water quality test results from community water sources surrounding the Project Area or from water sources installed by Yara Dallol BV.
- **Palm Monitoring System** - a database of palm occurrence in potentially affected areas to track potential palm mortality, population size, occurrence etc.

5.2

COMMUNITY COMPLAINTS

Community complaints and concerns will be captured and addressed through External Yara Dallol BV's Feedback and Grievance Mechanism (refer to the Stakeholder Engagement Programme in *Annex C of Part III* of this ESIA). The procedure has been designed to provide a simple, fair and transparent process for all external parties to provide feedback and to raise grievances.

6 *REPORTING AND DOCUMENTATION*

6.1 *GOVERNMENT/AUTHORITY REPORTING*

On the basis of monthly monitoring, reports will be generated and submitted to government agencies for consideration. During the operational phase, the monthly monitoring will be reported on a six monthly basis.

The reports will summarise the data collected through the monitoring programme, identifying any occasions where specific remediation was taken. The reports will also summarise any complaints received from the local communities, setting out the complaint, whether it was substantiated and any actions taken to alleviate the impact.

6.2 *INTERNAL REPORTING*

Monthly reports will be generated and lodged with the Yara Dallol BV board of directors as part of Yara Dallol BV's Environmental and Social Monitoring. During the operational phase, the monthly monitoring will be reported on a six monthly basis.

The reports will summarise the data collected through the monitoring programme, identifying any occasions where specific remediation was taken. The reports will also summarise any complaints received from the local communities, setting out the complaint, whether it was substantiated and any actions taken to alleviate the impact.

6.3 *COMMUNITY REPORTING*

On the basis of the existing reporting program undertaken during the construction, operational and decommissioning and closure phases, a summary report suitable for digestion by a non-technical community audience will be developed and disclosed on a monthly basis. This report will focus upon graphical representation of information, and in particular outcomes of any community complaints and those actions taken to remedy significant impacts. This will be undertaken in non-technical languages and in suitable local languages in a culturally appropriate manner.

Table 7.1 Management Measures for Construction, Operation, Decommissioning and Closure

Phase			Impact	Objective	Mitigation/Management Measures	Monitoring Plan	Responsibility
Construction	Operation	Decommissioning and Closure					
✓	✓		Decreased availability to palms	Monitor palm locations and mortality to understand the impact of the Project on the Palms in preparation for the development of a Palm Livelihoods Protection Management Plan.	Conduct further groundwater, ecological and livelihood surveys to understand the spatial extent and occurrence of palms.	<ul style="list-style-type: none"> Groundwater, ecological and livelihood analysis reports 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓	✓				Identify and confirm geographical extent of impacts using results of groundwater and ecological studies, and in consultation with communities and formal and traditional leaders.	<ul style="list-style-type: none"> Record of stakeholder engagement Groundwater, ecological and livelihood analysis reports Annual Review 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓	✓				Develop palm monitoring plan to monitor palm locations, numbers and health changes. Record in geospatial system and analyse on monthly basis.	<ul style="list-style-type: none"> Palm Monitoring System and Plan Annual Review Monthly record of geospatial distribution of palms 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓				Develop and implement Palm Livelihoods Protection Management Plan.	Undertake palm pilot / feasibility study to determine approach to palm transplantation and plantation feasibility.	<ul style="list-style-type: none"> Outcome of palm pilot study Palm Monitoring System 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓	✓				Develop Palm Livelihoods Protection Management Plan that includes protocols to implement the Plan based on palm mortality monitoring results.	<ul style="list-style-type: none"> Palm Monitoring System Presence Palm Livelihoods Protection Management Plan 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓	✓				Identify potential palm offset areas in consultation with qualified horticulturalist, communities and formal and traditional leaders.	<ul style="list-style-type: none"> Appointment of horticulturalist Record of stakeholder engagement Identification of offset area Implement Palm Livelihoods Protection Management Plan 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer Horticulturalist
✓	✓				Prepare palm nursery to provide suitable 'feedstock' for palm offset supervised by a qualified horticulturalist.	<ul style="list-style-type: none"> Number of seedlings planted Implement Palm Livelihoods Protection Management Plan 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer Horticulturalist
✓	✓				Transplant all palms that will be directly affected by infrastructure into palm offset area.	<ul style="list-style-type: none"> Number of palms relocated Survival rates for transplanted palms 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer

Phase			Impact	Objective	Mitigation/Management Measures	Monitoring Plan	Responsibility
Construction	Operation	Decommissioning and Closure					
✓	✓			Build capacity of local community to ensure sustainability of palm offset area.	Establish a company-community working group for offset areas, and provide training on sustainable management of areas.	<ul style="list-style-type: none"> Establish working group Working group charter and roles and responsibilities Records of stakeholder engagement with working group 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓	✓			Actively engage stakeholders to monitor changes to livelihood and availability of grazing land.	Conduct regular engagement with communities to monitor the productivity of pastoral livelihoods, and provide fodder where required (based on monitoring).	<ul style="list-style-type: none"> Records of stakeholder engagement Records of fodder provided. 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓				Minimise the impact of Project infrastructure on surface flow to limit palm mortality.	Review of all road design and comprehensive culvert design process to avoid or reduce potential impacts to surface flows.	<ul style="list-style-type: none"> Final road design including culvert presence Surface flow monitoring 	<ul style="list-style-type: none"> Project Manager Dallol General Manager Environmental and Social Manager Community Liaison Officer
	✓			Promote livelihood diversification to decrease dependence on palm resources.	Consult with relevant government and potential partner organisations to develop a Livelihood Diversification Programmes that promote increased productivity of alternative livelihoods not dependant on palm resources.	<ul style="list-style-type: none"> Records of engagement with relevant stakeholders. Presence Livelihoods Diversification Plan 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
	✓				Implement Livelihood Diversification Programmes. These programmes will target women and female headed households.	<ul style="list-style-type: none"> Records of engagement with relevant stakeholders Livelihood Diversification Programmes Number of programmes successfully implemented Record of number of women participating in programmes 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓	✓		Decreased Availability of Water	Ensure local communities are not adversely impact by decreased availability of water.	Survey all settlements in the affected area to record the location, extent, and quality of water sources, the size of the population reliant on these water sources and their usage patterns, particularly with regard to seasonality, and differences in water use or access by vulnerable populations, including women.	<ul style="list-style-type: none"> Groundwater, ecological and livelihood analysis reports Monthly water quality results Community water point geospatial survey results Palm Monitoring System and Plan 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓	✓			Develop 'regional' Dallol groundwater monitoring system to manage cumulative impacts of water abstraction.	Collaborate with other solution mining companies in the area to assess the cumulative impact of groundwater abstraction and develop a comprehensive local and regional monitoring system to manage the cumulative impacts of water abstraction.	<ul style="list-style-type: none"> Record of engagement with other solution mining companies Groundwater Monitoring Plan 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer

Phase			Impact	Objective	Mitigation/Management Measures	Monitoring Plan	Responsibility
Construction	Operation	Decommissioning and Closure					
					Ensure that an early warning system provides a timely indication of the impact of abstraction. See WMP.	<ul style="list-style-type: none"> Refer to WMP 	<ul style="list-style-type: none"> Refer to WMP
✓	✓			Ensure local communities are not adversely impacted by decreased availability of water associated with abstraction of water for the Project.	Guarantee water supply to potentially impacted communities based on water monitoring results. Replacement infrastructure (i.e. boreholes or water tanks) will ensure supply of potable water to all potentially impacted communities should monitoring indicate that access / quality of water may be impacted.	<ul style="list-style-type: none"> Groundwater Monitoring Report/ Results Number of water infrastructure items (i.e. boreholes or water tanks) developed Refer to WMP 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓	✓	✓	Increased Incidence of Communicable Diseases	Develop an Emergency Prevention, Preparedness and Response Plan. The Plan will cover all incidents presenting risks to public safety and the affected communities in proximity to the various Project Sites and the surrounding environment.	In collaboration with the local and regional Government, local emergency providers and local health care facilities, develop and implement Emergency Prevention, Preparedness and Response Plans (EPPRPs).	<ul style="list-style-type: none"> Record of stakeholder engagement Presence Emergency Prevention, Preparedness and Response Plans (EPPRPs) Charter of roles and responsibilities Review of incident reports Annual review of policies and plans 	<ul style="list-style-type: none"> Health and Safety Manager Environmental and Social Manager Community Liaison Officer Emergency Response Coordinator
✓	✓	✓			Update EPPRPs on an annual basis, based on the outcomes of the review of incident reports.	<ul style="list-style-type: none"> Updated EPPRPs 	<ul style="list-style-type: none"> Health and Safety Manager Environmental and Social Manager Community Liaison Officer Emergency Response Coordinator
✓	✓	✓			Monitor the emergence of major pandemics through WHO alerts. If the WHO Pandemic Alert Scale reaches level 4 the Project will implement the relevant EPPRPs.	<ul style="list-style-type: none"> Record of WHO alerts Record of implementation of EPPRPs 	<ul style="list-style-type: none"> Emergency Response Coordinator Health and Safety Manager
✓	✓	✓			Minimise incidences of sexually transmitted infections (STIs) including HIV/AIDS.	Develop and implement an HIV/AIDS Prevention Programmes for its workforce.	<ul style="list-style-type: none"> Presence of educational programmes and materials Internal training records Number of HIV tests undertaken every 6 months Records on prevalence and incidence of STIs from Yara medical clinic (anonymous) Number of people receiving HIV / STI treatment (ARVs) Number of fatalities linked to HIV / STIs annually

Phase			Impact	Objective	Mitigation/Management Measures	Monitoring Plan	Responsibility
Construction	Operation	Decommissioning and Closure					
✓	✓	✓			Develop and implement a Workforce Code of Conduct. Refer to WkMP	<ul style="list-style-type: none"> Refer to WkMP 	<ul style="list-style-type: none"> Refer to WkMP
					In partnership with local health officials and relevant NGOs, undertake information, education and communication campaigns around safe sexual practices and transmission of STIs and HIV/AIDS.	<ul style="list-style-type: none"> Record of engagement with key stakeholders Presence of education materials Record of distribution of education materials 	<ul style="list-style-type: none"> Health and Safety Manager Environmental and Social Manager Community Liaison Officer
✓	✓	✓			Ensure accessibility of condoms in areas frequented by the Yara Dallol BV workforce (including female condoms), halfway houses and truck stops within the transport corridor, targeting commercial sex workers.	<ul style="list-style-type: none"> Record of condoms dispersed monthly in various locations 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓	✓	✓		Minimise the spread of sanitation and water-borne diseases.	Partner with local authorities and relevant organisations as (e.g. donors, civil society and NGOs) to facilitate delivery of sufficient supply, and adequate quality, of water to affected settlements (including schools).	<ul style="list-style-type: none"> Records of engagement and agreements with key stakeholders Number of water infrastructure (i.e. boreholes or water tanks) installed Record of delivery of water to installed water tanks Number of grievances received linked to water shortages or water quality 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓	✓	✓	Increased Transmission of Malaria	Develop and implement a Malaria Control, Prevention and Treatment Programme in all Project work areas.	Develop a Malaria Control, Prevention and Treatment Programme using the ICMM guidelines on HIV / AIDS, Tuberculosis, and Malaria.	<ul style="list-style-type: none"> Presence Malaria Control, Prevention and Treatment Programme 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer Health and Safety Manager Onsite Medical Health Officer
✓	✓	✓	Increased Transmission of Malaria	Manage and control the prevalence malaria during the wet season.	Implement a Malaria Control, Prevention and Treatment Programme the Project work areas.	<ul style="list-style-type: none"> Review of grievance reports Visual sight inspection Number of malaria cases recorded per wet season Record of malaria control measures implemented per season 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer Health and Safety Manager Onsite Medical Health Officer
✓	✓	✓		Ensure availability of malaria treatment at all clinics used by the workforce, where possible, and local communities.	Implement a Malaria Treatment Programme.	<ul style="list-style-type: none"> Number of malaria cases successfully treated per wet season Number of fatalities caused by Malaria 	<ul style="list-style-type: none"> Health and Safety Manager Onsite Medical Health Officer
✓	✓	✓		Avoid the creation of mosquito breeding conditions/ habitats through proactive surface water management during all phase.	Reduce the presence of standing water onsite through strict environmental controls, including repairing leaking pipes, dewatering of open excavations and effective drainage systems along access roads.	<ul style="list-style-type: none"> Visual sight inspection. Review of grievance reports. 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer

Phase			Impact	Objective	Mitigation/Management Measures	Monitoring Plan	Responsibility
Construction	Operation	Decommissioning and Closure					
✓	✓	✓	Increased incidences of chronic/ acute respiratory infections	Reduce the incidences of chronic/ acute respiratory infections.	In collaboration with local and regional Government, introduced a chronic/acute respiratory infections programme.	<ul style="list-style-type: none"> Record of vaccination programme Number of vaccines administered annually 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer Medical officer
✓	✓	✓		Minimise the generation of vehicle emissions and fugitive dust generated by Project associated road traffic to prevent chronic/ acute respiratory infections.	Develop and implement equipment and vehicle maintenance program to reduce vehicle emissions and dust generation.	<ul style="list-style-type: none"> Visual inspection Vehicle Maintenance Programme Review of grievance reports 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer Health and Safety Manager
✓	✓	✓			Develop and implement a dust suppression programme, including covered loads, vehicle washing and road wetting, particularly in areas where the road passes close to dwellings, schools and businesses. This may include chemical bonding on unpaved road surfaces or uses of saline water to develop a salt crust.	<ul style="list-style-type: none"> Implementation of dust suppression programme Visual inspection Review of grievance reports 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer Health and Safety Manager
✓	✓	✓		Reduce emissions of harmful fumes from Project associated vehicles.	Commit to lowest possible sulphur fuel usage to minimise harmful emissions.	<ul style="list-style-type: none"> Record of fuel purchase Vehicle Maintenance Programme 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer Health and Safety Manager
✓	✓	✓	Nutrition related illnesses	Management of community food security and nutrition.	Partner with appropriate organisation to provide community training related to pastoralist and agricultural livelihood improvement. This may include equipment provision, microfinance and help in the establish market linkages between producers and potential customers (e.g., support for cooperatives, local market infrastructure, procurement contracts).	<ul style="list-style-type: none"> Records of engagement with relevant stakeholders. Livelihood Diversification Programmes Number of programmes successfully implemented Record of number of women participating in programmes 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer Medical officer
✓	✓	✓				Proactively engage relevant stakeholders (government / NGOs) in advance of emerging humanitarian emergency situations regarding provision of Yara Dallol BV support should an emergency occur.	<ul style="list-style-type: none"> Records of stakeholder engagement Annual record of humanitarian aid provided to local communities
✓	✓	✓	Increased anti-social behaviours	Collaborate with local partners and government to provide education and awareness programme focused at managing anti-social behaviour.	Implement the In-Migration Management Plan, refer to IMMP.	<ul style="list-style-type: none"> Refer to IMMP 	<ul style="list-style-type: none"> Refer to IMMP.

Phase			Impact	Objective	Mitigation/Management Measures	Monitoring Plan	Responsibility
Construction	Operation	Decommissioning and Closure					
					Support an education and awareness programme targeted at managing anti-social behaviour in the Project Area.	<ul style="list-style-type: none"> Programme developed Funding or training provided for programme Review of grievance reports 	<ul style="list-style-type: none"> Environmental and Social Manager Community Liaison Officer
✓	✓	✓	Increase in injuries/accidents due to Project associated road traffic	Manage future traffic impacts related to transportation of potash products from the Site to the Port Tadjoura in Djibouti.	Screen potential transportation routes for movements of vehicles from the site to Djibouti.	<ul style="list-style-type: none"> Transportation Route Screening Transportation Route Impact Assessment 	<ul style="list-style-type: none"> Dallol General Manager Project Manager
✓	✓	✓		Avoid and /limit the risks of injury and fatalities due to increased road traffic associated with the Project, through appropriate polices, programmes and training.	<p>Develop and implement a Traffic Management Plan. The Plan will make provisions for the following:</p> <ul style="list-style-type: none"> Restrictions on vehicle speeds; Forbidding non-Project passenger transport; Forbidding alcohol and drug use (including <i>khat</i>); Forbidding reckless driving; Forbidding cellular telephone use (including hands free systems); Forbidding stopping at any location except Yara Dallol BV controlled compounds; Mandatory defensive driving training for all staff that drive vehicles; and General safe driving practices. 	<ul style="list-style-type: none"> Traffic Management Plan 	<ul style="list-style-type: none"> Dallol General Manager Health and Safety Manager Human Resources Manager Security Manager
✓	✓	✓			Develop and implement driver policy and training programme.	<ul style="list-style-type: none"> Driver training policy Record of training provided 	<ul style="list-style-type: none"> Health and Safety Manager
✓	✓	✓			Provide defensive driving course and training on safe driving standards and policies consistent with those outlined in the WkMP.	<ul style="list-style-type: none"> Record of training sessions 	<ul style="list-style-type: none"> Health and Safety Manager
✓	✓	✓			Provide a safe driving test for workforce that operates vehicles.	<ul style="list-style-type: none"> Number of tests administered 	<ul style="list-style-type: none"> Health and Safety Manager
✓	✓	✓			Develop worker fatigue and stress management programme for long haul truck drivers.	<ul style="list-style-type: none"> Fatigue and stress management programme 	<ul style="list-style-type: none"> Health and Safety Manager Human Resources Manager
✓	✓	✓		Develop community awareness and coordination procedure on public safety.	Develop and implement a Road Safety Awareness Campaign throughout the route of the proposed road connection to improve community knowledge of the dangers of industrial road traffic and safe behaviour in and around roads. This programme should be implemented with a suitable and experienced local partner or local government and should be targeted at schools.	<ul style="list-style-type: none"> Records of engagement Presence of education materials Records of information dispersal / engagement Number of notices placed on community notice boards Number of signs erected 	<ul style="list-style-type: none"> Health and Safety Manager Environmental and Social Manager Community Liaison Officer

Phase			Impact	Objective	Mitigation/Management Measures	Monitoring Plan	Responsibility
Construction	Operation	Decommissioning and Closure					
✓	✓	✓		Engage communities located along road corridor regarding the future increase in Project related traffic.	Prior to commencement of construction / use of the proposed road corridor, implement a Stakeholder Engagement Programme and Grievance Procedure with communities along the road corridor.	<ul style="list-style-type: none"> Stakeholder Engagement Programme and Grievance Procedure Records of engagement Monthly review of grievance reports Number of traffic accidents reported monthly related to community members 	<ul style="list-style-type: none"> Health and Safety Manager Environmental and Social Manager Community Liaison Officer
✓	✓	✓		Develop protocols, engagement and investigation processes for various relevant potential road traffic related accidents/ emergencies.	Develop and implement an Emergency Response Plan (ERP) for the proposed road connection, specifically for Road Traffic Accidents - RTAs, spillage etc.	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Health and Safety Manager
✓	✓	✓			Identify and coordinate with national / regional services in the event of an emergency as specified in the EPPRP.	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Health and Safety Manager
✓	✓	✓		Provide compensation for livestock injured or killed in RTAs involving Yara Dallol BV vehicles.	Establish and implement a Livestock Compensation Framework that defines the process and rates for compensation for livestock that are injured or killed in RTAs involving Yara Dallol BV vehicles.	<ul style="list-style-type: none"> Presence of Livestock Compensation Framework Review of grievance records Number of livestock injuries or fatalities recorded per month Record of compensation paid 	<ul style="list-style-type: none"> Health and Safety Manager Environmental and Social Manager Community Liaison Officer
✓	✓	✓		Ensure safe and responsible driver behaviour on and off site, through the development and implementation of a Fleet Management System.	Installation of GPS vehicle trackers to collect live updates on vehicle locations and reports on average speeds, speeding infractions, variations from agreed routes, stopping times etc.	<ul style="list-style-type: none"> Number of vehicles installed with GPS system 	<ul style="list-style-type: none"> Health and Safety Manager
					Mechanically limit heavy goods vehicles speeds.	<ul style="list-style-type: none"> Number of vehicles with mechanically limited speed 	<ul style="list-style-type: none"> Health and Safety Manager
					Install alarms in heavy goods vehicles that sound when driver and passenger do not have seatbelts engaged.	<ul style="list-style-type: none"> Average speed readings 	<ul style="list-style-type: none"> Health and Safety Manager
					Install cameras in heavy goods vehicles to observe that unauthorised passengers are not allowed into the cabin and that driving protocols are followed.	<ul style="list-style-type: none"> Number of vehicles with functional cameras 	<ul style="list-style-type: none"> Health and Safety Manager