

PALM OIL REFINERY PROJECT

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) STUDY REPORT

SUBMITTED

To

DIRE DAWA ADMINISTRATION ENVIRONMENT FOREST AND
CLIMATE CHANGE AUTHORITY

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0. EXECUTIVE SUMMARY

0.1. INTRODUCTION

Pwani Oil Products (POP) Limited and Kassay Weleday PLC: is a private limited company established under Ethiopian law. The two shareholders proposed PALM OIL Refinery project establishment. The proposed project is designed to refined crude palm oil used as edible oil and fat as an input for soap production industries.

The project location is proposed to be in Dire Dawa town along the main road from Dire Dawa to Djibouti on a total area of 20,000 m². The proposed project will be established at a total cost of 20,000,000 of which birr 17,100,000 is capital cost and the remaining birr 2,900,000.00 is operational expenditure. Out of the total cost of the project birr 14,000,000.00 will be from the bank loan and the remaining birr, 6,000,000 be covered from the owner equity.

The proposed project also has a production capacity of 125,810 tons of edible palm oil per annum at full capacity utilization of 295 working days per year. The project is however, assumed to starts operation at 60% of capacity utilization rate which will gradually increase by 10% till it reach 90% capacity utilization rate is achieved. Similarly, the project assumed to generate a net profit of birr 903,806 over its 10 years operation period. Besides, it will create at least a job opportunity for 44 permanent employees.

This report represents an environmental impact assessment of the proposed PALM OIL Refinery manufacturing project. The study was conducted according to legal requirements of the EIA proclamation of the government of the Federal Democratic Republic of Ethiopia, proclamation No.299/2002. The Report is prepared for submission DIRE DAWA ADMINISTRATION ENVIRONMENT FOREST AND CLIMATE CHANGE AUTHORITY for approval.



constraints, and establishing background for realistic, sensitive recommendations. With this respect policy, legislative and institutional issues that are most relevant to industrial projects in general and to this wheat Palm oil refinery manufacturing project in particular have been reviewed.

This review found the following three programs and trends to have a strong bearing upon the project: 1) National policies and strategies towards economic development and sectorial development; 2) environmental protection and conservation; and 3) governmental policies towards decentralization and local self-determination.

0.4. PROJECT DESCRIPTION

The proponent proposed this project having an overall goal of taking advantage of the opportunities existing for the demand of palm oil products and generating optimum profit to the owner contribute to creation of local job opportunity in particular and of course contribute to the national economy. The estimated total cost of this project is nearly 20,000,000 million birr of which 17,100,000 will be for fixed investment and the rest birr 72,900,000.00 for working capital. Out of the total project cost birr 14,000,000.00 will be covered from the owner's equity and the rest birr 6,000,000 will be financed by bank loan.

In planning the project establishing a factory that produces palm oil to the market is the primary objective of the proponents, whereas the socio-economic benefits that can be generated from the project are the cumulative objectives of the proposed project.

0.5. ENVIRONMENTAL BASELINE

Those Environmental components surroundings the project area were assessed in this part of the report. These components pertaining to the palm oil refinery manufacturing project have both bio-physical and socio-economic aspects.

0.6. ENVIRONMENTAL IMPACTS MITIGATION MEASURES

The EIA report discusses major environmental issues and constraints that can arise from the project implementation. Direct, indirect and cumulative impacts are addressed. These impacts are further classified according to their nature into negative or positive; random or predicted; temporary or permanent (reversible or irreversible) and short term or long term. The project is characterized by short term and insignificant pre-construction and construction stages impacts and long-term significant impact during operation stage. The major positive impacts of the proposed project are mainly those of economic benefits at the national, regional and local level due to creation of employment as well as technology and capacity building for the citizens. On the other hand the major adverse impacts are mainly results due to the generation of environmental pollutant wastes from the production process. Among the adverse impacts generation of liquid affluent dusts and noises are the main concerns associated with the project.

Table B. Summary of Potential Negative Impacts

Impact	Cause	Sign
CONSTRUCTION PHASE		
Noise and dust	Resulting from construction activities and truck traffic	Short term
Construction waste	Resulting from construction activities, land reclamation	Short term
Health and safety	Accidents to workers and members of the local community due to lack of safety regulations and uncontrolled access to the construction site	Long term
Biodiversity	Land reclamation and construction activities leading to the destruction of the natural ecosystem at the facility site	Long term
OPERATION PHASE		



Health and safety Hazards	During waste separation and operation of the process, and with minimal precaution measures, uncontrolled access to the facility	Long term
Noise	From circulation and unloading of trucks	Short term
Dust generation	In the production and packing inputs	long term
West products	The production phase involve production of west products	Long term

Special consideration is given to enhancement of positive effects of the project (e.g. utilization the local manpower at different stages of the project and hiring them during the production stage when there is the possibility to do so).

0.7. ENVIRONMENTAL MANAGEMENT PLAN

In order to be effective in minimizing adverse impacts and enhancing beneficial impacts, environmental management must be fully integrated with the overall project management effort at all levels. Hence, the overall goal of the Environmental Management Plan (EMP) of the propose project to minimize adverse impacts of the project by managing and implementing the proposed impact alleviation measures and good working practices.

A great concern is given for the environmental management and protection program during the project's operation phase. The objectives of the environmental management program at this phase of the project are: protection of the environment from the production process and service pollutants, protection of workers from work area health hazard, efficient use of water and energy resources, waste management a-nd improve the environmental performance of the company.

Beside the environmental management tasks to be performed by different functional units of the company; the Consultant proposes an environmentalist and safety officer



to operate the environmental management program at this stage of the project. The environmentalist and safety officer will coordinate and monitor all aspects of the environmental management programs; develop further an environmental oversight capability within the company; and facilities for the implementation of companywide Environmental Management System (EMS).

0.8. ENVIRONMENTAL MONITORING PROGRAM

Various kinds of environmental monitoring and evaluation will be conducted by responsible staffs of the company. The Environmental and Safety Officer will be responsible for most of the monitoring activities and will report to the company top management in a weekly basis. The company top management and affiliated units of the **DIRE DAWA ADMINISTRATION ENVIRONMENT FOREST AND CLIMATE CHANGE AUTHORITY**, such as technical divisions of Environmental Pollution Research, control and impact assessment core process will make occasional and random monitoring, respectively. The monitoring will involve both quantitative and qualitative data, as appropriate to the nature of the information which will involve during the production stage of the project.

0.9. CONCLUSIONS AND RECOMMENDATIONS

Paving the way to the realization of high level expansion of industry is the core issue in the growth and transformational policy of the Ethiopia. As part of this national strategy implementation of the proposed Palm oil refinery manufacturing project will have a bold contribution to the improvement of socio economic situation of the people around the project in particular and the region and the country in general.

The incoming project plays a sound role on the regions in particular and country level economic development since the project at hand create employment opportunity for citizens that generate income for the local community, and in addition to creating



CHAPTER - 1 INTRODUCTION

1.1. BACKGROUND

Ethiopia has remained one of the poorest countries even among the least developed countries of sub-Saharan Africa. However, after the collapse of the derg regime, the government of FDRE has designed different strategies against the inherited numerous social and economic problems from the previous regimes of the country over a long period of time. Above all, the strategies believed to help government priority of recovering & shaping the staggered economy by addressing the long run needs of a sustainable economic growth and development.

Experience has revealed that development cannot be attained solely by government efforts. In this regard the role stakeholders especially the private sector has a crucial significance in fighting poverty & accelerating the process of economic development. To ascertain this view, the government has made an economic reform thereby creating an enabling economic environment for the private sector development.

The economic reform measures implemented so far, have secured the country's macroeconomic stability, liberalize trade and decentralize economic management. This conducive environment for private investment together with the untapped potential opportunities of the region has attracted substantial number of investors to be interested and invest in the country in general and regional administrations like Dire Dawa in particular over the last fifteen years and this trend is also expected to do so in the years to come. Induced by all these, it became a source of interest for the Promoter to establish a Wheat flour mill factory with a capacity of producing 24,300 ton per year in the Industrial zone of Dire Dawa City. In view of the above, The PLC has recruited a consultant to prepare an Environmental Impact Assessment (EIA), for the proposed Project. Hence, this EIA Report is prepared for submission of Dire Dawa Environment Forest Climate Change Protection Authority (DEFECCA).



Development Bank of Ethiopia for their approval.

1.2. LOCATION AND ACCESSIBILITY

The total project site/plot area required has been assessed in accordance with the effective space requirement of the plant machinery, input store, output, office facility, employee shower and the overall duties and activities that will be carried out by the project. One of the crucial factor, which determine the implementation and overall success of any project is the acquisition of land its location and suitability to the project idea, its relative size and cost of acquisition as well as suitability for the proposed project and access to different facility.

In determination of the required size of the project plan area the following basic decision parameter were taken into consideration. Accordingly, the project location will be in Dire Dawa Region, Dire Dawa town, on the main road from Dire Dawa to Djibouti which is 500 Km from the capital Addis Ababa and 300 km from Djibouti port. The Company will be established on a total area of 20,000 m² secured on lease base from Dire Dawa Investment Commission for a period of 45 years.

1.3. ENVIRONMENTAL SCREENING

Environmental screening has been undertaken to determine the appropriate extent and type of EIA to be carried out for the proposed project. Depending on the type, location and sensitivity of the project as well as the nature and magnitude of its potential environmental impacts, the proposed project has been classified.

According to the Ethiopian and the Dire Dawa EPAs' EIA Guideline Documents, any project is to be categorized in one of the three possible categories. As per the Guidelines, the proposed Flour manufacturing project is classified as Schedule 1 project. It is also stated in the guidelines that those projects assigned to Schedule 1 will require a preliminary environmental impact study and hence do not warrant a full EIA.



Besides, it is also specified in the Environmental and Social Management Framework of the FDRE that Schedule 1 Projects will require a full EIA, but will necessitate the inclusion of environmental and social mitigation and enhancement measures in the design and implementation of projects through the use of an environmental management plan.

The EIA Process, as applicable to development projects in Ethiopia is governed by the 'Environmental Impact Assessment Procedural Guidelines Series 1' of November 2003. As per the Schedule 1 of the Guideline, the proposed project requires a preliminary/partial EIA.

In this context, a preliminary environmental impact study has been conducted by the consultant and is presented here. The study examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.

1.4. SCOPING OF EIA STUDY

The scoping process intends to ensure that the EIA focuses on pertinent issues. In pursuit of deciding upon the boundaries and sensitivity of the study area for the project and drawing the list of activities and impacts to be studied during the assessment, the consultant has carried out an initial environmental examination and scoping.

Since the project is in its pre-construction phase, the scoping process was conducted based on available secondary data sources. In this respect, the consulting team employed different tools and techniques relevant to the proposed project. To this



end, consultants' previous experience on assessing similar projects, the proponent's project profile, project raw materials and machineries suppliers' websites and different stakeholders (including experts, project affected people and local administrators) were the major sources of information in carrying out the scoping exercise.

The results indicated that major positive impacts of the project are mainly those of economic benefits at the national, regional and local level, creation of employment as well as technological capacity building for citizens, while the major adverse impacts are associated with the generation of manageable dusts and reversible wastes in the production process. The construction of the factory is also expected to have some adverse environmental impacts. However both its nature and characteristic makes the impact less significant.

Since the project site is located within the industrial zone of the city, specifically demarcated for similar and related processing categories, there are no human settlements at the nearer distance of the project. Therefore, in the study the consultant has focused on biological and physical components found inside the project area as well as the employees to be hired both during the construction and operation phases to be important elements in the study.

Based on the scoping process particular attentions have been given to the following environmental issues:

- Ⓢ Alteration of soil structures and integrity of landscapes due to construction
- Ⓢ Generation of processed and raw wastes
- Ⓢ Employee's health hazard and industrial safety



1.5. OBJECTIVES OF EIA STUDY

Environmental Impact Assessment study has been carried out for the proposed project, to identify and evaluate its potential impacts on the environment. The objectives of the study include assisting the promoter, the concerned stakeholders and the governmental authorities in recognizing environmental, social and economic impacts of the proposed project, increasing awareness about the plant and its potential impacts and finally recommending appropriate control and mitigation and institutional monitoring measures. For the proposed this specific project, the promoter aims to address the following objectives:

1.5.1. PRODUCTION AND OPERATIONAL

In general with the implementation of this project varies advantages like employment public revenue generation and capital accumulation for further investment venture can be promoted. Demand for palm oil has further increased in recent years as many developed economies are shifting away from the use of trans-fats, to healthier alternatives. Palm oil is often used as a substitute for trans-fat as it is one of the few highly saturated vegetable fats that are semi-solid at room temperature, and is relatively low cost.

1.5.2. ENVIRONMENTAL

- ⓐ Protect the surrounding environment during the operation of proposed project with appropriate environmental safeguards
- ⓐ Ensure that ecological balance of the area is not adversely affected by air emissions, release of dust particles, waste water discharge, solid wastes, etc.
- ⓐ Protect native flora and fauna
- ⓐ Protect quality of local surface and groundwater



- ⓐ Minimize public health risks
- ⓐ Minimize noise and vibration impacts on surroundings.

1.5.3. SOCIO-ECONOMIC

- ⓐ Improvement in direct and indirect means of livelihood
- ⓐ Establish monitoring programme and provide procedures for resolution of community concerns, if there are any

1.6. SCOPE OF WORK

The EIA Guideline of DDEFCCA declared that the level of an impact assessment will depend on the nature and scale of the development proposal and its complexity, the sensitivity of the environment; and issues identified during the scoping process. As can be learnt from the proponent's development proposal, the project is simple in its nature and scale. Moreover, as it will be located in the Industrial zone of the city, the sensitivity of the area is very less. Hence the scope of work has been designed:

- ⓐ To assess the existing baseline status of various environmental and socio-economic components.
- ⓐ To solicit stakeholders' concerns regarding the project
- ⓐ To evaluate the beneficial impacts of the proposed project and design ways by which benefits could be enhanced.
- ⓐ To identify and quantify adverse impacts on various environmental components through prediction of impacts.
- ⓐ To assess the risks on employees due to operation and
- ⓐ To prepare the Environmental Management Plan (EMP) and measures to be adopted for mitigation of adverse impacts if any, as a consequence of palm refinery manufacturing.



1.7. APPROACH & METHODOLOGY

Any change in the present activity is expected to cause impacts on the surrounding environment. The impacts may be adverse or beneficial. In order to assess the impacts, a preliminary EIA study has been conducted within the project area. This EIA Report is based on the observations made by the consulting team during visits to the study area and collection of primary and secondary environmental data. Literature has also been reviewed and relevant information has been collected for environmental and social baseline.

1.7.1. COLLECTION OF BASELINE STATUS

Ambient air quality, noise environment and water environment of the study area has been assessed making use of secondary data. Information on flora, fauna, land use and cover of the study area was collected in the field surveys conducted during the study period.

1.7.2. DESK WORK

The proponent's project proposal, various studies on palm refinery manufacturing projects and project raw materials and machineries suppliers were reviewed and studied in detail to understand the production process involved in the a Palm oil refinery manufacturing project there by identify pollutants and areas resulting in impact on various environmental components.



1.7.4. FORMULATION OF ENVIRONMENTAL MANAGEMENT PLAN

Based on the existing environmental status and quantified impacts, a preliminary Environmental and Social Management Plan has been formulated for implementation during the construction and operational phases.

1.8. STRUCTURE OF THIS REPORT

This report is divided into the following chapters:

- ② Chapter 2: presents policy legal and Administrative frameworks
- ② Chapter 3: presents a brief description of the project
- ② Chapter 4: presents the environmental baseline information
- ② Chapter 5: presents the environmental and social impacts of the project
- ② Chapter 6: presents a summary of public consultation
- ② Chapter 7: Environmental Management Plan
- ② Chapter 8: Environmental Monitoring and Audit Plan
- ② Chapter 9: Conclusion and Recommendations



CHAPTER – 2: POLICIES, LEGAL AND ADMINISTRATIVE FRAMEWORK

2.0. INTRODUCTION

The EIA study for the proposed palm refinery Palm oil refinery manufacturing project has been carried out within the framework of local, national and international environmental regulations. The legislative framework applicable to the proposed project is governed by the Federal Democratic Republic of Ethiopia (FDRE), Ethiopian Environment Forest Climate Change Protection Authority (EEPA), and Dire Dawa Environmental Protection Authority (DDEPA), The Development bank of Ethiopia (DBE), the World Bank and the International Finance Corporation (IFC). The following sections describe the regional, national and international regulations/standards applicable to the proposed project.

2.1. ENVIRONMENTAL POLICIES AND STRATEGIES

2.1.1. THE ENVIRONMENTAL POLICY OF ETHIOPIA

The major policy framework document with respect to environmental management of Ethiopia is the Environmental Policy (EPE) of the FDRE approved by the Council of Ministers in April 1997. The Policy was prepared under the joint-effort of the Environmental Protection Authority (EPA) and the Environmental Planning Unit (EPU) of the then Ministry of Economic Development and cooperation (MEDaC). The



policy contains elements that imply the importance of mainstreaming socio-ecologic aspects in development programs.

More specifically, there are two cross-sectorial policies components with a mainstreaming effect in the EPE. Article 4.6 of EPE covers different aspects of the importance of incorporating environmental costs and benefits in the development planning process. Under this Article, the initiation of a pilot project on the application of Environmental accounting in Ethiopia was identified as one of the policies directions. Article 4.9 of EPE covers the policy directive on EIA. The Article contains eleven sub-articles covering different aspects of EIA and the conditions under which EIA must be performed.

The sectorial policies of EPE contain policy directions that may ensure the promotion of sustainable industrial development in the country. More specifically, Article 3.8 of EPE provides policy directions for the control of hazardous materials and pollution from industrial waste. This sectorial policy emphasizes the importance of pollution prevention and Minimization as the primary approach for pollution control.

2.1.2. NATIONAL HEALTH POLICIES AND STRATEGIES

Article 2 of General health policy states the 'development of the preventive and promotive components of health care' as one of the basic policy component. The promotion of occupational health and safety (Article 2.2.2) and the development of Environmental Health (Article 2.2.3) are identified as priority policy areas for the health sector. Article 5.2 states that the promotional and preventive activities shall address 'prevention of Environmental pollution with hazardous chemical wastes'.



2.2. LEGISLATIVE INSTRUMENTS AND EIA GUIDELINES

The Federal Government of Ethiopia is in the process of passing number of proclamations that are aimed at providing the legislative instruments for the implementation of the national environmental policy objectives and strategies. The following environmental protection proclamations were enacted by the council of Representative of FDRE.

2.2.1. PROCLAMATION ON ENVIRONMENTAL IMPACT ASSESSMENT

The Federal Government has issued a Proclamation on Environmental Impact Assessment (Proclamation No. 299/2002) with a primary aim of making EIA mandatory for specified categories of activities undertaken either by the public or private sectors, and possibly, the extension of EIA to policies, plans and programs in addition to projects.

The provisions of the proclamation include:

- ⓐ Projects will be subject to EIA and execution is subject to an environmental clearance from the EPA or Regional Government Environmental Agency, as applies
- ⓐ EPA or the Regional Agency, depending on the magnitude of expected impacts, may waive the requirement of an EIA;
- ⓐ All other licensing agencies shall, prior to issuing of a license, ensure that either EPA or the regional Environmental Agency has authorized implementation of project; and



- ⓐ A licensing agency shall either suspend or cancel a license that has already been issued, in the case that EPA or the Regional environmental agency suspends or cancels the environmental authorization.
- ⓐ Approval of an Environmental Impact Study Report (EIAR) or the granting of authorization by the EPA or the REA does not exonerate the proponent from liability for damage.

The proclamation is based on the principle that each citizen has the right to have a healthy environment, as well as the obligation to protect the environment of the country. It contains provisions for Control of Pollution, Management of Municipal Waste, and Management of Hazardous Waste, Chemical and Radioactive Substance. It also encompasses provisions for the formulation of practicable Environmental Standards by the EPA, in consultation with competent agencies. Furthermore, it empowers the EPA or REA to assign Environmental Inspectors who have powers and duties to control pollution.

2.2.2. PROCLAMATION ON POLLUTION AND CONTROL

The environmental Pollution Control Proclamation (Proc. No. 300/2002) is promulgated with a view to eliminate or when not possible to mitigate pollution as an undesirable consequence of social and economic development activities.

This proclamation contains general provisions on pollution control, environmental standards, powers and duties of environmental inspectors, rights to appeal and offences and penalties. The pollution control component includes provisions on management of hazardous wastes, chemicals and radioactive substances, management of municipal wastes and protection of the ozone layer.



2.2.3. PROVISIONAL STANDARDS FOR INDUSTRIAL POLLUTION CONTROL IN ETHIOPIA

The provisional standards for industrial pollution control prevent which is prepared by EPA in collaboration with UNIDO and issued in 2003 provides:

- ⓐ Standards for Specified Industrial Sectors
- ⓐ Standards for Industrial Effluents (General)
- ⓐ Standards for Gaseous Emissions (General)
- ⓐ Standards for Noise Limits.

PART 2 (i.e. Standards for Specified Industrial Sectors); of the document provides 'Emission Limit Values for Discharge to Water' and 'Emission Limit Values for Emission to Air' for 8 different industrial sectors. For those industries that are not stated under this part of the Standard (a wheat flour and pasta manufacturing project), PART 3 of the document provides a general standards for industrial effluents and gaseous emission. These general standards shall apply to all industrial effluents and emissions other than those from specific sectors under PART 2 of the document. Thus, issues stated under PART 3 of the document will be relevant to the proposed project.

The provisional standard prepared in the aim of identifying significant industrial pollution by indicating standards which must be observed and by indicating pollution limits beyond which the environment would not tolerate. These standards will be periodically reviewed and updated in the light of additional information and knowledge.

2.2.4. EPA'S ENVIRONMENTAL IMPACT ASSESSMENT GUIDELINES (2002)



As part of the ongoing effort to develop environmental legislation and guidelines in Ethiopia, the EPA released its EIA guidelines document. The document provides a background to environmental impact assessment and environmental management in Ethiopia. The document aims as being a reference material to ensure effective environmental assessment and management practice in Ethiopia for all parties who are engaged in the process. The basic objective of the guide is:

- ② Providing all interested parties with a consistent approach in EIA
- ② Providing background information for the context of EIA in Ethiopia
- ② Assisting proponents in identifying their EIA responsibility
- ② Assisting communities & NGO groups in realizing environmental rights with regard to EIA
- ② Assisting the authority in determining their roles and responsibility as decision makers in the EIA process: and
- ② Assisting with regard to cost and benefits of proposed development projects.

The document details the required procedures for conducting an EIA in Ethiopia and the requirements for environmental management. These requirements are presented on a step-by-step basis in the guideline. In addition, the document specifies tools that may be considered when engaging in the EIA process. Reference is made to the legislation and policies with which potential investors and developers in Ethiopia must comply and key issues for environmental assessment in specific development sectors are detailed for consideration.

In addition, the EIA Guideline provides the categories, the relevant requirements for an EIA, and lists project types under each category. In accordance with this Guideline, projects are categorized into three schedules:



Schedule-1: Projects, which may have adverse and significant environmental impacts and therefore require a full Environmental Impact Assessment.

Schedule-2: Projects whose type, scale or its characteristics have potential to cause some significant environmental impacts but are not likely to warrant a full EIA study.

Schedule-3: Projects which would have no impact and do not require an EIA.

Accordingly, the proposed Biscuit manufacturing project falls into Schedule 2 and hence does not require a full EIA, rather a preliminary/partial EIA.

2.3. INTERNATIONAL CONVENTIONS AND PROTOCOLS

In addition to national environmental legislations, there are also a number of regional and international conventions and protocols on environment. The government has established an Environmental Protection Authority, and this Authority is designated as focal point for the implementation of these conventions and protocols.

According to; Article 9(4) of the constitution of the Federal Democratic Republic of Ethiopia provides that once an international agreement is ratified through the accepted or established procedure, it automatically becomes an integral part of the law of the land. Consequentially, the convention and the Protocol are the laws of this land. Therefore; the following international conventions and protocols are relevant to the proposed manufacturing project.

2.3.1. WORLD BANK GUIDELINES

The World Bank and IFC provide guidelines for the Environment Assessment (EA) process. As of April 30, 2007, new versions of the World Bank Group Environmental, Health and Safety Guidelines (EHS) are in use. The EHS Guidelines also include sector specific:



The EHS Guidelines contain the performance levels and measures that are normally acceptable to the IFC and are generally considered to be achievable in new facilities at reasonable cost by existing technology.

The proposed a Palm oil refinery manufacturing project falls under Category B as per IFC's Performance Standards and its procedures for project appraisal. Category B projects are those with limited social or environmental impacts. The scope of EA for Category B projects examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. Note: Generally the World Bank OP 4.01 categories A, B and C correspond to the categories described in the Ethiopian EPA's EIA Guidelines Document as Schedule 1, 2 and 3 activities.



CHAPTER 3: PROJECT DESCRIPTION

As already been mentioned previously, Pwani Oil Products (POP) Limited and Kassay Weleday PLC Palm oil refinery manufacturing project proposes to establish a Palm oil refinery manufacturing project with a capacity of producing 125,810 tons.

3.1. Project Description

3.1.1. Project Location

The total project site/plot area required has been assessed in accordance with the effective space requirement of the plant machinery, input store, output, office facility, employee shower and the overall duties and activities that will be carried out by the project. One of the crucial factor, which determine the implementation and overall success of any project is the acquisition of land its location and suitability to the project idea, its relative size and cost of acquisition as well as suitability for the proposed project and access to different facility.

Accordingly, the project location will be in Dire Dawa Region, Dire Dawa town, on the main road from Dire Dawa to Djibouti which is 500 Km from the capital Addis Ababa and 300 km from Djibouti port. The Company will be established on a total area of 20,000 m² secured on lease base from Dire Dawa Investment Commission for a period of 45 years. The payment will Birr 30 per M².

3.1.2. Machinery and Equipment

The company has planned to establish a factory which has three lines of production, the first line of production is Crude Oil Refinery, Plastic Packing material production plant and Soap noodle production plant. The detail of each factory type and machinery type with their respective cost presented as follows.

3.2.2.1. Machinery for Crude Oil Refinery



Palm processing and refining plants are built to produce semi-finished and finished products from oil fruits. The design and construction of such plants require considerable expertise, good planning and partnership from advice on the selection of the plant site to the start-up of the plant, including training of the operators and certification of product properties. In order to set up Crude oil Refinery having regressed analysis about the cost of machinery, availability of spare parts, production capacity, ease of maintenance and other basic parameters is crucial. Refining process is a necessary step for the production of edible oils products.

CPO can be refined using different method, selection of each method will have effect on quality difference on the final product as well as taste, shelf life stability and color of the product. The objective of this process is to remove the impurities and other components, which will affect the quality of finished product. In industry perspective, the main aim of refining is to convert the crude oil to quality edible oil by removing objectionable impurities to the desired left most efficient manner. This also means that, where possible, losses in the desirable components are kept minimal and cost effective.

It is important to have proper refining process in order to produce high quality of finished products with specified quality range and meet users' requirements. There are 2 basic types of refining technology available for palm oil:

3.1.2.2. Chemical (alkaline) refining

Physical refining

In its early years of inception, the palm oil refining industry was mainly alkali-refining based. Alkali refining then was the more established process for edible oil. It was not until the late 1970s, that physical refining of palm oil in Malaysia started to emerge as a better alternative, in many ways, to alkali refining. Over the years, physical refining has proven to beery successful for palm oil and modern refineries are mainly using



physical refining routes. The advantages of this physical refining method over the chemical refining method of palm oil refinery are;

- ✓ Better yields
- ✓ High Quality of fatty acids as by-products
- ✓ Good oil stability
- ✓ Simultaneous distillation of fatty acids and deodorization
- ✓ Lower cost of equipment
- ✓ Simplicity of operation

The company has selected physical refining process with fractionation process. Physical refining is a modern alternative for processing crude palm oil where the removal of free fatty acid is by distillation at higher temperature and low vacuum. The machineries and equipment's that will be installed are state-of-the-art technology and have been designed in compliance with the acceptable standard requirements. The main reason for selecting high capacity machinery is that, to reduce cost of production, and can satisfy the ever growing demand of edible palm oil, and serine fat.

In order to conduct the procurement process for crude oil refinery machinery the company has advertised to attract potential turnkey machinery suppliers. Accordingly, the company has identified reputable turnkey CPO machinery supplier. From the presented suppliers the company selected one of them by conducting technical and financial analysis. The total cost of machinery will be 5 million birr including laboratory equipment and sea & inland transportation. The machinery and equipment for the refinery plant comprises the following item

Table 1: Machinery and Equipment

Investment Item



Refining Plant
Fractionation
Filling line
Packing lines and moulds
Labeling Line
Piping and Fittings Outside the Scope of Supply
Laboratory Equipment's and Chemicals
Sub-total
CIF Cot (Ocean freight insurance, port handling)
Sub-total
Inland Transport
Total Machinery and Equipment

3.1.2.3. Machinery for Plastic Packing

The company has a production capacity of producing 500 ton per day, these will create huge requirements of packing material (HDPE Jerican). The product of the company will be packed using 1 Lit, 2 Lit, 3 Lit, 4 Kg, 5 Lit, 10 Lit, 17 Lit and 20 Lit HDPE Jericans.

3.1.2. Daily demand aspect

At full capacity of CPO processing, the company requires around 140,494 pieces of one litter, 68,044 pieces of two litter, 20,767 pieces per day of three liter, 6,977 pieces per day of four litter, 13,048 pieces per day of five litter, 2,074 pieces per day of 10 litter, 173 pieces per day of seventeen litter and 890 pieces per day of HDPE Jerican. Therefore there is no production facility in Ethiopia that satisfy daily requirement of our factory. Beside most of production facility in Ethiopia targeted the water bottling companies. These companies produce their own packing material by blowing PET performs. Apart from the PET performs, there are few production facility



that produce HDPE. Transporting from different facility will cost the company and create difficulty for loading and unloading.

Packing is the science, art, and technology of enclosing or protecting products for distribution, storage, sale, and use. Packaging product correctly and attractively can be as important as the product itself. The cost for procurement for plastic Jerican production line Trucks. In order to facilitate the day-to-day activity transportation truck is crucial. The companies major input CPO imported from international market as result having own transportation trucks are important. Service Bus Since the project has a total of 619 staff and work in three shift, having service bus for employee transportation is mandatory. Accordingly the company will procure 12 service bus with 60 set. The total cost for procurement of service bus is 1 million.

Pickups

The vehicles will be in use for executing of project implementation, administrative task,

Sedan and Land cruiser

The vehicles will be in use for executing of project implementation, administrative task. The land cruiser vehicles will be in use for top management. Accordingly, the total costs of vehicles estimated to be 800,000.00

3.1.3. Office furniture and equipment

In order to facilitate day-to-day operation and to meet the level of efficiency demanded by the management team, office furniture and equipment is vital. The offices of the company need to be furnish with standardized office equipment and furniture and it has also much the manpower of the factory. Besides, since the company will engage in international business, global guests and dignitaries may come for visit. Hence, all the furniture to be procured has to take this in to account. With this in mind, the total value of office equipment and fixture required by the facof the project is borehole that is to be drilled in the premises of the project. This source



of water is not only important for fresh water used for drink, but it is also intended to be used for all sanitation activities of the project. Therefore, the total cost of borehole drilling service is estimated to be 200,000.00. To make the borehole water safe for processing water softener plant will be installed;

3.1.3.1. Electric Power Supply

The project requires about 2 MW power at full capacity. The sole source of electric power supply in the country is Ethiopian Electrical Power Corporation (EEPCO). Accordingly, the total electric installation cost for 2MW is estimated to be 250,000. Crude palm oil is derived from this part. The composition of mesocarp where the oil accounts for 39 % of the overall composition. Crude palm oil (CPO) is obtained from them escarp part of palm oil fruit after undergoing through several processes such as sterilization process, stripping, extraction and purification.

3.1.4. Source of Finance

Out of the total required finance, 70% which is amounting birr 14,000,000 will be covered from bank loan while the remaining 30% which is amounting birr 6,000,000 will be covered from owners' equity.

No	Source of find	Amount in birr	Percentage Share
1	Owner Contribution	6,000,000	30%
2	Bank Loan	14,000,000	70%
	Total	20,000,000	100%



CHAPTER 4: ENVIRONMENTAL BASELINE

4.1. BRIEF DESCRIPTION OF DIRE DAWA CITY

Dire Dawa is situated just at the foots of the hills stretching from south-east to west direction by making a border line between the highlands of the previous Hararghe region and the vast lowlands extending up to the red sea. The distance that the city has from the highland areas is very close, which provided a livable environment that served as one major factor for its establishment by the then Franco-Ethiopian and now the Ethio-Djibouti railway line.

The most northern and western parts of the administration is flat land and the rest areas are naturally ragged terrain land in topography. The landscape of the south-eastern and southern parts of the administration is dominated by sharp edged hills (escarpments) with a slope exceeding 45 %. The slope is gentle in other parts of the administration that goes down to 0 % in the flat areas.

The climatic situation of the Administrative council is categorized mainly by warm and dry climate with relatively low rainfall and hence categorized as kolla climatic zone. Days are very hot and the nights are moderate in temperature. The climate is semi-desert during day and moderate at night. The vegetation around the town is predominantly Acacia-Savanna. The land immediately surrounding the town is covered with desert cactus. The mean annual precipitation and the mean annual temperature are about 594mm and 25°C, respectively. As per the hydro-metrological data, Dire Dawa is one of the regions in the country with potential evaporation



exceeding rainfall throughout the year and two rainfall patterns and characteristics. The short rain season is from March–April and the long rain season extends from August to mid-September.

The geology of Dire Dawa is composed of all major three-rock types (metamorphic, sedimentary and igneous). The IDP report of the administration depicts that the geological setting of the area consists of high grade basement rocks, mesozoic sedimentary sequences, quaternary volcanic, and quaternary Sediments.

Pertaining to the soil type of the area Fluvisols are generally the one. The soil types of the Administrative Council vary according to the topography of the land forms, altitude and slopes.

4.2. THE PROJECT SITE

4.2.1. PLANT LOCATION

- ⊙ 9° 35'57.2" North, 41° 47'30.0" East
- ⊙ Attitude above sea level= 1300 meter

4.2.2. AMBIENT CONDITIONS

- ⊙ Maximum ambient Temperature +42° c
- ⊙ Minimum ambient Temperature +10° c
- ⊙ Maximum wind velocity: 50 km/hr
- ⊙ Dominant wind direction: south west
- ⊙ Wind band: 11
- ⊙ Maximum annual rainfall: 650m/a
- ⊙ Minimum annual rainfall in 24 hours: 150mm
- ⊙ Seismic activity: no known activity
- ⊙ Seismic intensity: 7



4.2.3. WATER RESOURCE AND QUALITY

Data relating to water resource in the project area indicates that the area is rich in underground water reserves. The project area and its vicinity obtain its water from ground water sources.

4.2.4. SOIL QUALITY

The area around the project site consists mainly of fluvisols. Others soil type's likevertisols and luvisols are also reported to exist in the area.

4.2.5. LAND USE AND LAND COVER

The project area is characterized by scattered shrubs and bushes encroached.

4.2.6. AMBIENT NOISE

As the project area is located in the industrial zone of the city, some noise pollution is expected close to the project site.

4.2.7. SOCIOECONOMIC CONDITON

Since the project site is located within the industrial zone of the city, there are only few human settlements at the nearer distance of the project with the majority them engaged as unskilled laborers in the available Industries.



The feasibility study of the project indicates that, the factory will create direct job opportunities for more than 40 workers, most of whom are from local people residing near by the project area and from Dire Dawa town.

Thus, the project will be an opportunity for the town by lightening the burden of unemployment in the town to some extent. Moreover, the construction phase of the project will have a short term employment opportunity particularly for the local laborers.

Enhancement Measures: Hiring professionals and service providers will be based on merits and yet on competitive base in order to get quality technical workers, it will enhance the benefits of project to give especial consideration for the people residing near by the project site to provide them with job as priority for those positions not requiring especial skill. So that the locally created employment opportunity serve as a medium of knowledge transfer by increasing exposure of locally recruited staff to high skill professional.

As there will be high demand for daily laborers during construction phase of the project, it will be twofold advantages to hire laborers from local people. First, the project promoter will reduce time of searching for laborers and save his money that is needed for transportation of laborers to project site. Second, enhanced benefits of the local community ensure fair distribution of benefits of the project and significantly contribute towards ensuring project social acceptability in general.

5.1.2.2. LOCAL LIVELIHOOD IMPROVEMENT

The project will create job opportunity that benefits the local community. The employment opportunity enable the local youths and adults get additional income that was there before and will have a positive implication to the improvement of local



livelihoods of the community residing nearby the project site. Besides, the local income generation contributes to better social benefit for the residents that will have long term as well as cumulative positive effect.

Enhancement Measures: Utilization of the available labor force in the area enhances the benefits at local level. Exposures to skilled workers help the unskilled laborer recruited from the locality to acquire a skill that help them enhance their income. Out sourcing commercial activities like cafeteria services for local competitive service providers maximizes the social benefit of the project.

5.1.2.3. GENDER EQUITY

Women's efficiency in carrying out some of the production processes (e.g. product packaging, process control and sorting of product defects) make them preferable for industries like this one. This gender specific opportunity will address the historical disproportionate burden of unemployment on woman.

Enhancement Measures: Consideration to be given for keeping and maximizing the beneficial opportunity to women and applying strategic care measures and actions targeting minimization of work area problems women can face. The actions to be taken include: applying affirmative action measures, developing code of conduct hindering work place sexual harassments, job security, appropriate payment (equal payment standard with men engaged on equivalent work load), medical and reproductive health follow-up for women, provision of joint counseling service RH and HIV AIDS for needy employees.

5.2. ADVERSE IMPACTS AND PROPOSED MITIGATION MEASURES



Although reversible and localized in their nature, employees' health hazard; generation of solid wastes and water effluents are found to be the main environmental impacts of the operation phase of the project.

Generally, the proposed project is characterized with insignificant negative impacts both in its construction and operational phases. This section of the report outlines these adverse impacts and presents the proposed prevention and mitigation measures.

5.2.1. CONSTRUCTION PHASE

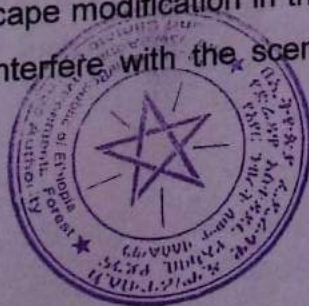
The construction phase of the project involves clearing, land leveling, transportation of construction materials, erection of machineries, and installation of utility systems etc.

Potential adverse impacts associated with the activities of the project are: alteration of vegetation, landscape and land use pattern, impact on water resources, impact on air quality and impact on flora and fauna.

5.2.1.1. LANDSCAPE INTEGRITY AND LAND USE PATTERN

Land clearing and leveling as well as dumping of excavated material can be a cause for the alteration of landscape integrity in the project area. Even though the activities can be a possible impact cause for alteration of landscape integrity; from the existing environmental features point of view, the impact from land clearing and leveling will not be significant. Besides, alteration of the landscape integrity due to dumping of excavated material is not expected to be significant as well.

Construction of the factory buildings and utility systems is the other potential cause for landscape modification in the project area. However, as the setting of the factory will not interfere with the scenic value of the landscape (for example it does not



obstruct the panoramic view of the rural landscape, waterfalls, or mountains) the impact is not significant. In addition to this, the site does not have any interference with any traditionally important feature of landform.

Concerning the impact of the project on the change of the existing land use pattern; as the proposed project will change the land use from shrub and bush encroached area into high value intensive industrial manufacturing, the issue is not a concern at all.

Mitigation Measures: Though those described impacts are not significant they can be avoided by undertaking the following mitigation measures:

- Ⓢ Restoration and maintenance of lost shrubs and vegetation covers by planting advisable indigenous tree species as a hedge around the premises
- Ⓢ Grade limitation to avoid spoiling scenery and view lines with earthworks
- Ⓢ Dumping excavated material at selected suitable site and re-shaping it with the dumping site
- Ⓢ Creating awareness on the value of conserving biodiversity in general and indigenous species in particular among the workers engaged on the construction activity
- Ⓢ Minimizing the movement of vehicles and construction machineries particularly outside the premise of the project site to avoid the distraction of road side vegetation cover

5.2.1.2. AIR QUALITY

Local land degradation due to earth moving operation of site preparation and land leveling is the main air quality concern of the project on the construction stage. As the impact that can arise from the problem is localized, the contribution of the project construction to air quality degradation is not significant. However, as the dust storm can have visibility impact on site operation and decrease breathing because of the



suspended particles in the air, the problem is an important issue that requires consideration.

Mitigation Measures: Practically recommended measure to avoid local land degradation due to dust emissions that can arise from construction activities is to sprinkle water on fresh construction spoil. In addition to this, orienting site workers on the procedures of construction and safety precaution prevents the consequence of visibility loss during operation of construction machineries.

5.2.1.3. FLORA AND FAUNA

Stripping of vegetation and cutting trees and introduction of plants that are foreign to the environment will affect the biodiversity of the immediate area. Potential impacts include those associated with the loss of plant communities and increase in natural instability of plant communities. However, because the project site is characterized by a scattered shrubs and bushes, de-vegetation of native vegetation cover is minimal. The project site has neither a recognized wildlife habitat nor an important ecosystem of indigenous plant species, and therefore the construction phase has minimum impact on flora and fauna

Mitigation Measures: Though the impact on vegetation loss is minimal in order to avoid vegetation damages during the construction activities and enable the project to maintain the greens of the environment; the following measures are recommended:

- ⓐ Limit clearing and soil disturbance only around construction sites
- ⓐ Limit and control movement of trucks and construction machineries during construction
- ⓐ Prepare green areas by planting grasses and other trees in empty land of the premise



- ② Enhance the awareness of the local people and workers in scheduled and regular manner about the importance of vegetation cover for soil and water conservation
- ② Grade disturbed areas and restore landscape

5.2.1.3. NUISANCE NOISE

Construction involves the operation of machinery and vehicles. As a result some noise pollution is expected in and close to the project site. However because of the scattered settlement in the area, the noise impact on the local population is minimal and not significant. The other factor minimizing the impact of the noise is the fact that operation is conducted during daytime where most of the people are out for work. In addition to this in the area there are no noise sensitive institutions such as schools, health institution or other offices close to the project site.

Since the construction doesn't involve the use of explosives or blasting, it does not entail significant noises that affect human population or wild lives of the project area.

5.2.2. OPERATIONAL PHASE

Palm oil refinery manufacturing project operation phase usually involves following processes:

- ▶ Materials receiving
- ▶ Grain storage
- ▶ Grain milling (grinding)
- ▶ Packaging
- ▶ Product transportation

5.2.2.1. Environmental Aspects



Environmental aspects of the project that cause adverse environmental impacts are generation of dusts from production units, generation of nuisance noises, generation of waste solid and liquids during the production phase. Accidents and work area hazards are the other work environment aspects of the project. There are both environmental pollution sources and human health hazards that can be caused by the production process of palm oil refining manufacturing. These production process environmental aspects can be summarized as:

- ⓐ Waste water effluents
- ⓐ Solid wastes
- ⓐ Noises

5.2.2.2. Environmental impact associated with different core activities of operation phase and suggested mitigation measures

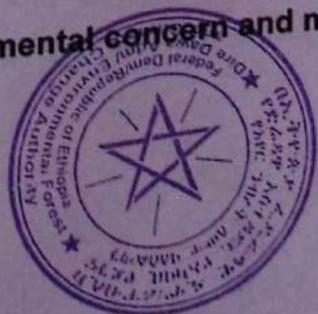
1. Environmental concern and mitigation during Materials receiving

Palm and other inputs used as input is generally received overland. Hence increase in traffic in the vicinity of the mill, and concomitant noises are the main environmental aspects of this activity.

Mitigation measures

Proper planning and scheduling of the grain transporting vehicles must be carried out so as to minimize congestion and prevent conflicts with local rush hours. Approach roads to have sufficient width to accommodate two-way traffic for the type of vehicles likely to be used for transport (farm trolleys, multiple axle trucks etc). Sufficient space needs to be allocated for the parking of the required vehicles inside the premises. Drivers to be instructed to refrain from gunning of the engines, use of pressure horns and to drive slowly when passing through residential or other sensitive areas.

2. Environmental concern and mitigation during Grain storage



Stored inputs require proper environment to maintain quality. Preservatives may be used to extend the stored life. Similarly palm seeds needs to be protected against insects and rodents that may render unfit for human consumption. Chemicals are deployed to achieve these objectives. Thus there are two environmental aspects in the storage area. The fact that chemicals are used and therefore improper selection, use and storage of the materials could lead to an environmental impact. Secondly those rodents, insects and other disease promoting vectors may contaminate the grain which if not segregated and disposed of properly may lead to a health and environmental impact.

Mitigation measures

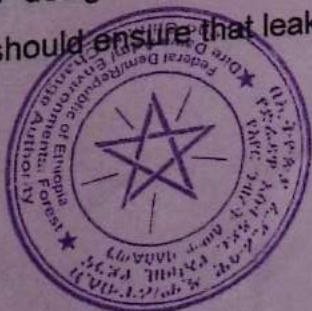
A plan for preserving and maintaining the quality and contaminant Free State of the input in the storage area should be prepared and its implementation monitored. Only approved chemicals and processes should be employed for the preservation and fumigation of the stored grain. The chemicals should also be stored as per the manufacturer's instructions. All contaminated or moldy seed unfit for consumption should be disposed off in manner such that it would not be used for food.

3. Environmental concern and mitigation during palm oil refining

The main environmental aspects of milling are generation of dust and noise. Bucket conveyors and refining machines can be noisy and pneumatic conveying systems, hoppers and cyclones that are not well maintained can leak and cause lots of liquid west and dust to spread.

Mitigation measures

- ▶ Refining machines that meet the criterion for liquid noise in the workplace should be employed. Proper maintenance procedures must be enforced to ensure liquid and noise levels do not increase over time.
- ▶ Similarly the design of the conveying systems as well as the housekeeping procedures should ensure that leakage of dust is kept under control.



4. Environmental concern and mitigation during Packaging

Packaging operation can also lead to liquid and dust emissions and workers in the area can be impacted.

Mitigation measures

- ▶ Liquid and Dust control is the major challenge in this area. Efforts to capture the dust at source will be most effective. Use of high efficiency filters is recommended.

5. Environmental concern and mitigation during Product transportation

Transportation activity will increase in the vicinity of the refinery and product movements and can be the cause of both congestion and increased noise levels faced by the surrounding receptors. If trucks are allowed to queue up in the vicinity of the mills then engine exhaust fumes could also accumulate in the area and create nuisance for any local residents.

Mitigation measures

Proper planning and scheduling of the product transporting vehicles must be carried out so as to minimize congestion and prevent conflicts with local rush hours. Approach roads to have sufficient width to accommodate two-way traffic for the type of vehicles likely to be used for transport (farm trolleys, multiple axle trucks etc). Sufficient space needs to be allocated for the parking of the required vehicles inside the premises. Drivers to be instructed to refrain from gunning of the engines, use of pressure horns and to drive slowly when passing through residential or other sensitive areas.

6. Environmental concern and mitigation during Staff Quarters

Office and production staff and transport crews will generate sanitary wastewater in toilets, dining and washing rooms.



Mitigation measure

Sanitary wastewater must be disposed off in properly designed and located septic tanks.

5.2.2.3. IMPACT ON LAND AND SOILS

Industrial waste water effluents wastewater from the production processes of the factory and sanitary waste water in toilet, dining and washing water of staff quarters are the significant water quality problems.

The provisional industrial pollution control standard prepared by Environmental Protection Authority of Ethiopia (EPA) has set limits for the pollutants in the wastewater discharged into the environment. The standard sets an emission limit for controlled application of the wastewater effluent to land

Owing to the fact that the proposed industry did not start operation, the consultants could not be able to take samples to estimate the exact amount of pollutants that would be present in the water effluents from the production unit. However, considering the nature of the production process, it is expected that the in organic content in wastewater from flour production may not be as such significant. However, to maintain maximum environmental care it is suggested that the wastewater effluent from the production process of the project should not be discharged to the environment prior to treatment.

Mitigation Measures: Utilization of the best available technologies together with the adoption of Cleaner Production techniques is the first mitigation measure to minimize the generation of these process wastes at their source. Sanitary waste water must be disposed off in properly designed and located septic tanks. Thus, in order to bring the final wastewater effluent up to a standard with the provisional wastewater discharge limit, a wastewater treatment plant is also recommended for the project.



As there is no surface water resource in the area and the intention of the proponents is to treat and re-use the wastewater effluent for irrigating the green park of the factory; treating the waste water effluent and bringing all water quality concerns below emission limit values for controlled application for land stated on provisional environmental emission standards for Ethiopia is the mitigation measure.

5.2.1.2. IMPACT ON AIR QUALITY

Since the machineries in the production process are fully automated by electric power, there will be no air emission associated with usage of furnace fuel as a source of energy. Hence, there is no way that the potential pollutants like CO, NOx and Sox might arise in the production process. In this context, the operation of **Palm oil refinery manufacturing project** facility may not have effect on the overall air quality.

Mitigation measures:

The emission of dusts during the construction and operation phases might affect the quality of the air in general therefore, maintenance and repair of equipment, control of timing of noise emissions is measures that are suggested to minimize the effect of dust emission to the environment. In addition to this, it is suggested that palm oil refinery factory use masks during working hours.

5.2.1.3. IMPACT OF SOLID WASTES



The production process of the proposed project is characterized by the generation inevitable but less amount of liquid and solid wastes: Empty containers of raw materials and chemicals are considered as hazardous waste, are the major solid waste issues of the production process of the project.

Although solid waste may be less significant problem in qualitative and quantitative aspects, it will have considerable environmental risks, if it is not managed properly. Storing of solid wastes generated from the production process in open areas inside factories, which is the common practice, will have a direct impact on the land which is the main receiver of solid wastes. It is also common that empty barrels and scrap stays for long times in open storage areas within the industrial facilities, which encourages the presence of pests such as rats, mice and cockroaches which intern makes the factory appear unsightly and unappealing to visitors.

Mitigation measures: Preventing and minimizing the generation of the solid waste at its source is the primary measures to mitigate the impact they can induce on the environment. In general the following abatement measures reduce solid waste related environmental pollution problems:

- Scrap metals and barrels should be collected and sold.
- Damaged bottles & cartons can be collected & sold for recycling.

5.2.1.4. IMPACT ON EMPLOYEE'S HEALTH & OTHER RISKS

Since a work place is a potentially hazardous environment, workers encounters direct, indirect and long-term potential health problems during the operation of the proposed project. Workers directly involving in the grain grinding have the opportunity to inhale dusts. Production and technical personnel have the exposure to continuous noise and vibrations created from machines electrical motors and machineries.



Inhaling of the emissions results from operations of the production process are potential workers' health threat. Interference of technicians and operators in running machine parts can cause body injury. Interference of individuals with electrical systems, failure from structures and failure due to slippery floor are other causes for injury. Direct body contact with acids and alkali chemicals causes damages body tissue. The main environmental risks are associated with the following activities:

Activities inside the repairs and mechanical workshop of the factories may cause oil contamination risks to the land, or in wastewater. In addition, there may be risks to the workers, including exposure to fumes, injury with sharps etc. General occupational health risks exist throughout the factory from noise, odors, or slippery floors.

On the other hand, Palm oil refinery manufacturing project involves production of dust both at its operational and construction phases. Workers are vulnerable to respiratory impairment due to flour dust exposure in the workplace environment most Palm oil refinery manufacturing project are unaware of the effects of exposure to flour dust. Unhealthy conditions at the workplace environment were observed in the Palm oil refinery manufacturing project during different survey. These conditions affect the health of the exposed workers. A significant reduction in the lung capacity was observed with increasing exposure duration among the Palm oil refinery manufacturing project workers. Hence, it is suggested that Palm oil refinery manufacturing project workers use masks during working hours.

Mitigation measures: Anticipation of potential hazards and risks in the work environment and implementing control methods to remove or reduce the hazard exposure of the worker is the proposed measures to mitigate the impacts under consideration:



The general control methods available for control of hazards include:

- ⓐ Using local supply ventilation and natural ventilation systems to assure the comfort of operators in production areas
- ⓐ Training workers regarding work area safety and hazardous control like the fire hazardous and controlling mechanisms; application of safety and hazard control equipment; monitor the work area or the worker, good housekeeping, and preventive maintenance.
- ⓐ Using personal protective equipment like: skin protections (plastic gloves and aprons); eye protection (safety glass, goggles, face shield, and hood); ear protection (ear muffs); respiratory protection (air-purifying respirators); and safety shoes.

Besides the following measures need to be considered regarding employees' health:

- ⓐ Pre-employment and periodic health checkups for workers
- ⓐ Insurance policy and procedures for work area caused damages

5.2.1.5. IMPACT ON ENERGY RESOURCES



The operation of the proposed factory project requires a considerable electrical energy resource for: running of machines, power for the factory, buildings, etc. As the project uses a renewable energy source hydroelectric power the impact is not significant. However, from economical point of view the issue requires attention.

Mitigation Measures: Avoiding idle operation of machineries and implementation of proper power use practices are the mitigation measure for reducing electrical power consumption. Installation of less energy intensive equipment (like using florescent light rather than bulbs) reduces the energy consumption. Training and reminding workers to switch off lights when leaving offices is the other managerial proposed option for minimizing the problem. Generally, the following measures help to reduce the impact:

- Ⓢ Train operators on operation of equipment in efficient way to minimize energy
- Ⓢ Supervise production processes in order to improve production efficiency
- Ⓢ Switch-off idle machines and unused bulbs
- Ⓢ Construct buildings in a position where rooms easily get sunlight



CHAPTER 6: ENVIRONMENTAL MANAGEMENT PLAN

6.0. INTRODUCTION

Industrial development usually associated with impacts positively and negatively impacting the environment. Developing negative impact management plan must be in place to ensure maximum positive impact of the industry to the community as well as the environment. Hence, the environmental management plan helps the negative impacts not to hinder industrial development but to properly mitigate the negative effect.

Therefore, environmental management plan (EMP) has been prepared for the proposed Palm oil refinery manufacturing project to minimize negative impacts. The environmental management plan is framed on the basis of prevailing environmental conditions and possible impacts of this project on various environmental parameters. This plan will also facilitate monitoring of environmental parameters.

EMP includes scheme for proper and scientific treatment and disposal mechanism for air, liquid and solid hazardous pollutants. Apart from this, safety aspect of the workers, noise control, accident hazards etc. are also well addressed.

6.1. PURPOSE OF ENVIRONMENTAL MANAGEMENT PLAN

Various purposes of the environmental management plan are:

- ② To treat and dispose off all the pollutants viz. liquid effluents, ~~gaseous~~ and solid waste



- ⓐ To support and implement development work to achieve environmental standards and to improve the methods of environmental management.
- ⓐ To encourage good working conditions for employees.
- ⓐ To reduce accident hazards.
- ⓐ Budgeting and allocation of funds for environment management system.
- ⓐ To adopt cleaner production technology and waste minimization program.

6.2. DETAILS OF ENVIRONMENTAL MANAGEMENT PLAN

6.2.1. CONSTRUCTION PHASE

Construction phase of the project at hand will involve various operations causing effect on the environment. Thus during constructions and installation of the factory units the contractor will be provided with suggested measures that help to mitigate the negative impact on the environment and the contractor will be responsible for implementing the environmental mitigation measures proposed in this EIA study report. The construction supervisor also should monitor impacts and proper implementation of mitigation measures. The construction supervisor will be fully accountable for ensuring all the works to be accomplished in line with the recommendation in the environmental management plan that the environmental impacts will be taken into the consideration and that good workmanship be followed.

It is also proposed that an environmental inspector to be appointed by the proponent. The major environmental management issues to be undertaken during the construction phase are presented in the following subsections.

6.2.1.1. WASTE MANAGEMENT

The construction and operational phase involves production of solid and liquid waste negatively affecting the environment. All solid and liquid wastes generated in the construction phase should be managed properly. Thus, solid wastes must be



collected and burnt in a burn pit specially created for this purpose. These burning pits must be placed away from the groundwater well head and the nearest public facilities and covered up after completion of the construction work.

All the used oil from the plant and equipment must be collected and burned or buried in specially secured landfill effectively sealed from the surroundings. Environmental inspector has to ensure the proper implementation of these activities and submit report on the status of environmental management to the Company concerning local authorities.

6.2.1.2. AIR POLLUTION AND DUST MANAGEMENT

Dust generated both during the construction phase is major sources of emission and air pollution. However, it can be managed by discarding construction wastes in an appropriate or authorized waste management facilities/land fill sites and preventing the generation of air pollution during the construction period by water sprinkling.

6.2.1.3. HEALTH AND RISK MANAGEMENT

Health and risk management should be done to avoid unnecessary impact on human health. Providing health facility (mobile clinic or first aid service depending on the size of workforce), and committing stand by vehicle to provide transportation service in case of accident are the main element of health and risk management. In addition to above facilities, the contractor should provide proper and standard protection wears like helmets, masks, dust proof breathing martial and shoes to employee in the construction phase.

6.2.2. OPERATION PHASE

This is phase of the project involving a number of activities negatively impacting the environment and thus most of the recommended environmental management activities of the project designed to be carried out during this phase. The



environmental management plan emphasized during phase since this is the phase of the project with long term adverse impacts (including environmental pollution and human health hazard) can be expected to arise.

The objectives of the environmental management program at this phase of the project are:

- ② To promote protection of the environment from process induced wastes and other pollutants,
- ② To ensure protection of workers from work area health hazard,
- ② To ensure efficient use of water sources, waste management and
- ② To improve the environmental performance of the company.

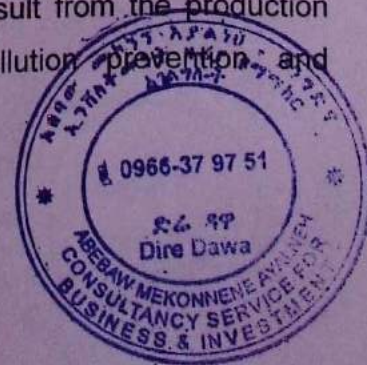
The environmental management tasks to be performed by different functional units of the company; the Consultant proposes an environmental and safety officer that works as freelancer to operate the environmental management program at this stage of the project.

The environmental and safety officer will be accountable of for monitoring all aspects of the environmental management programs, development of environmental oversight capability within the company; and facilitating implementation of companywide Environmental Management System (EMS).

The major environmental management issues to be undertaken during this phase of the project are presented below.

6.2.2.1. ENVIRONMENTAL POLLUTION PREVENTION AND MANAGEMENT

Environmental pollution prevention and management will very largely be concerned with controlling pollution of the environment which may result from the production process, though implementation of best available pollution prevention and



minimization measures at each stage of the production process as well as during packing and storage of products.

6.2.2.2. WORK AREA SAFETY

Although the proposed projects do not utilize chemicals in its production phase, particular attention should be given for controlling employee's health from chemicals. In this regard both technical and administrative aspects should be considered. The environmental and safety officer and the production supervisors will be responsible for managing the technical management aspects. They ensure that procedures for hazard and accident response are ready and well placed. The labor officer will be responsible for administrative management aspects.

6.2.2.3. WASTE MANAGEMENT

The environmental and safety officer will prepare cost effective and environmentally sound management options for managing every waste concerns at this production phase. The production manager will be responsible for the implementation plans. He/ She will ensure effectiveness of the management system in usual bases. The environmental and safety officer will review the management plan and evaluator the sustainability of the management plans.

6.2.2.3. DUST MANAGEMENT

The production and packing process of the proposed Palm oil refinery manufacturing project might contribute to generation of dust emission that hazards the employee and the environment. Similarly, dust control during production and packaging is the major source of dust emission and efforts to capture the dust at source will be most effective. Hence, use of high efficiency filters is also recommended. Correspondingly the design of the conveying systems as well as the housekeeping procedures should ensure that leakage of dust is kept under control. Distribution and promotion use of



masks during working hours among the workers and introducing dust exhaust systems into the workplace is supportive.

6.3. BUDGETS FOR THE ENVIRONMENTAL MANAGEMENT PROGRAM

6.3.1. PROPOSED BUDGETORY PROVISIONS FOR EMP

For effective implementation of environmental management plan adequate budgetary provisions is important and thus the management will allocate sufficient budget for execution of environmental management plans. The details of total capital and recurring costs (per annum) for the wheat flour manufacturing environmental pollution control measures are given in following table.

Table 7.1 Total Capital and Recurring Cost for Environmental Management Plan

NO	ITEM	COST
CAPITAL EXPENDITURE PER ANNUM		
1	Waste water Treatment	20,000.00
2	Emission Monitoring equipment	11,000.00
3	Safety Equipment	6,000.00
Total Capital Expenditure		37,000.00
RECURRING EXPENDITURE PER ANNUM		
4	Greenery Expenses	10,000.00
5	Salary of the environment & safety officer	24,000.00
4	Periodic training & awareness program for the employee	12,000.00
6	Environmental monitoring and reporting	5,000.00
Total Recurring Expenditure		51,000.00
Total COST FOR EMP		88,000.00



CHAPTER-7: ENVIRONMENTAL MONITORING AND AUDIT PLAN

Environmental monitoring and audit is a continuous process to be carried out at the time of the construction and after the construction phase is over as well as during the operation phase to examine the proposed measure in the environmental management plan is are being implemented as of the plan and the measures are contributing to the achievement of desired level of environmental protection and performance. This environmental management plan will serve as skeleton document that will form the basis of detailed environmental management plan of each project development phase. At this stage of the development programme locations have not been specified. These details will be progressively developed as the project proceeds. Measurement equipment and methods will be selected to comply with national and regional monitoring standards. A summary of the proposed monitoring plan is given below



Table 7.1 - Environmental Monitoring Plan - Construction Phase

ITEMS	MEASURES	RESPONSIBIL	SCHEDULE	REMARK
✓ Noise/vibrati on from construction traffic	✓ Ensure construction traffic only uses pre- determined routes to access the site. ✓ maintenance and repair of equipment, control of timing of noise emissions, informing local community	✓ Contractor	✓ During construction phase	✓ No specific limits at present. ✓ The aim is that there shall be no noise nuisance.
✓ Dust	✓ maintenance and repair of equipment ✓ Constant visual vigilance of dust issues throughout the construction phase is necessary. ✓ All activities should be assessed for the potential for dust creation prior	✓ Contractor/ The Plc.	✓ Throughout the construction phase but particularly when undertaking activities or handling materials which may lead to dust creation problems.	✓ No specific limits. ✓ No dust nuisance shall be created.
✓ Communicatio	✓ Compile and maintain register of environmental and social communications including	✓ The Plc.	✓ Suitable preventive and corrective action to be taken if required.	✓ N/A



✓ Accidents and Incidents	✓ Compile and maintain register of environmental accidents and incidents	✓ The Plc.	✓ Suitable preventive and corrective action to be taken if required.	✓ N/A
✓ Waste	✓ Visual inspection of waste storage, collection and disposal areas. ✓ Records to be maintained of inspections. ✓ Ensure that the proposed effluent treatment plant is of an appropriate specification to prevent significant impact to the receiving water way.	✓ The Plc.	✓ Monthly inspections. Suitable preventive and corrective action to be taken if required ✓ As soon as the design of the effluent treatment plant is available and before it is commissioned for use during the construction phase of the	✓ N/A
✓ Waste Effluent		✓ The Plc		✓



Table 8.2 - Environmental Monitoring Plan - Operational Phase

ITEMS	MEASURES	RESPONSIBILITY	SCHEDULE	LIMITS
✓ Operational Noise – ✓ Health & Safety	✓ Noise monitoring programme. Noise levels in operational areas of the plant should be measured. ✓ Staff working in areas of high noise levels should undergo training and regular hearing checks. ✓ Fuels, chemicals, liquid wastes and potentially hazardous materials will be kept in designated storage areas. ✓ Plant maintenance and plant/vehicle washing will be carried out in dedicated areas with spill containment	✓ Operator ✓ The Plc.	✓ High Noise Levels areas should be identified when expected noise levels are available, and verified once the plant is operational. ✓ Staff training and hearing checks should be ongoing. ✓ The following containment methods shall be employed: ✓ Secondary containment for all storage tanks and containers above 20-litres in total capacity (including loading areas) must be used. ✓ All storage areas must be visually inspected at least monthly and the	✓ To be agreed, if necessary.
✓ Protection of ground and ground water ✓ Land scape and Visual	✓ Monitor soil erosion and establish a planting scheme, including advance planting with the aim to reduce erosion due to deforestation ✓ Monitor the establishment of on and off site planting with a permissible failure rate of with	✓ The Plc.	✓ To be agreed	✓ To be agreed



ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR PALM OIL REFINERY PROJECT
 BY PWANI OIL PRODUCTS (POP) LIMITED AND KASSAY WELEDAY PLC.

<p>✓Waste</p>	<p>✓ For all waste streams (solid and liquid) data should e kept of: ✓Waste quantities ✓ Physical form and containers used/packaging ✓ Disposal/treatment route ✓ Final disposal point ✓ Recycled/reused quantities ✓ All in house waste disposal/treatment facilities ✓ suitable monitoring/inspection in accordance with the Regular inspection of drainage and all waste storage tanks (including domestic) will be included in the wastewater monitoring plan.</p>	<p>✓ The Plc.</p>	<p>✓ Frequency and methods will be determined before the beginning of the work of the plant. ✓ Monitoring data and a statement on compliance with this EMP shall be reported in the Annual Monitoring Report to Lenders.</p>	<p>✓ To be agreed with regulators</p>
<p>✓Employment</p>	<p>✓ Monitor local employment and skill levels against targets established by the Plc employment policy using qualitative and</p>	<p>✓The Plc.</p>	<p>✓Annual</p>	<p>✓To be agreed</p>



2017

ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR PALM OIL REFINERY PROJECT
BY PWANI OIL PRODUCTS (POP) LIMITED AND KASSAY WELEDAY PLC.



CHAPTER 8: CONCLUSION AND RECOMMENDATIONS

Paving the way to the realization of high level expansion of industry is the core issue in the growth and transformational policy of the Ethiopia. As part of this national strategy implementation of the proposed palm oil refinery factory project will have a bold contribution to the improvement of socio economic situation of the people around the project in particular and the region and the country in general.

The in going project plays a sound role on the regions in particular and country level economic development since the project at hand create employment opportunity for citizens that generate income for the local community, and in addition to creating market opportunity palm producing agricultural community and eventually contribute to realization of rural development . However, the proposed project has some associated with environmental concerns that might cause adverse impacts, most of these environmental effects can be reduced to acceptable and significantly low levels by implementing the suggested environmental pollution prevention and control techniques, and mitigation measures proposed in this environmental impact assessment report. Thus, to have minimal and acceptable residual environmental impacts, it is recommended that the proposed mitigation measures should be properly implemented. A close follow up of the effectiveness of the implemented measures is recommended since a well-planned monitoring program is critically important.

Consequently, it can safely be concluded that there will be no severe or irreversible adverse impacts on the environment that will prevent the implementation of the proposed industrial development project. In general, the Consultant proved that there are no undefeatable environmental difficulties hindering the implementation of the proposed palm oil refinery manufacturing project.



9. REFERENCES

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- ✓ NWFP, 2004. Environmental Protection Agency Environmental Assessment Checklists and Guidelines
- ✓ Taiyuan f chemicals Co.,Ltd . Xiaodian, Taiyuan Website: factorychem@yaochem.com
- ✓ www.epa.gov.et (Official Web site of Ethiopian Environmental Protection Authority)
- ✓ Yangzhou Yuxiang Light Industry Machinery Equipment Factory Company Website: www.chinayxjx.com / <http://www.cosmeticmachinery.cn>



11. ANNEX

11.1. Curriculum Vita of experts participated on Environmental impact assessment

Contact Address: Tel(Mobil) 09-13076569,

Email: fbedada@gmail.com

ADUGA BEDADA MEKONEN

1. PERSONAL PROFILE

- ✓ Name Aduga Bedada Mekonen
- ✓ Marital Status: Married
- ✓ Sex: male
- ✓ Born: June 1974

2. SUMMARY OF PROFESSIONAL QUALIFICATION

As Chemist and Chemical Engineer I have reach experience in Chemical identification, assessment and effect analysis in relation with Environmental Impact Analysis including the effect of chemicals of various types on water environment and soil. Besides I am well experienced in capacity building and implementation of industrial Chemical effect mitigation strategy development management development and monitoring in different parts of Industrial zone in Ethiopia. More than 15 years of progressive experience in designing, implementation monitoring and evaluation of chemical impact mitigation related with industrial pollution. I have also proven experience in gap assessment and conducting M&E including environmental impact assessment.

3. EDUCATIONAL QUALIFICATION

- ✓ M.Sc in Chemical Engineering, Addis Ababa University obtained in 2007, Addis Ababa, Ethiopia
- ✓ BSc in Chemistry, Arba Mench University obtained in 2003, Arba Mench, Ethiopia



4. CORE QUALIFICATION

- Complex chemical Design
- Site Control and management
- Environmental Investigation
- Team and Project management
- Chemical Effect Analysis
- Chemical Impact management
- Chemical Effect Control and Mitigation Strategy Development Management
- Chemical Impact Assessment Monitoring and Evaluation

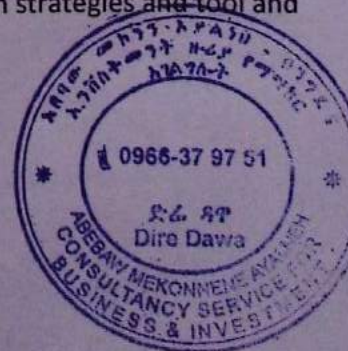
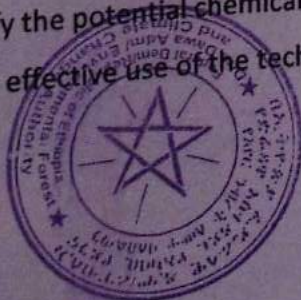
5. PROFESSIONAL EXPERIENCE

3.1. Ethiopian Electric Authority, Senior Chemist and Environmental Engineer, From March, 2010 up to now

- Lead team of Technical Professional
- Monitor review and upgrade chemical effect management plan
- Involve and Lead Chemical impact assessment
- Develop proposal and manage implementation
- Conduct on site soil analysis and make recommendation for sustaining and obtaining acceptable level

3.2. Chemical Engineering Assist at Muger Cement Factory from September 2007 – February, 2010

- Participate in extensive pollution analysis work
- Involve in chemical impact assessment study
- Design organizational chemical impact mitigation strategy
- Involve in laboratory and field level research
- Assist creation of data model
- Chemical Impact and effectiveness assessment analysis
- Identify the potential chemical effect and develop mitigation strategies and tool and advice effective use of the technology and tools



- Conduct identification assessment and capacity building of chemical effect management and service development
- Coordinate capacity development & mobilization EIA team for increased use of available technology for chemical effect mitigation
- Identify and suggest strategies for improved negative chemical impact mitigation in the factory and adjacent neighborhoods

6. TRAININGS

- ✓ TOT on Chemical Impact Assessment and management (Nov 26 -30, 2015), SID-Ethiopia
- ✓ TOT in Planning, Monitoring & Evaluation of Chemical Impact management Strategy: (14-24, 2015) EEPA.
- ✓ Project Management, Result Based Chemical Management (Nov. 18-21, 2009) Muger Cement factory, Addis Ababa
- ✓ Biodiversity & Genetic Resource Mngt (Sep. 21-27, 2010) *No Certificate*- USAID

7. LANGUAGES:

Oromifa: Mother language, **Amharic & English:** Excellent in Understanding (Listening, Reading,) and **French:** beginner class

8. REFERENCE

- ✓ Ato Berihun Kebede, EIA Directorate manager EEPA Ethiopia, Telephone, 0912-11-78-45, Email, selamk@gmail.com
- ✓ W/ro Heywet belayneh, Muger Cemint factory, Environment Impact management Department Manager, Telephone, 0911452390, Email, hbelay@ymail.com



Email: mgirma88@gmail.com

GIRMA ADMASU MEZEMER
(TEAM LEADER)

1. PERSONAL INFORMATION

- ☞ Date of birth: 21/08/1981
- ☞ Place of Birth: Mesela
- ☞ Nationality: Ethiopian
- ☞ Sex: Male
- ☞ Civil status: Single

2. EDUCATION

- ☞ **MS.c in Rural Development and Agricultural Extension**, Haramaya University, July, 2009
- ☞ **BA. Degree in Sociology and Cultural Anthropology**, Addis Ababa University, July, 2005.

3. HIGER PROFESSIONAL CERTIFICATION

- ✓ **Certified management and Development Consultant**, Ethiopian Management Institute, Obtained on May, 2016
- ✓ **Higher level Certification on Environmental Impact Assessment Consulting** Ethiopian Ministry of Forest and Environmental Protection obtained on April 2016, Addis Ababa, Ethiopia

4. WORK EXPERIENCE

- ☞ **Executive Director**, positive Action for Development in Dire Dawa since December, 2011 up to now.
- ☞ **Program Economic Strengthening (Livelihood) Specialist and Project Coordinator SCRHA program**, in PROPRIDE Dire Dawa since 1st August, 2010 up to now.
- ☞ **Program Livelihood Specialists of PC3 Program**, In PROPRIDE Dire Dawa, 10th December, 2009 to 1st August, 2010.
- ☞ **Community Mobilization and capacity Building Department coordinator**, Dire Dawa Local Development Agency worked for (3 years & 11 months).
- ☞ **Branch Program Coordinator**, Ethiopian Red Cross Association worked for about (4 months)
- ☞ **Reach Experience in conducting research, base line Survey, Developing Business plan with different consultancy firms since, 2009**
- ☞ **Valuable college level part time teaching experience** of Sociology, Psychology and Entrepreneurship and Civic and Ethical education, since 2006 to date.
- ☞ Active participant in Joint Learning Forum organized by Care Ethiopia lasting for about one year and conclude on October 15, 2009

5. LANGUAGE



LANGUAGE	SPEAKING	LISTENING	READING	WRITING
English	Excellent	Excellent	Excellent	Excellent
Amharic	Excellent	Excellent	Excellent	Excellent
Oromifa	Very good	Excellent	Very Good	Good
Somali	Good	Good	Fair	Fair

6. TRAINING

- ✓ Finance Management Training, on Finance Reporting and Internal Control April 1-2, 2014, Dire Dawa Samrat Hotel, organized by CSSP (British Council) in collaboration with MANGO
- Training of trainers (TOT) in Most Significant Changes in Monitoring and Evaluation (MSC), 12/05/2011-20/05/2011 Organized by USAID/PEPFAR funded project SCRHA
- Training of trainers (TOT) on Psychosocial Support and Crisis Management, from 17-24 January, 2011 organized by PROPRIDE in Collaboration with Dire Dawa Women's Association and Murty General Consultancy.
- Training of trainers (TOT) on Entrepreneurship, value Chain Analysis and Business Development Service (BDS) Training of Trainers (TOT), October, 9 to 18, 2009, Organized by USAID/PEPFAR funded project SCRHA
- Training on Monitoring and Evaluation, organized by USAID and PROPRIDE, 25-29/10/2010
- Training on Palliative care organized by USAID and PROPRIDE, 19-24/10/2010
- Training on Economic strengthening, Entrepreneurship, Value Chain and Business development Services (BDS), organized by USAID and PROPRIDE, 14/10/2010-19/10/2010.
- Psychosocial Support Training, Organized by PROPRIDE, Save the Children USA and USAID, September, 15-18/21, 2009.
- Training on Result Based Management (RBM), April, 12-16, 2010, organized by WFP in collaboration with Hareri Region HAPCO.
- Inclusion of person with disabilities in the Provision of Reproductive Health and family Planning Service, from July 14 to 16, 2010, ECDD and Nia Foundation.
- Training on Monitoring and Evaluation and Data Quality Management, from 28-30 January, 2011 organized by PATH.



- o **Strategic planning and management**, from March 29 to April 2, 2010, Ethiopian Civil Service College.
- o **Project Planning, Monitoring and Evaluation**, July 8 to 12, 2010, PROPRIDE, Save the Children USA and USAID.

5. EMPLOYMENT RECORD

5.1. Capacity Building and Community Mobilization and Participation

Department Coordinator

Organization Local Development Agency,
Worked for 3 years & 11 month.

Dire Dawa, Ethiopia

Duties and Responsibility

- ☞ Plan organizes, directs, coordinates and controls the activity of the unit
- ☞ Identify areas and social groups in which the fund assistance to be reached
- ☞ Promote the grass root communities and the general public about Local Development objectives
- ☞ Respond to quires from the communities implementing agency such as Local government and NGO's and from the general public about activities and objectives of the fund
- ☞ Follow up the development and production of promotional material on time
- ☞ Assist the community to fill fund request forms properly based on their priority needs
- ☞ Identify the training need of stalk holders to organize a training for the purpose of developing the capacity of the community, implementing partners'; and regional funds staffs
- ☞ Coordinate the organization and delivery of training programs, workshop and seminars and make sure that these are properly carried out.
- ☞ Evaluate periodically the impact of training and capacity building activities of the regional office
- ☞ Ensure the short term training programs organized locally and properly conducted.
- ☞ Assist in the training/study tours need assessment of Local development beneficiary communities, agencies.
- ☞ Liaise with the regional office staff: regional sector offices and other organization about need assessment of studies
- ☞ Prepare periodic and yearly plans and report of activities and budget for promotion training and capacity building.

5.2. Branch Program Coordinator

☞ Ethiopian Red Cross Society,

☞ Worked for 4 months.

☞ Dire Dawa, Ethiopia

Duties and Responsibility

- ☞ Plan organizes, directs, coordinates and controls the activity of the program
- ☞ Organize monthly, quarterly, semi-annual and annual report of all the programs in the branch



- ☞ Designs investment projects o finance the activities of branch and mobilize recourses
- ☞ Develop mechanism to enhance the capacity of the branch in cooperation with Local financiers
- ☞ Studies the demands of emergency assistance and health and social service in the sub branch
- ☞ Identify chronically food insecure population and provides essential information and assessment on harvest and emergency need of the region
- ☞ Participate in the development, implementation, monitoring and evaluation of externally funded projects
- ☞ Develops developmental project to be implemented in the branch and sub branch and solicit funds to finance some
- ☞ Coordinate projects that are financed by local sources of the regional branch
- ☞ Develop detailed procedures and working methods on the management of members, volunteers and youth in the region.
- ☞ Evaluate the performance of subordinates in a rational manner
- ☞ Takes disciplinary measures on the bases of delegation provided
- ☞ Participate in the selection of subordinates
- ☞ Performs other related activities as assigned.

5.3. Program Livelihood Support specialist and Project Focal person

- ☞ PRO PRIDE, PC3 Program
- ☞ Worked, December, 10 2009 to August, 1, 2010.
- ☞ Dire Dawa, Ethiopia

Duties and Responsibility

- ☞ Coordinate and fallow up programme activities
- ☞ Organize Monthly, quarterly ,semi annually and annual Report
- ☞ Design appropriate programme activities on Livelihood, Psychosocial Support, Education Support , Life skill Support for OVC
- ☞ Assist the programme Manager in the development of appropriate Psychosocial support, Education, Livelihood and Life skill strategies for OVC in the local context
- ☞ Follow up that the tier III partners have maintained all necessary data following the M & E system of the PC 3 programme
- ☞ Ensure that community mobilization steps are effectively implemented as stipulated in PC-3 context in all programme area
- ☞ Design a regular work plan
- ☞ Organize training on Economic Strengthening, Education issues and Community mobilization issues to the community group.
- ☞ Take timely action on problems that could hinder the implementation
- ☞ Follow up the implementation of the programme budget



- ☞ Liaise with government and non-governmental agencies engaged in programme activities
- ☞ Closely work with regional, Zonal, Wereda and Kebele level line ministry bureaus and concerned governmental bodies.
- ☞ Carry out other duties assigned by supervisors

5.4. Program Economic Strengthening Specialist and Project Coordinator

- ☞ PRO PRIDE, SCRHA Program
- ☞ Have been working since August 1, 2010 to date.
- ☞ Dire Dawa, Ethiopia

1. Duties and Responsibility

1.1. Strategy Development

- ☞ Develop implementation Strategies for livelihoods and other components of the program
- ☞ Ensure the involvement of staff members and other concerned bodies in the process of developing and implementation of the strategies.
- ☞ Assist the Generalist, volunteers and beneficiaries in establishing linkage with microfinance institution for access to finance to scale up their livelihood promotion efforts.
- ☞ Develop Program proposals for the ongoing initiatives and for expansion depending on the need of the same.

1.2. Planning and Coordinating

- ☞ In consultation with the program Manager and senior staff members develops annual and strategic plans
- ☞ Prepare detailed action plans in accordance with annual/strategic plan.
- ☞ Assist the Program manager in coordinating the overall activities of the SCRHA program.
- ☞ Provide the necessary support to the Palliative care Officer and Program Grant officers to ensure the smooth and effective implementation of the program.
- ☞ Assist the generalist and the community group in the identification, promotion, and management of feasible livelihoods intervention in line with the Economic strengthening package of the program.



- ☞ Conduct periodic review of program accomplishment in general and Economic strengthening component in particular.
- ☞ Plan and organize different trainings for volunteers, Generalist, community and other concerned stakeholders on livelihoods promotion and other area of concern.
- ☞ Coordinates and supervise the Generalists in the process of accomplishing the project.

1.3. Liaison with Concerned bodies

- ☞ Liaise with concerned government and non government agencies engaged in related activities.
- ☞ Proactively involve in the networks, forums and other membership structures with which the organization is affiliated.
- ☞ Develop and maintain internal and external relations to enhance the visibility of the Program.
- ☞ Identify and develop relationship with potential donors and strategic funding partners.

1.4. Reporting

- ☞ Prepare the periodic reports of the Economic Strengthening components on monthly, quarterly and annual basis.
- ☞ Compile the overall accomplishments of the program in a comprehensive manner on quarterly and annual basis.
- ☞ Ensure that the regular reports of other program components are prepared in a regular manner.
- ☞ Ensure that all periodic reports are submitted to all concerned bodies.

6. REFERENCE

- ☞ Abdulaziz Ahemed PROPRIDE SCRHA project focal person at head office, Addis Ababa, Tele 09-20-90-78-60.
- ☞ Fuad Mohammed ,Manager Local development Agency, Dire Dawa, Tel. 09-15-75-35-31.
- ☞ Dawit Mekonen, Finance and Admin Head, PROPRIDE, Dire Dawa program office, Tel.09-15-75-21-54
- ☞ Zeyenu Abate , Team Leader , Local Development Agency, Dire Dawa, Tel,0915-74-04-23.

1. Tewodros yalley (Master Degree in Public Health)



Tewodros yallew

Citizenship : Ethiopian - Date of birth :
 27/09/1986 place of birth : Addis Ababa

Marital Status: Single - Sex: Male

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 tewodrosyallew2009@hotmail.com

Address

Bole Kefeleketema, Kebele 19/21, P.O. Box 170102 Addis Ababa, ETHIOPIA

Profile

Objective CARE AND SUPPORT OFFICER

Availability Anytime

Key Skills

Proficient or familiar with computer application packages

Application programs

Ms Word, Ms Excel, EPI
 info, SPSS version 14

Operating Systems

Ms Windows, Ms office
 application

Basic Windows troubleshooting

Education

2010/11 **Masters Degree in public health(MPH)**

2004 to 2007 **Bachelor of science in Compressive nursing**
 Gondar University, Department of Nursing, Gondar

2002 to 2003 **Secondary School (Grades 11-12)**
 Menelik II school, Addis Ababa, Ethiopia

2000 to 2001 **High school(Grades 9-10)**



1992 to 1999

BOLE SECONDARY SCHOOL, Addis Ababa, Ethiopia

Elementary school(Grades 1-8)

Akaki Adventist school

Work Experience

Oct 2007 up to Oct.2010 in Whail health center, Legoda Gudunfeta Health center (Dire Dawa) and working in NGOs in the position of project officer and program assistant

-providing the required at most emergency nursing care and general nursing service to patients in an efficient and effective manner, this include, among others.

-providing qualitative nursing care

-recording and reporting emergency and routine data

-Conduct awareness education on HIV/AIDS and others STIs, nutrition and communicable diseases.

-Adult and pediatric outpatient department.

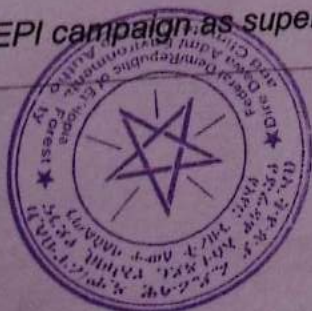
-TB/HIV clinic

-Guide and direct peers, anti AIDS Clubs, and others to mobilize people for VCT and PIHCT.

-Participate in School health (TT campaign, health education, refresh training for school health clubs.

-Participate in sanitation campaign.

-Participate in EPI campaign as supervisors and vaccinator.



- Participate in HIV campaign.
- Participate in assessment of EPI coverage in the regions.
- Participate in TT campaign.
- Participate in different emergency program (control of AWD, MALNUTRITION)
- With different sectors harmoanizly.
- Participate in regional health annual plan representing the health center (HSDP)
- work in Dire health college and Art medical college nursing department as per time lecture.
- Working collaboration which East Harerge CARE OTP (out patient therapeutics feeding program) in
- Mate good relationship with line management and staff members
- Networking the health center with NGOs and other partners.
- Representing the health center in meeting and workshops.
- Work closely with others organization that has the same line of objectives.

- From Oct 2010- April 2011 working as program coordinator in project GSM (Grant Solicitation and Management) WLE on Community based HIV/AIDS care and support program In BICDO Local NGO.

- work in Palliative care,OVC & Peer education(MARPs)
- Also work in IGA program(income generation activities)
- Planning, Monitoring and evaluating the activities of the all care and support programs



Activities and Interests

Hope I want to see Ethiopia achieving the MDG goals by 2015.
 Reading Novels, Magazines', books, environmental and public health issues
 Watching football
 Traveling

Languages

Amharic(native)
 English(excellent)
 Oromiffa(very good)

Other and reference

Professional membership Ethiopian Public health Association (EPHA)

Reference Position e-mail addresses

- | | | |
|-----------------------|--|---------------|
| 1.Misrak Zewdu | <u>tel.no.</u> | |
| 2.D.r Yeshitila Hailu | Senior HIV/AIDS tec. specialist -
<u>nisrak.zewdu@worldlearning.org</u> | 0911841189 |
| | Head, Health & care program Dep. - <u>yeshitilah@yahoo.com</u> | 0911-22-83-22 |
| | At Ethiopian Red Cross Society | |



Additional training with certificate/training

	TRAINING TITLE	ORGANIZATION		PLACE OF TRAINING	DATE	CERTIFICATE
		NGO	GOVERNMENT			
1	Syndromic management of sexually transmitted infection(STIs)	ICAP- Ethiopia(International center for AIDS care and treatment programme)	-	Adama	January 14- Jan 18/2008	yes
2	PIHCT (Provider initiated HIV counseling and testing)	ICAP- Ethiopia(International center for AIDS care and treatment programme)	-	Dire Dawa	Jul25-Jul 27/2008	pending
3	Obstetric emergency care.MNCI	-	Dire Dawa Administration Health Bureau	Dire Dawa	January 21- Feb 10/2009	yes
4	HIV/AIDS Voluntary counseling and Testing(VCT)	Ethiopia Catholic Church With DD(HAPCO) HIV/AIDS Prevention and Control Office	-	Dire Dawa	March 18- March 22/2009	yes



5	PMTCT(Prevention Mother to Child Transmission of HIV)		Dire Dawa Administration Health Bureau	Dire Dawa	January 5- January 11/2009	pending
6	TB/LEPROSY and TB/HIV	GLRA(German leprosy and TB Relief Association)	Dire Dawa Administration Health Bureau	Harar/Bisidimo	Oct.10-Oct 17/2008	yes
7	IDSR(Integrated Disease surveillance Report)	WHO	-	Dire Dawa	March 14- March 18/2009	pending
8	HMIS(Health Management Information System)	Tullen University	Dire Dawa Administration Health Bureau	Dire Dawa	Jul 9-Jul 12, 2008	pending
9	(OI's)opportunistic infection	-	Dire Dawa Administration Health Bureau	Dire Dawa	Jan 14- Jan 16, 2008	pending
10	Infection Prevention(IP)	Jon Snow inc (JSI)	-	Dire Dawa	Sep 2-Sep 4, 2009	pending
11	Prevention of transmission of TB in health care facilities	TBCAP	-	Dire Dawa	Aug 10- Aug 11, 2009	pending



12	Woreda based health Sector planning (WB-HSP)	-	Dire Administration Health Bureau	Dire Dawa	Apr 21-Apr 27, 2009	pending
13	ECLS (Ethiopian Contraceptive Logistics System)	UNFPA	Dire Administration Health Bureau	Dire Dawa	Oct.17-20/2009	yes
14	Data management on EPI	WHO	-	Harar	Sep 22-Sep25/2009	pending
15	Health care financing system(HCF)	USAID	-	Dire Dawa	Dec.17-22/2009	pending
16	Facilitative supervision for quality improvement	Engender Health	-	Harar	Dec.28-Jan.3/2010	yes
17	Comprehensive abortion care(CAC)	Engender Health	-	Addis Ababa	July1-8/2010	pending
18	TBL, TB/HIV and Infection Control	WHO	Federal Ministry of Health	Harar	May 25-29/2010	yes
19	TOT training on Palliative care(PC)	World Learning Ethiopia	-	Addis Ababa	Oct 25-Nov 7/2010	yes



20	TOT training on Peer Education(PE)	World Learning Ethiopia	-	Addis Ababa	Nov.30- Dec.5/2010	yes
21	Monitoring and Evaluation(M & E)	World Learning Ethiopia	-	Addis Ababa	Dec.13- 17/2010	pending

2. Jemila Abdela (Master degree in Social Work)

PERSONAL INFORMATION

Name: Jemila Abdella Hussen
 Sex: Female
 Marital status: Single
 Telephone: Mobile 0911 752188/0911887972
 E-mail: jemila.abdella2@yahoo.com
 P.O.Box: 23690
 Nationality: Ethiopian
 Date of Birth: September 15, 1984

WORK EXPERIENCE

Date: June 15, 2010 - till now
 Name of employer: Pro Pride -Dire Dawa
 Occupation: Psychosocial Support Officer
 Type of Project: OVC Care and Support Program
 Main Duties: Strengthen the partnership development and



Responsibilities	government and Civil Society Organizations(CSOs) - Provide Psychosocial Support (PSS) for OVC and their care givers - Follow up the smooth the progress of the provision life skill training for older OVC - Strengthen the network and referral linkage for Legal protection of OVC - Coaching and Mentoring of the community volunteers
Date	February 15,2010 - till now
Occupation	Gender and Psychosocial Officer
Name of Employer	Pro Pride -Dire Dawa
Main activity and responsibilities	Follow up, monitor and assist the smooth conduct of regular Commun Conversation (CC) Group Meeting sessions Initiate and urge strong ties with relevant government offices ,and ot Community Based Organizations(CSOs) dedicated to advance the causes women's and girl's right Render life skill training and mentoring services for school girls club and hig venerable groups to withstand and cope with GBV Provide psychosocial counseling to victims of VAW (Women and girls) Document and compile success stories, minutes, monthly, quarterly, semiann and annual project progress report Co-Ordinate and chair the gender and other psychosocial support provid groups
Date	September 2009 - February 2010
Name of employer	Lafto Nifasilk Sub city
Occupation	Community Mobilization Officer
Main duties and responsibilities	Organizing women on various Self-help Groups (SHG) Providing an ongoing technical and material support, monitori and evaluating the works of women who have been organized various self help groups and Income Generating Activities (IGA) Facilitate women to engage in various incomes Generati Activities (IGA)
Date	June -December 2009
Name of employer	At Federal Anti- Corruption Commission
Occupation	Ethical Education Advisor
Main activity and	Follow up and consult government organization liaison office



responsibilities

on good governance

Facilitate training on awareness raising training on fighting against corruption

Facilitate linkage and collaborative relationship among government owned schools, universities in different regions and create awareness to fight corruption in their organization.

EDUCATIONAL BACKGROUND

Date 2007-2009

Name of Institution Addis Ababa University School of Graduate Study

Department Social Work

Title of qualification awarded MASTER in Social Work

Date 2004-2007

Name of Institution Addis Ababa University

Principal subject History

Title of qualification awarded Bachelor of Education Degree in History

TRAINING CERTIFICATES

Date January 17-26,2011

Principal subjects TOT on Psychosocial support for Gender Based Violence (GB) survivors

Date July 8-12,2010

Principal subjects Project planning ,monitoring and Evaluation

Date October 23-November 2 ,2009

Principal subjects በስራ ፈጠራ፣ በንግድ ክህሎት በስራ አመራር ፣ ገንዘብ አያያዝ፣ በዶሮ እርባ



Date March 31, 2009.
 Principal subjects EMDR-HAP (Traumatology and Stabilization)

Date June 22 - 4 July, 2009
 Principal subjects TOT on Para Psychosocial Counselor for People Infected and Affected by HIV/AIDS

Date February 1 - 8, 2008
 Principal Subject Basic Mediation Skill (Alternative Dispute Revolution; ADR)

LANGUAGE

Amharic Excellent in Writing, Reading, Verbal

English Excellent in Writing, Reading, Verbal

Arabic Excellent in reading and writing, Good Speaking

REFERNCES

Ato Gezahegn Amza Tel, 251-911-16-02-80 (recent)

Ato Zelalem Gebeyehu Tel, +251-912-34-89-71 (recent)

Dr. Alemayehu Mekonen Tel, +251-911-14-21-50 (previous)

Addis Ababa University Registrar Office P.O.Box.117





Serial No. 013293

በድሬዳዋ አስተዳደር የንግድ፣ ኢንዱስትሪና ኢንቨስትመንት ቢሮ
Dire Dawa Trade, Industry & Investment Bureau



የንግድ ሥራ ፈቃድ

በንግድ ምዝገባ ፈቃድ አዋጅ ቁጥር 980/2008 መሰረት ተሰጠ

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BPI/DD/1/0002313/2009

Principal Registration No.

የቀድሞው ፈቃድ ቁጥር

Previous License No.

የንግድ ሥራ ፈቃድ ቁጥር

BPI/DD/07/674/6

Business License

92784/2009

No.

ቀድሞ ተሰጠበት ቀን

Previous Date of issuance

የተሰጠበት ቀን

25/12/2009

Date of issuance

Business License

Issued Under Commercial Registration and Business license
proc.No 980/2016

1. የግለሰብ/ድርጅት ስም አበባው መኮንን አያልኪ

1. Manager/Owner Name **ABEBAW MEKONNENE AYALNEH**

2. ዜግነት ኢትዮጵያዊ

2. Nationality **Ethiopian**

3. የንግድ ስም

3. Trade Name

4. ሥራ አስኪያጅ ስም አቶ አበባው መኮንን አያልኪ

4. General Manager Name **Mr. ABEBAW MEKONNENE AYALNEH**

5. የንግድ ድርጅት አድራሻ ስም

5. Business Address

ክልል ድሬዳዋ ዞን/ክፍለ ከተማ ድሬ ደዋ

Regio **Dire Dawa** Zone/Sub **DIRE DAWA**

ከተማ DIRE DAWA-URBAN ወረዳ ድሬዳዋ

n **DIRE DAWA** City **DIRE DAWA**

ቀበሌ KEBELE 02 የቤት ቁጥር አዲስ/New

City **DIRE DAWA** Woreda **URBAN**

-URBAN

Kebel **KEBELE 02** House No. **/New**

e

6. የንግድ ሥራ ዘርፍ (882) የማህበራዊ ሳይንስ እና በተፈጥሮ ሳይንስ ዙሪያ ማማከር አገልግሎት

6. Sector of Business (882) Consultancy services on social and natural science

7. የንግድ ሥራ መስክ በጀርባ ገፅ ይመልከቱ

7. Field of Business See back page

8. ካፒታል በኢት ብር 5,000.00

8. Capital in ETB **5,000.00**

ይህ የንግድ ፈቃድ ዛሬ 25/12/2009 በ ድሬዳዋ ተሰጠ ።

This Business License is issued in **Dire Dawa**

this day **8/31/2017**

የሃላፊ ስም/Name of Official
ፊርማ/Signature

Seal

B.S.S.P.E.



የኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ሪፐብሊክ
 የድሬደዋ ከተማ አስተዳደር ገቢዎች ባለስልጣን
 Federal Democratic Republic of Ethiopia
 DIRE DAWA CITY ADMINISTRATION REVENUE AUTHORITY
 የማብር ከፋይ ምግባብ ስርተፈኪት
 TAXPAYER REGISTRATION CERTIFICATE

የግብ ከፋይ መለያ ቁጥር:
 Taxpayer Identification Number:

0010980431

የድርጅት/የግለሰብ ስም:
 Name of Business/Individual:
 የተመዘገበ አድራሻ/Registered Address:

አበበው መኮንን አ.ደልኳህ
 ABEBAW MEKONNEN AYALNEH

ክልል:

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 DIRE DAWA

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 NO ZONE DIRE DAWA

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የባለቤቱ/የሰላማርጅ/
 Kebele/Farmer's Assoc.:

88219 - OTHER CONSULTANCY ON SOCIAL SCIENCE N.E.C

የቤት ቁጥር:

የሰጠው ተቋም:
 Issuing Authority:
 የተሰጠበት ቀን:
 Date of Issuance:

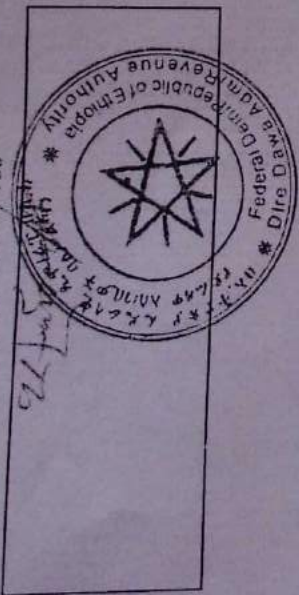
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 DIRE DAWA CITY ADMINISTRATION REVENUE AUTHORITY
 24 NEHASIE 2009
 30-AUG-17

ይህ የምግብር ሰርተፊኬት የማብር ከፋይን ባቶን የማብር ከፋይነት ምግባብ ስለሆነ ከዚህ ቀደም የነበሩ የማብር ከፋይነት ምግባብ ሰነዶች
 ከላይ በተጠቀሰው መረጃ ላይ ማሻሻያውን አይነት ለውጥ በደረጃ ማብር ከፋይ ለማመልከት የማብር ሰብሰቢ ጽ/ቤት የማሳጠቅ
 ግዴታ አለበት።

This certificate represents the sole and only registration as a taxpayer and supersedes all prior registration
 documentation.
 The taxpayer is responsible for notifying the appropriate Tax Office of any changes to the above information.

የስርተፊኬት ቁጥር:
 Certificate No.: 1289341130073

1289341130073



የገቢ ለጣት መ/ቤት ማግኘት
 Seal of Issuing Authority