

**Ethiopian Roads Authority
The Federal Democratic Republic
of Ethiopia**

**THE PREPARATORY SURVEY
ON
THE PROJECT FOR IMPROVEMENT
OF
AXLE LOAD CONTROL ON TRUNK ROADS
IN
THE FEDERAL DEMOCRATIC REPUBLIC
OF ETHIOPIA

FINAL REPORT**

March 2015

**JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
KATAHIRA & ENGINEERS INTERNATIONAL**

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PREFACE

Japan International Cooperation Agency (JICA) decided to conduct the preparatory survey on the Project for Improvement of Axle Load Control on Trunk Roads in the Federal Democratic Republic of Ethiopia and entrust the survey to KATAHIRA & ENGINEERS INTERNATIONAL.

JICA sent to Ethiopia a survey team from November 13, 2013 to December 18, 2013 and from May 10, 2014 to June 7, 2014.

The team held a series of discussions with the officials concerned of the Government of Ethiopia, and conducted field investigations. As a result of further studies in Japan, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of Ethiopia for their close cooperation extended to the survey team.

March, 2015

Akira Nakamura
Director General, Infrastructure and Peacebuilding Department
Japan International Cooperation Agency

Summary

1. Background

Overloading of trucks has been one of the reasons for premature deterioration of roads. The ERA has established eleven (11) weighbridge stations on the trunk roads. Overloading of trucks at weighbridge stations has declined from 38% in 2002/03 to 14% in 2009/10, as a result of controlling of vehicles overloading by the ERA. However, most of the existing weighbridges are located at central part of the country and are not located at peripheral parts of the country. Consequently, overloaded vehicles travel for long distance before they are checked at the nearest weighbridge station and give damages to a long section of roads. Furthermore, existing weighbridges are so old and able to weigh only a single axle at a time, with manual recording of weights of axles that takes long time to weigh all axles, which takes three (3) minutes a truck in average. Since the number of trucks on the road has been increased rapidly, it is foreseen that trucks waiting at a weighbridge station will make a queue on the road and disturb traffic in the near future.

Under these circumstances, the Government of Ethiopia (GOE) requested the Government of Japan (GOJ) to carry out the project for improvement of axle load control on the trunk roads.

The objectives of the project are:

- To improve the efficiency of axle load control to cope with rapidly increasing flow of heavy vehicles especially trucks;
- To ensure transparency and effectiveness in axle load control; and
- To increase the number of weighbridge stations for more effective control of axle load on the main roads of the country.

2. Contents of the project

The project consists of replacing the existing single axle weighbridges to multi-axle weighbridges at eleven (11) stations and installing three (3) new weighbridge stations. The existing stations are Combolcha, Semera, Dengego, Awash, Modjo, Shashemane, Jimma, Alemgena, Holleta, Sululta, and Sendafa, and the new stations are Quiha, Tik and Woreda.

The following related activities will be undertaken by ERA prior to the date of tender notice of the project:

- Site preparation for the fourteen (14) stations;
- To construct new access roads to the stations and new offices for the three (3) new stations; and
- To rehabilitate the access roads to the eleven (11) stations and offices for the existing stations.

3. Project implementation schedule

If this Project should be implemented pursuant to the Grant Aid Scheme of the Government of Japan, project design period will be 3 months, and equipment supply and installation period will be 11 months. The Project will be implemented in accordance with the Japan’s Grant Aid scheme and the cost will be determined before concluding the Exchange of Note (E/N) for the Project.

Period for the site preparation work undertaken by Ethiopian side requires for 8 months prior to the above project implementation period.

4. Project evaluation

Effectiveness of the project was summarized in the Table below.

Table Effectiveness

Item	Baseline (2014)	Target (2018)
Measurement time (second per a trailer with six axle)	180	10
Axle load crackdown section (km)	About 3,000	About 6,200

Source: Study Team

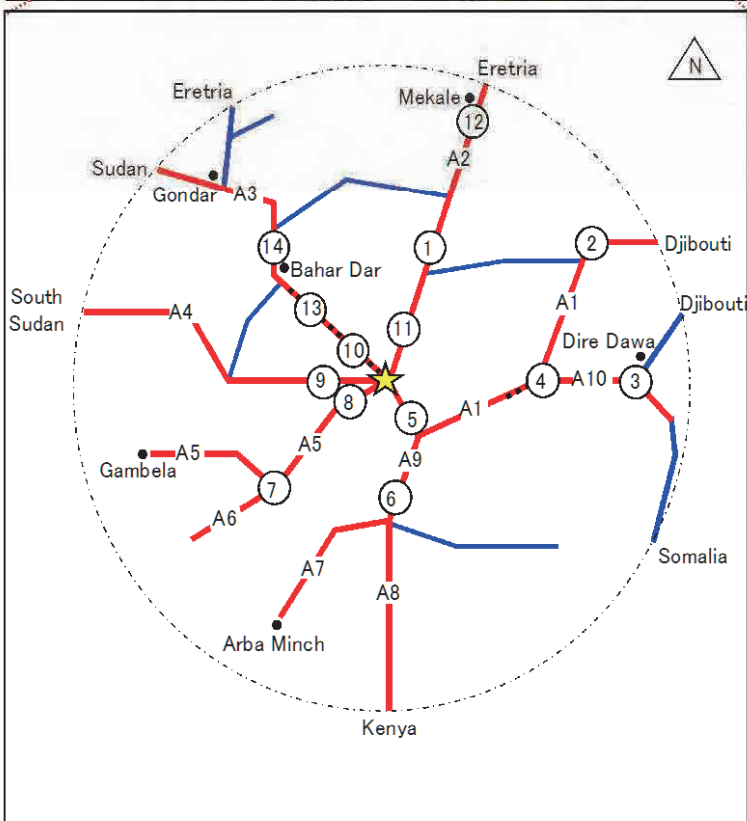
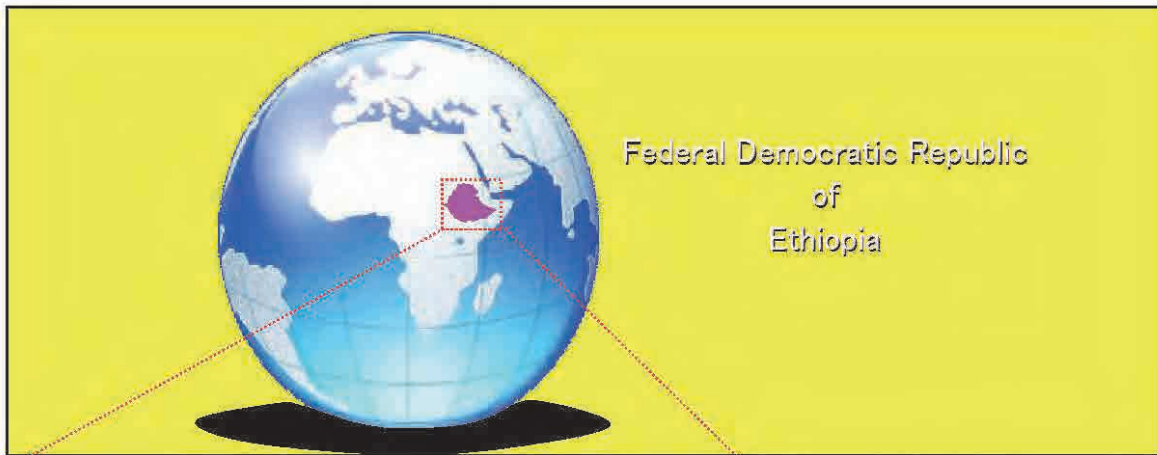
TABLE OF CONTENTS

Preface	
Summary	
Table of Contents	
Location Map	
List of Figure	
List of Table	
Abbreviations	
CHAPTER 1 BACKGROUND OF THE PROJECT.....	1-1
1-1 Background of the Request.....	1-1
1-2 Natural Conditions	1-2
1-2-1 Natural Environment	1-2
1-2-2 Traffic Condition	1-2
1-2-3 Number of Checked Trucks	1-3
1-3 Environmental and Social Considerations.....	1-4
1-3-1 Project Description for Environmental and Social Considerations.....	1-4
1-3-2 Present Natural and Social Conditions of the Project Sites.....	1-5
1-3-3 Review of Legal and Institutional Framework for Social and Environmental Considerations in Ethiopia	1-10
1-3-4 Analysis of Alternative Site Plans.....	1-18
1-3-5 Assessment of Environmental and Social Impacts	1-20
1-3-6 Mitigation Measures and Its Cost	1-25
1-3-7 Environmental Management and Monitoring Plan	1-26
1-3-8 Stakeholder Consultations	1-27
1-3-9 Necessity of Land Acquisition and Resettlement.....	1-29
CHAPTER 2 CONTENTS OF THE PROJECT.....	2-1
2-1 Basic Concept of the Project	2-1
2-1-1 Overall Goal and Project Goal.....	2-1
2-1-2 Objectives of the Project.....	2-1
2-2 Outline Design of the Japanese Assistance.....	2-1
2-2-1 Design Policy.....	2-1
2-2-2 Basic Plan	2-3
2-2-3 Outline Design Drawing	2-12
2-2-4 Implementation Plan.....	2-13
2-3 Obligations of Recipient Country.....	2-20

2-4	Project Operation Plan.....	2-21
2-5	Project Cost Estimation	2-21
2-5-1	Project Cost Estimation	2-21
2-5-2	Operation and Maintenance Cost.....	2-22
CHAPTER 3 PROJECT EVALUATION		3-1
3-1	Preconditions	3-1
3-2	Necessary Inputs by Recipient Country.....	3-2
3-3	Important Assumptions.....	3-2
3-4	Project Evaluation	3-2
3-4-1	Relevance.....	3-2
3-4-2	Effectiveness.....	3-2

Appendices

1. Member List of the Survey Team
2. Survey Schedule
3. List of Interviewed Persons and Parties
4. Minutes of Discussions
5. List of Collected Documents
6. Other Information



Project Sites	
No.	Location
1	Combolcha
2	Semera
3	Dengego
4	Awash
5	Modjo
6	Shashemane
7	Jimma
8	Alemgena
9	Holleta
10	Sululta
11	Sendafa
12	Quiha
13	Tik
14	Woreta

LEGEND	
	Trunk road
	Major road
	Japanese assistance
	A1 Awash bridge
	A3 Road upgrading
	Addis Abeba
	Major city
	National boundary



LOCATION MAP

List of Figures

Figure 1.1	Terrain and Road Network around the Sites	1-4
Figure 1.2	Structure of the Local Administrations	1-5
Figure 1.3	Laws and Regulations Concerning Environmental and Social Considerations in Ethiopia	1-12
Figure 1.4	EIA Application Process	1-14
Figure 1.5	Simplified EIA Application Flow.....	1-15
Figure 1.6	ERA Organogram (Simplified)	1-17
Figure 2.1	Location Map.....	2-2
Figure 2.2	Copy of MD (1)	2-3
Figure 2.3	Location Map by Evaluation	2-4
Figure 2.4	Copy of MD (2)	2-6
Figure 2.5	Truck Trailer with 6 axles	2-6
Figure 2.6	Facilities for the Proposed Weighbridge	2-6
Figure 2.7	Distribution of Axle Load.....	2-7
Figure 2.8	Incidental Facilities to Control Vehicles	2-8
Figure 2.9	Incidental Facilities for Computerization.....	2-8
Figure 2.10	Awash Weighbridge Station.....	2-9
Figure 2.11	Facilities of Weighbridge Station.....	2-10
Figure 2.12	Standard Weighbridge Station.....	2-10
Figure 2.13	Existing Drainage Facilities.....	2-11
Figure 2.14	Combolcha Station	2-11
Figure 2.15	Dengego Station	2-12
Figure 2.16	Outline Design.....	2-12
Figure 2.17	Relationships of Organizations Engaged in Project Implementation.....	2-13
Figure 2.18	Copy of MD (3)	2-14
Figure 2.19	Copy of MD (4)	2-16
Figure 2.20	Copy of MD (5)	2-17
Figure 2.21	Work Share (1)	2-17
Figure 3.1	Copy of the technical note on 13 th December 2013	3-1

List of Tables

Table 1.1	Statistics of Checked Trucks at Weighbridge Stations.....	1-3
Table 1.2	Summary of Projects Classification in Road Sector.....	1-16
Table 1.3	Analysis of the Alternative Site Plans.....	1-19
Table 1.4	Result of Environmental and Social Assessment, Combolcha.....	1-20
Table 1.5	Result of Environmental and Social Assessment, Dengego.....	1-23
Table 1.6	Mitigation Measures for Combolcha and Dengego.....	1-25
Table 1.7	Summary of the Stakeholder Consultations in Combolcha.....	1-27
Table 1.8	Summary of the Stakeholder Consultations in Dengego.....	1-28
Table 1.9	Outline of Situation of the PAPs.....	1-32
Table 1.10	Estimated Amount for the Relocation.....	1-35
Table 2.1	Project Area and Station Requested from ERA.....	2-2
Table 2.2	Results of Evaluation.....	2-4
Table 2.3	Comparison of the Study Results by ERA with JICA.....	2-5
Table 2.4	Responsible Organizations on the Ethiopian Side at Each Stage.....	2-13
Table 2.5	Whole Implementation Schedule.....	2-15
Table 2.6	Work Share (2).....	2-18
Table 2.7	Implementation Schedule of Procurement.....	2-20
Table 2.8	Works to be done by ERA.....	2-20
Table 2.9	Staffing at One Station.....	2-21
Table 2.10	Estimated Salary at One Station.....	2-22
Table 2.11	Operation and Maintenance Cost.....	2-22
Table 3.1	Necessary inputs/costs by the recipient country.....	3-2
Table 3.2	Effectiveness.....	3-2

Abbreviations

AFDB	: African Development Bank
EIA	: Environmental Impact Assessment
EMB	: Environmental Management Branch
E/N	: Exchange of Notes
EPA	: Environmental Protection Authority
ERA	: Ethiopian Roads Authority
ERCC	: Ethiopian Roads Construction Corporation
ESMT	: Environment and Social Management Team
EU	: European Union
GA	: Grant Agreement
IDA	: International Development Association
IEE	: Initial Environmental Evaluation
IEIA	: Initial Environmental Impact Assessment
IMF	: International Monetary Fund
IUCN	: International Union for Conservation of Nature and Natural Resources
MD	: Minutes of Discussion
MOEPF	: Ministry of Environment Protection and Forestry
MOFED	: Ministry of Finance and Economic Development
OD	: Origin and Destination
PAPs	: Project Affected Persons
PRSP	: Poverty Reduction and Sustainable Development Program
RAP	: Resettlement Action Plan
RIC	: Resettlement Implementation Committee
RSDP	: Road Sector Development Program
RSDPSP	: Road Sector Development Program Support Project
ROW	: Right of Way
ROWT	: Right of Way Team
TOR	: Terms of Reference
USAID	: United States Agency for International Development

CHAPTER 1 Background of the Project

1-1 Background of the Request

Ethiopia has implemented the Road Sector Development Program (RSDP) since 1997. Over fifteen years of RSDP, substantial results have been recognized. The road network has grown by sum from 26,550 km in 1997 to 63,083 km in 2012. The condition of the road network has also shown substantial improvement: In 1997, only 22% of the road network was in good condition and 52% of the network was in poor condition, afterward in 2012, the proportion of the road network in good condition increased to 64% while the proportion of the road network in poor condition declined to 14%. As a result of improved road condition, vehicular movement on the main road network has increased by 10% per year, especially the movement of truck has substantially increased over the past 13 years. Trucks account for 80% of vehicular movement on paved roads and 20% on gravel roads.

Ethiopian Roads Authority (ERA) is currently implementing RSDP IV (2010/11-2014/2015). RSDP IV is prepared as a part of Government Growth and Transformation Plan (GTP). The total cost of implementing RSDP IV is estimated at ETB 125.3 billion, which is more than double of the total cost of implementing RSDP I, RSDP II and RSDP III. Modernizing weighbridges is part of institutional capacity building of ERA under RSDP IV. Modernization is an answer to road users requesting transparency and effectiveness on traffic controls.

Overloading of trucks has been one of the reasons for premature deterioration of roads. The ERA has established eleven (11) weighbridge stations on the trunk roads. Overloading of trucks at weighbridge stations has declined from 38% in 2002/03 to 14% in 2009/10, as a result of controlling of vehicles overloading by the ERA. However, most of the existing weighbridges are located at central part of the country and are not located at peripheral parts of the country. Consequently, overloaded vehicles travel for long distance before they are checked at the nearest weighbridge station and give damages to a long section of roads. Furthermore, existing weighbridges are so old and able to weigh only a single axle at a time, with manual recording of weights of axles that takes long time to weigh all axles, which takes three (3) minutes a truck in average. Since the number of trucks on the road has been increased rapidly, it is foreseen that trucks waiting at a weighbridge station will make a queue on the road and disturb traffic in the near future.

Under these circumstances, the Government of Ethiopia (GOE) requested the Government of Japan (GOJ) to carry out the project for improvement of axle load control on the trunk roads.

The objectives of the project are:

- To improve the efficiency of axle load control to cope with rapidly increasing flow of heavy vehicles especially trucks;
- To ensure transparency and effectiveness in axle load control; and
- To increase the number of weighbridge stations for more effective control of axle load on the main roads of the country.

The project consists of replacing the existing single axle weighbridges to multi-axle weighbridges at eleven (11) stations and installing three (3) new weighbridge stations. The existing stations are Combolcha, Semera, Dengego, Awash, Modjo, Shashemane, Jimma, Alemgena, Holleta, Sululta, and Sendafa, and the new stations are Quiha, Tik and Woreta.

The following related activities shall be undertaken by ERA prior to the date of tender notice of the project:

- Site preparation for the three (3) new stations;
- Site preparation for the eleven (11) existing stations;
- To construct new access roads to the stations and new offices for the new stations; and
- To rehabilitate the access roads to the stations and offices for the existing stations.

1-2 Natural Conditions

1-2-1 Natural Environment

This project will replace existing weighbridges and install new weighbridge stations along trunk roads. The candidate sites are not located in any natural environmentally sensitive areas, such as national parks or nature reserves. Most of existing weighbridge stations do not need land expansion except Combolcha and Dengego. Even if it requires land acquisition for enlarging existing weighbridge stations and installing new weighbridge stations, most of the lands for the project are in the Right-of-Way (ROW), therefore the impacts on the natural environment by this project will be minimized.

1-2-2 Traffic Condition

The ERA counts traffic volume at survey stations on the trunk roads three (3) times a year and stores these traffic volume data into database. Therefore, the latest traffic volume data can be provided by ERA. Meanwhile, origins and destinations of goods carrying trucks are recorded at every weighbridge station and reported to the ERA headquarter regularly. Under these conditions, the survey team summarized present operation of existing weighbridge stations. On the other hand, the survey team conducted following traffic surveys in order to obtain present traffic conditions at candidate sites.

(1) Traffic Count Survey

- Survey Stations: New nine (9) weighbridge stations, namely Bure, Mekele, Jigjiga, Semera, Yabello, Nekemte, Assosa, Amba Gyorgis and Woreta.
- Survey hours: 12 hours
- Survey days: One weekday
- Vehicle types: Eight (8) vehicle types

(2) OD Survey

A truck driver's Origin and Destination (OD) survey was conducted and identified freight OD.

Outline of OD survey is as follows:

Survey Stations: New nine (9) weighbridge stations

- Number of samples: Target number is set as a hundred (100) at each survey station, however, due to small traffic; Assosa and Yabello are less than the target number.
- Commodities: "Construction Materials" is the largest number and "Other Agricultural Products" follows. At Quiha, "Construction Materials" is especially dominant. Whereas "Other Agricultural Products" is dominant at Yabello, Nekemte and Assosa. At Semera, Amba Gyorgis and Assosa, "Fuel or oil" is rather bigger than other candidates.
- Number of weighbridge stations passed by the truck: A result of the question how many weighbridge stations are passed by the truck revealed that eighty percent (80%) of trucks of each candidate station passed none of existing stations. It can be concluded that all new candidate stations will effectively increase the number of checking trucks.
- Average travel time: The longest average travel time of trucks is 26.7 hours at Quiha (Mekele). Whereas the shortest one is 8.8 hours at Jigjiga.

1-2-3 Number of Checked Trucks

The number of checking trucks at the existing weighbridge stations is shown in. Table 1.1 The largest is 58,609 vehicles/year at Modjo which is equivalent to 161 vehicles/day. Compositions of overloaded trucks are from 3.9% to 9.1%. The annual total amount of fines for overloading is about 4.8 million Birr.

Table 1.1 Statistics of Checked Trucks at Weighbridge Stations

No	Station	Checked (Vehicles/Year)	Overloaded (Vehicles/Year)	Overloaded/ Checked	Off loaded in ton	Penalized (Vehicles/Year)	Birr Collected
1	Modjo	58,609	4,480	7.6%	6,307.6	3,921	1,411,446
2	Awash	35,459	3,220	9.1%	3,295.8	3,894	2,295,481
3	Dengego	8,899	465	5.2%	114.3	385	375,899
4	Shashemane	6,859	269	3.9%	627.9	225	61,355
5	Holleta	32,143	1,253	3.9%	4,260.1	1,150	225,987
6	Alemgena	9,931	431	4.3%	1,434.8	378	59,074
7	Sululta	16,450	1,521	9.2%	3,537.0	1,316	181,130
8	Jimma	3,884	238	6.1%	1,549.3	162	33,376
9	Combolcha	2,346	128	5.5%	101.6	123	129,250
	Total	174,580	12,005	6.9%	21,228.4	11,554	4,772,998

Note: 2012-2013 Budget Year

Source: ERA

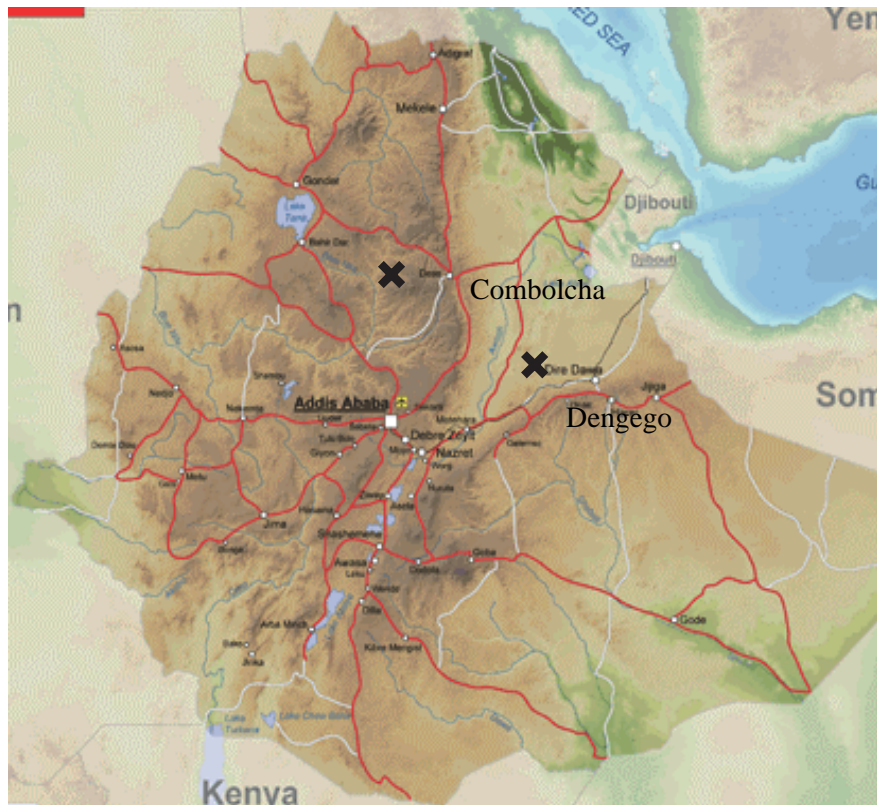
1-3 Environmental and Social Considerations

1-3-1 Project Description for Environmental and Social Considerations

(1) Outline of the Project

The Project aims to prevent trunk roads from being damaged by over-loaded vehicle through providing or replacing weighbridge for selected 14 weighbridge stations located at the hub of the road network. Those weighbridges are expected to facilitate efficient and effective control of overloaded vehicles and smooth flow of road traffic. Out of 14 project sites, two (2) sites require resettlement of residents due to land acquisition, which are Combolcha in Amhara region and Dengego in Oromia region. The current Combolcha station needs to be shifted to the new site, while Dengego weighbridge station requires more land to accommodate the new weighbridge. “JICA Guidelines for Environmental and Social Considerations” enacted in 2010 (hereinafter referred as “JICA Guidelines”) prerequisites that environmental and social considerations should be given to projects with resettlement issue. Thus, those two sites become subjects of environmental and social considerations.

See the below map for the location of Combolcha and Dengego.



Source: Edited by the JICA Study Team based on "Map of Ethiopia Physical Version" prepared by InterCarto¹

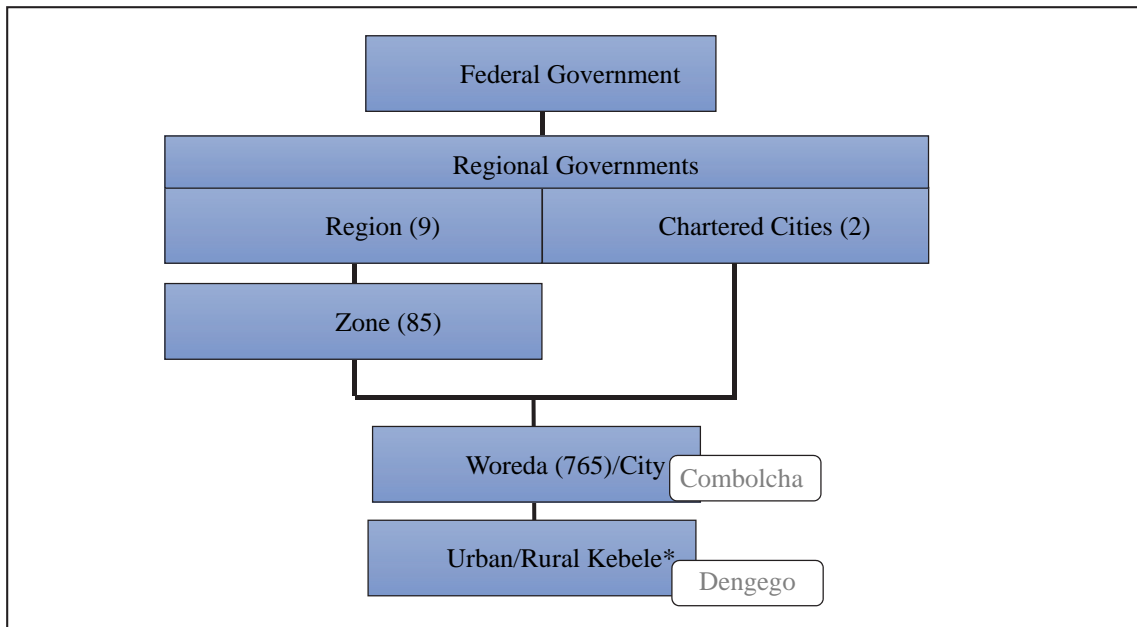
Figure 1.1 Terrain and Road Network around the Sites

¹ <http://www.intercarto.com/EN/map-of-ethiopia-physical-version-1419-479.html>

1-3-2 Present Natural and Social Conditions of the Project Sites

(1) Local Administration

Based on "Federal Democratic Republic of Ethiopia Constitution" established in 1994, the country consists of nine (9) regional states that are organized in accordance with the distribution of languages, and two (2) chartered cities (Addis Ababa and Dire Dawa). Each regional state as an authority to found own constitution, laws, and development policies, however, that of the federal level are followed. The chartered cities have the status of both the city and regional state. Woreda (equivalent to division or county) is a basic administrative unit in regional states, which is comprised by several Kebeles. Kebele is the smallest administrative unit, which consists of at least five hundred families, or the equivalent of 3,500 to 4,000 people. The regional states have another administrative unit called Zone, which is placed between the regional state and the Woredas to coordinate activities of Woredas, and to oversee their budget use. One zone covers five to six Woredas.



Source: Made by the JICA Study Team based on the following resources: ①USAID, 2010, Comparative Assessment of Decentralization in Africa: Ethiopia Desk Study, ②Central Statistical Agency, 2010, Population and Housing Census Report-Country – 2007, ③The World Bank, 2014, Ethiopia: Second Urban Local Government Development Program

*Rural Kebele: In some cases, farmers' association acts as rural Kebele.

Figure 1.2 Structure of the Local Administrations

(2) Ethnicity, Language, and Religion

Ethiopia is a multi-ethnic country composed of more than eighty ethnic groups. Total population was 73,750,000 at the time of Census 2007. The Census presents population of the ethnic group: Oromo accounts for 34% (25,363,000), followed by Amhara with 27% (19,878,000), Somali with 6.2% (4,586,000), and Tigre 6% (4,486,000). Oromo and Amhara have been occupying a predominant number of the population.

Each ethnic group has own language that is the official language in respective states and Woredas.

The current Constitution guarantees freedom of religion. The most common religions are the Orthodox (44 %) and Islam (34%), followed by Protestant (19%) and Catholic (1%) according to Census 2007.

(3) Combolcha

1) Natural Environment

The Combolcha Weighbridge Station is located in the city of Combolcha, South Wollo Zone, Amhara Region. Climate of the city is classified as the medium temperature zone according to the traditional Ethiopian climate classification, whose average annual temperature is 20.10 °C. With two rainy seasons, from July to September and from February to April, the average annual rainfall of the city is 1,038 mm. There are no national parks, forest reservations, and historical and cultural heritages in and around the proposed site. According to relevant local authorities, there are no any rare species in and around the proposed area also.

2) Socio-Economic Environment

The city has an area of 524.68 km² consisting of five (5) urban and six (6) rural Kebeles. The size of the population is estimated as 89,740 for year 2014². Major ethnic group of the city is Amhara that makes Amharic as working language of the city. Concerning religion, 57 % of the total population practice Islam while Christian (Orthodox, Protestant and Catholic) accounts for 43% of the total.

Combolcha was elevated to the city administration status recently thanks to rapid development, whose new status is equivalent to the regional and zonal capitals. The City hosts some large-scale factories, such as textile, and steel. Major occupations in the city are small scale manufactures (meat processing and breweries for example), government employee, workers for local enterprises (hotels, transport and trade service, and shops), and daily laborers.

3) Combolcha Weighbridge Station

- Location of the Current Weighbridge Station

The current Combolcha weighbridge station is located in a premise managed by the City. The premise had been in the outskirts of the City when the station was built. However, the city administration has classified the area as urban zone in its development plan to meet rapid development and urbanization of the City. Thus, the Ethiopian Road Authority (ERA) was requested by the City to vacate the current premise.

² The estimation was made applying population growth rate of Amhara region (1.7%) to the City's population of 2007. Both the population growth rate and the number of population were taken from the 2007 Population and Housing Census.

- The New Site

The City has provided a substitute area for the weighbridge station to move. The new site is situated in an area designated for the industrial zone by the City's development plan. The City will relocate residents who currently live there for construction of the industrial zone. Therefore, relocation of the residents is expected because of not only the weighbridge station, but the realization of the development plan. Right of Way (ROW) accounts about one-third of the site, which means some of the project-affected persons (PAPs) are illegal occupants. Structures to be demolished are houses mostly.

- Institutional Arrangement of ERA

A team of ERA staff is assigned at the weighbridge station. Furthermore, Combolcha Road Network Management Branch Directorate (RNMBD) is located in the city, who acts on behalf of ERA there.

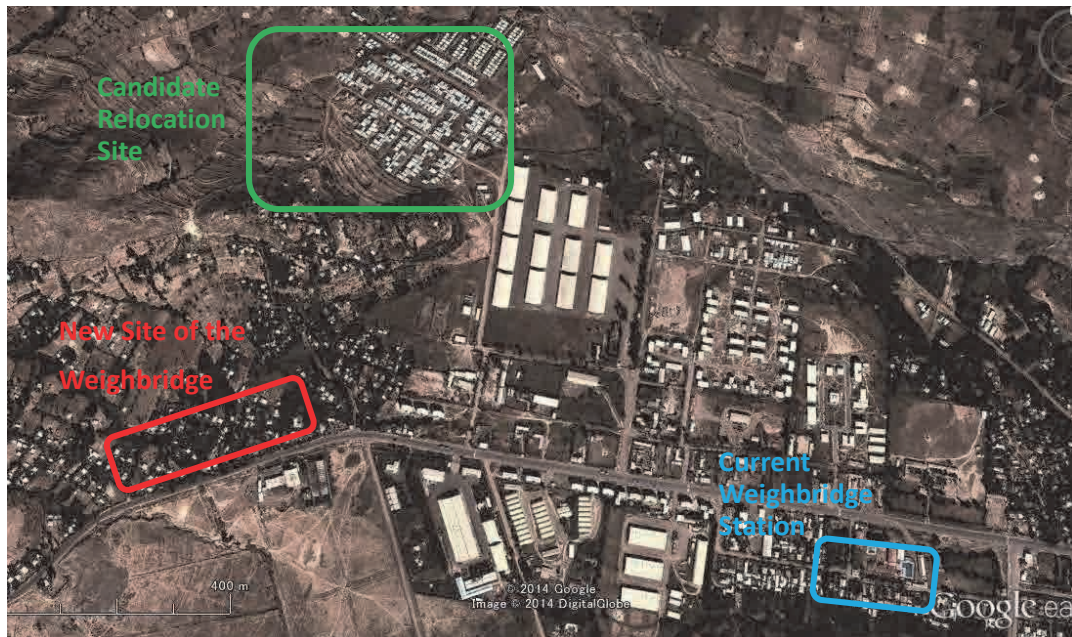


Current Situation



A candidate relocation site. Houses for PAPs of other projects were being built.





Concerning Locations: the new site of the weighbridge, a candidate relocation site, and the current weighbridge (From the left side to the right side of the photo)

(4) Dengego

1) Natural Environment

The Dengego Weighbridge Station is located in Haramaya Woreda, East Hararge Zone, Oromiya Region. Climate of the Woreda is classified as the medium temperature zone according to the traditional Ethiopian climate classification. The Woreda's average daily temperature falls between 9.4 °C and 24 °C, while the average rainfall also varied between 188mm and 866 mm. There are no national parks, forest reservations, and historical and cultural heritages in and around the proposed site. According to relevant local authorities, there are no any rare species in and around the proposed area.

2) Socio-Economic Environment

Haramaya Woreda has an area of about 5,200 hectare with a total population of 271,018 at the time of the Census 2007. 18.46% of the total population is urban dwellers, which indicates majority of the population live in rural areas then. Major ethnic group of the Woreda is Oromia, which makes their language Oromiffa as working language of the Woreda. Concerning religion, 70 % of the total population practice Islam while Christian (Orthodox, Protestant and Catholic) accounts for 30% of the population.

Capital of the Woreda is called Haramaya town, about 12 km away from the weighbridge station. The major economic activity of the Woreda is agriculture such as grains, cash crops, and dairying in the rural area. Small enterprise and hotel are found in the urban areas.

3) Dengego Weighbridge Station

- Location of the Current Weighbridge Station

The current Dengego weighbridge station is located at junction of three major national roads: one is from Dire Dawa, the second largest city of Ethiopia, another are from Addis Ababa and Djibouti.

- Area for the Expansion

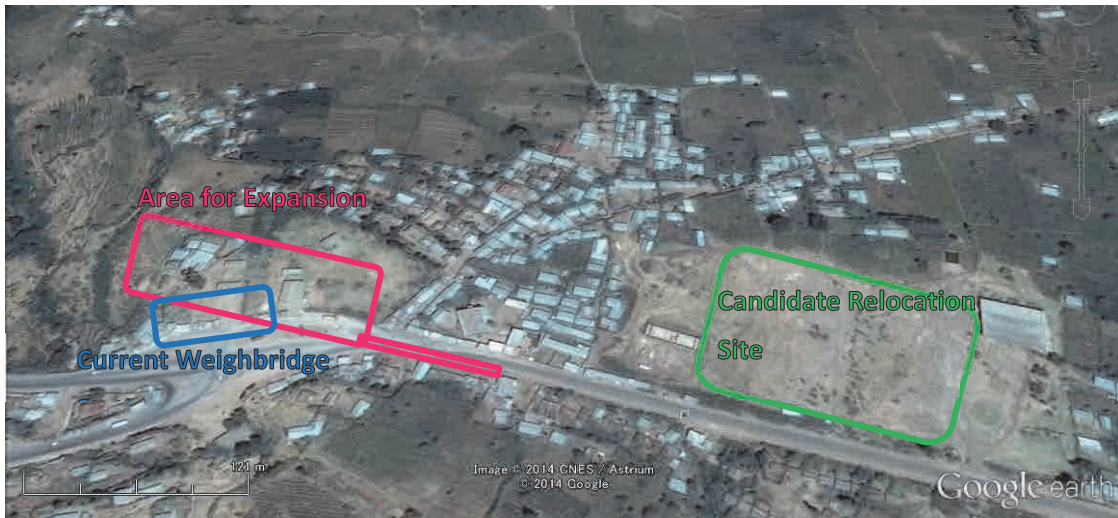
ROW around the weighbridge station will be used to expand the premise of the station. Most of the structures to be demolished are kiosks owned by neighborhood residents who have houses in other places. They once had been relocated from the ROW by receiving compensation 15 years ago prior to rehabilitation of the national roads, nevertheless gradually returned to the area as time passes. A mosque built by the community is straining ROW and non-ROW near to the station. The Mosque owns some shops for rent. Some of the mosque owned shops are also subject of the demolishing.

- Institutional Arrangement of ERA

A team of ERA staff is assigned at the weighbridge station. The nearest RNMBD is located in Dire Dawa, about 45 minutes' drive from Dengego.



The current situations in the target area



Concerning Locations: the area for expansion, the current weighbridge station, and a candidate relocation site (From the left to the right of the photo)

1-3-3 Review of Legal and Institutional Framework for Social and Environmental Considerations in Ethiopia

(1) EIA Procedure and EIA Related Laws and Regulations

The current constitution was promulgated in 1995, which is the highest policy and legal document presenting the basis for all laws and policies of the country. The constitution guarantees the rights of the people of Ethiopia, which involves the right to development and right to live in a clean and healthy environment. It also states that no person has the legal right of land ownership, but right to use land. At the same time, the constitution states that the government has the right to expropriate private property for a public purpose by providing the appropriate compensation prior to relocation or land acquisition.

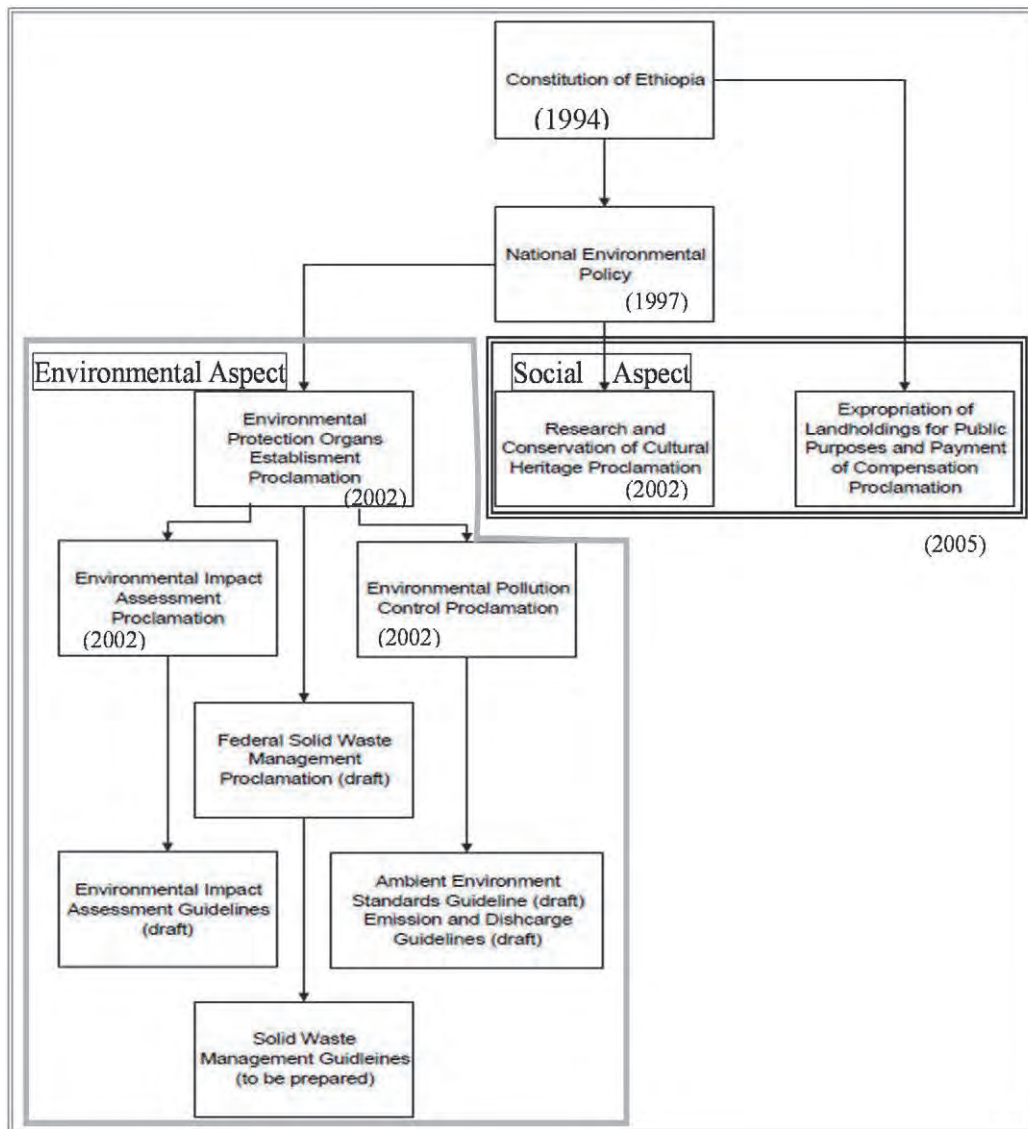
The Environmental Policy of Ethiopia was issued in 1997. The policy aims to improve and enhance the health and quality of life of the Ethiopian people, and to promote sustainable social and economic development through sound management and use of natural, human-made, and cultural resources and their environment as a whole so as to meet the needs of the present generation without compromising the ability of future generations to meet their own need. The

policy provides specific objectives, guiding principles and a framework to be referred by sectorial and cross-sectorial environmental policies.

In 2002, laws and regulations concerning environment were formulated intensively. “Environmental Protection Organs Establishment Proclamation” (Proclamation No. 295/2002) designates Ethiopian Environmental Protection Authority (EPA) responsible for environmental protection at the federal level. EPA is mandated to formulate policies, strategies, laws, and standards that foster social and economic development in a manner that enhance the welfare of humans and the safety of the environment, and to ensure its effectiveness in the implementation process. It has authority to conduct and review EIAs. At the same time, the proclamation prescribes every competent agency establish or designate an environmental unit that shall be responsible for ensuring that the activities of the agency align with the Proclamation and other environment protection requirements. Environmental and Social Management Branch (ESMB) of ERA takes this role in ERA.

“Environmental Impact Assessment Proclamation” (Proclamation No.299/2002) was issued in the same year, which laid environmental assessment a mandatory legal prerequisite for the implementation of major development projects, programs, and plans.

Figure 1.3 illustrates legislative system concerning environmental and social considerations in Ethiopia.



Source : Edited by the JICA Study Team based on ERA, 2008, Environmental and Social Management Manual - August 2008, p2-141

Figure 1.3 Laws and Regulations Concerning Environmental and Social Considerations in Ethiopia

Other major laws not referred in the Figure 1.3 are as follows.

- a) The Wild Life Laws (Proclamations No.192/1980 and No. 416/1972)
- b) Policy on Disaster Prevention and Management (1993)
- c) National Action Plan to Combat Desertification (1994)
- d) The Forestry Laws (Proclamation No.94/1994)
- e) Investment Policy (Proclamation No. 37/1996)
- f) Conservation Strategy of Ethiopia (1997)
- g) Biodiversity Policy (1998)
- h) The Water Resources Management Proclamation of 2000
- i) Public Health Proclamation (Proclamation No. 200/2000)

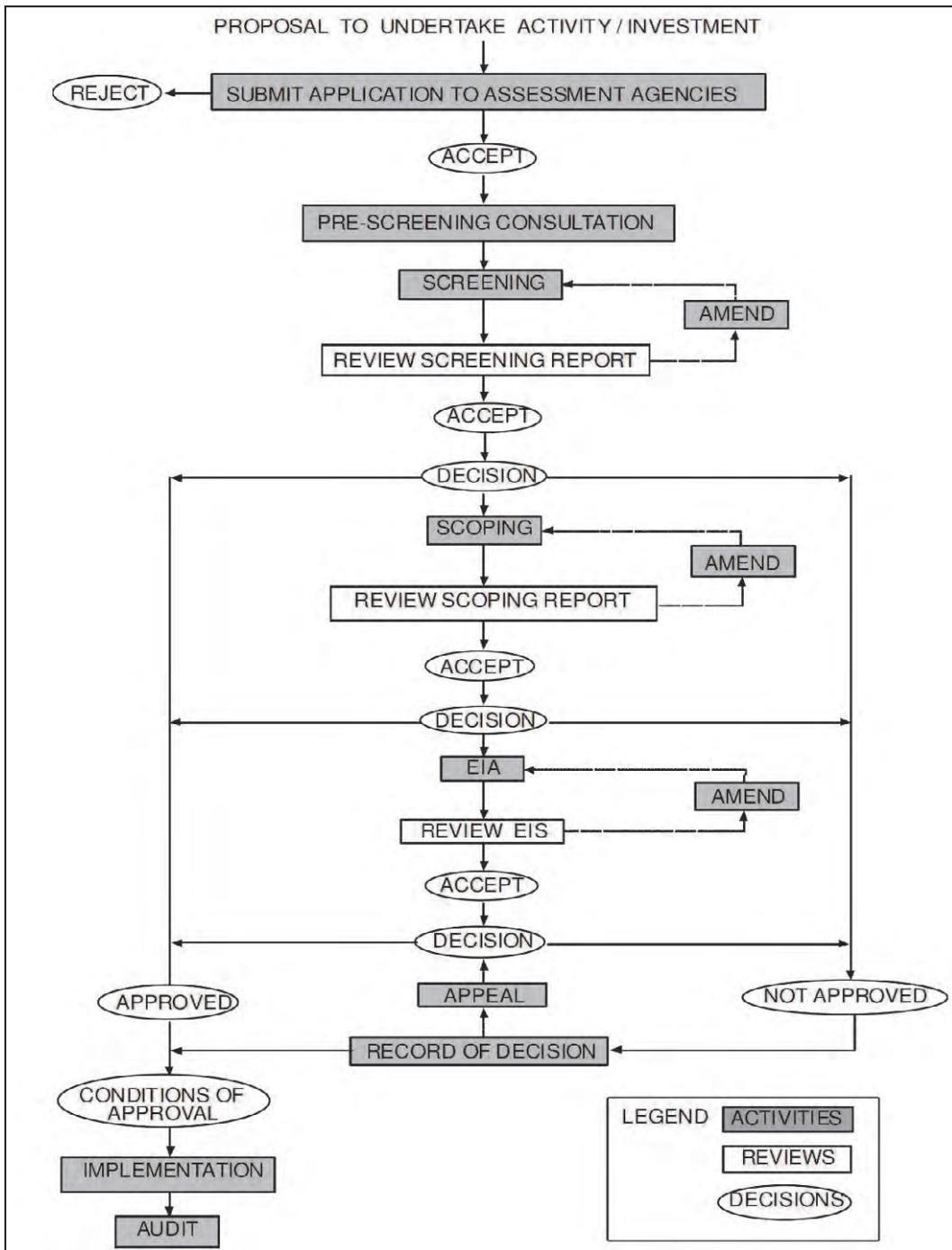
(2) Guidelines Formulated by Ethiopian Environmental Protection Authority (EPA)

EPA has formulated the following guidelines. Most of those are concerned to environmental aspects.

- a) Environmental Impact Considerations for Transport Sector Projects, 1997
- b) Environmental Impact Assessment Guideline Document (Final Draft), 2000
- c) Guideline Series Document for Reviewing Environmental Impact Study Reports, 2003
- d) Environmental Impact Assessment Procedural Guideline, Series 1, 2003
- e) Guideline Ambient Environment Standards for Ethiopia, 2003
- f) Environmental Impact Assessment Guidelines on Road and Railway, 2004
- g) Guidelines for Social, Environmental and Ecological Impact Assessment and Environmental Hygiene in Settlement Areas (Draft), 2004
- h) Framework Guidelines for the Preparation of Environmental and Social Management Plan (ESMP), 2005
- i) Social Impact Assessment Guideline (Training Manual), 2005

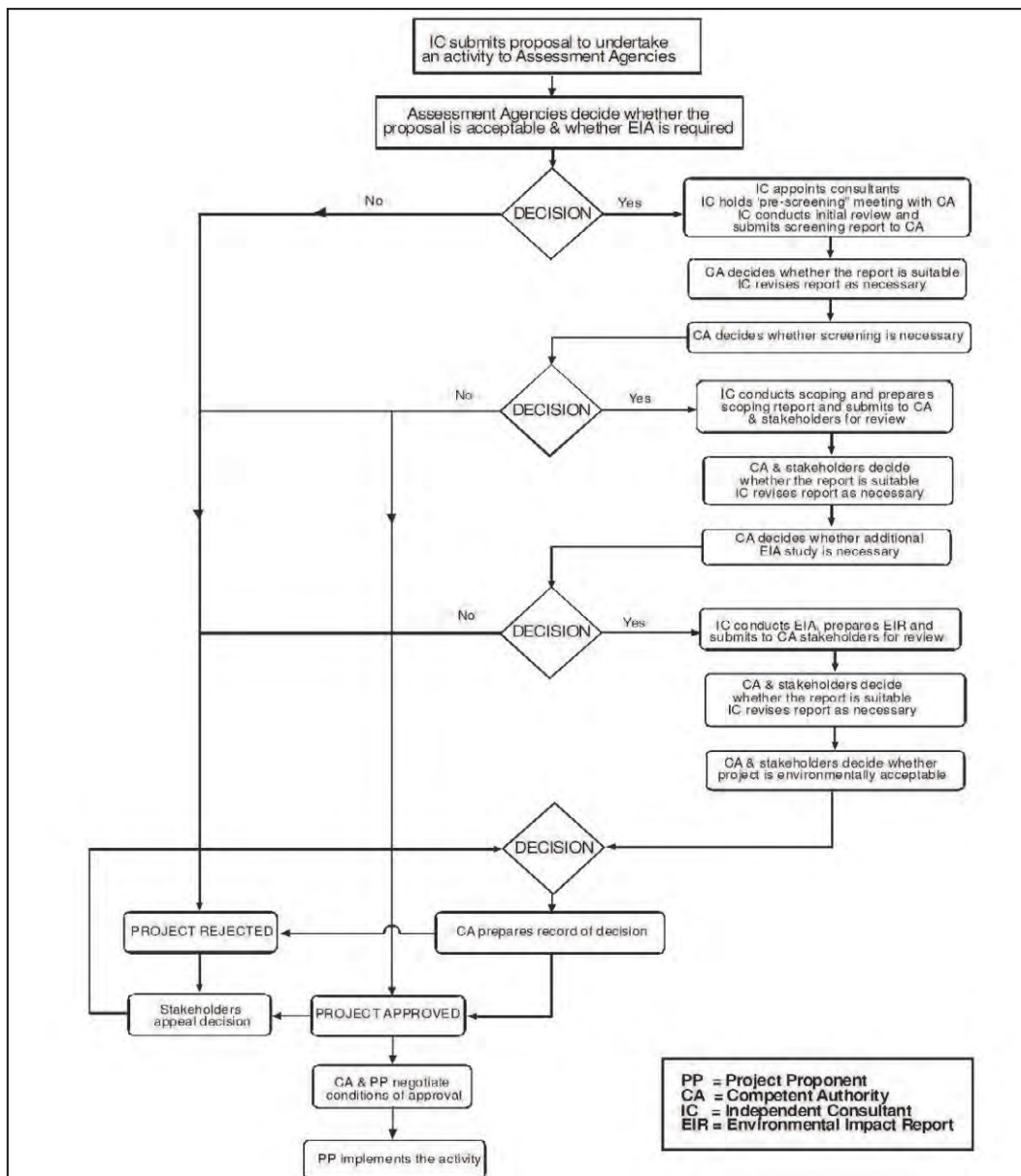
Out of the above guidelines, b) “Environmental Impact Assessment Guideline Document” details the required procedures to conduct an EIA in Ethiopia, and the requirements for environmental management. The document presents the primary purpose of an EIA: to ensure the environmental effects of proposed activities are considered adequately and appropriately before decisions are taken. The EIA should serve as a key aid in the decision-making process for relevant authorities by providing comprehensive information on the environmental consequences of the proposed activities, so that decision makers can evaluate the overall impact of what proposed and alternatives.

The following two figures present EIA application processes: full EIA process and simplified EIA process.



Source : EPA,2000, Environmental Impact Assessment Guideline Document, Final Draft, p.9

Figure 1.4 EIA Application Process



Source : EPA,2000, Environmental Impact Assessment Guideline Document, Final Draft, p.10. ERA, 2001, Environmental Procedures Manual, p.15

Figure 1.5 Simplified EIA Application Flow

(3) Guidelines of ERA

1) ERA Guidelines

ERA has following guidelines for environmental protection.

- a) Guidelines on the Environmental Assessment and Impact of Road Projects, 1998
- b) Environmental Procedures Manual, 2001.
- c) Resettlement/Rehabilitation Policy Framework, 2002, Revised in 2006
- d) Sectorial Policy for HIV/AIDS in the Workplaces, 2004
- e) Road Safety Audit Manual, 2004

EPA had developed categories for EIA procedure to which the proposed project, programs, and plans need to follow. Projects having potential major environmental impacts are expected to undertake environmental and social assessment (ESA)³, which will be reviewed under the responsibility of the Minister for Environment. Projects no major potential impacts expected need to carry out ESA by the ministry responsible for the said sector: in the case of the road sector, it is the Ministry of Transportation (MoT).

In line with this categorization, ERA classifies road projects by environmental and social impact of the projects. The below table summarizes this project classification.

Table 1.2 Summary of Projects Classification in Road Sector

<p>Minor Impact (Level 1) EIA is not required</p>	<ul style="list-style-type: none"> - Projects unlikely to have any significant environmental or social effect - In ERA's case: Projects include routine maintenance activities carried out by ERA or its contractors.
<p>Major Impact (Level 2) Initial Environmental Examination (IEE) is likely required</p>	<ul style="list-style-type: none"> - Projects whose type, scale or other relevant characteristics have the potential to cause some significant environmental impacts but are not likely to warrant an ESA. - In ERA's case: Projects include upgrading/rehabilitation of major rural roads - Projects would fall under Schedule 2 of the EPA Schedule of Activities - IEE shall be undertaken when funding of the project has been approved and prior to the commencement of a pre-feasibility study, to determine if there are environmental factors in the project, which warrant referral or advice from the EPA.
<p>Major Impact (Level 3) Full EIA is required</p>	<ul style="list-style-type: none"> - Projects that may have significant environmental impacts - In ERA's case: these include major urban roads, rural road programs and inter-regional and trunk roads. - Projects would fall under Schedule 1 of the EPA Schedule of Activities - The formal public review process undertaken to meet the disclosure requirements of funding agencies.

Source : Prepared by the JICA Study Team based on the followings; ①EPA,2000, Environmental Impact Assessment Guideline Document, Final Draft, Appendix 1 Schedule of Activities, and ②ERA, 2008, Environmental and Social Management Manual, pp.1-12 – 1-13.

2) Environment and Social Management Team (ESMT)

Environment and Social Management Team (ESMT) is a unit responsible for ensuring that ERA's activities align with the environment protection requirements as stipulated in the Proclamation No. 295/2002. ESMT was originally called as ESMB.

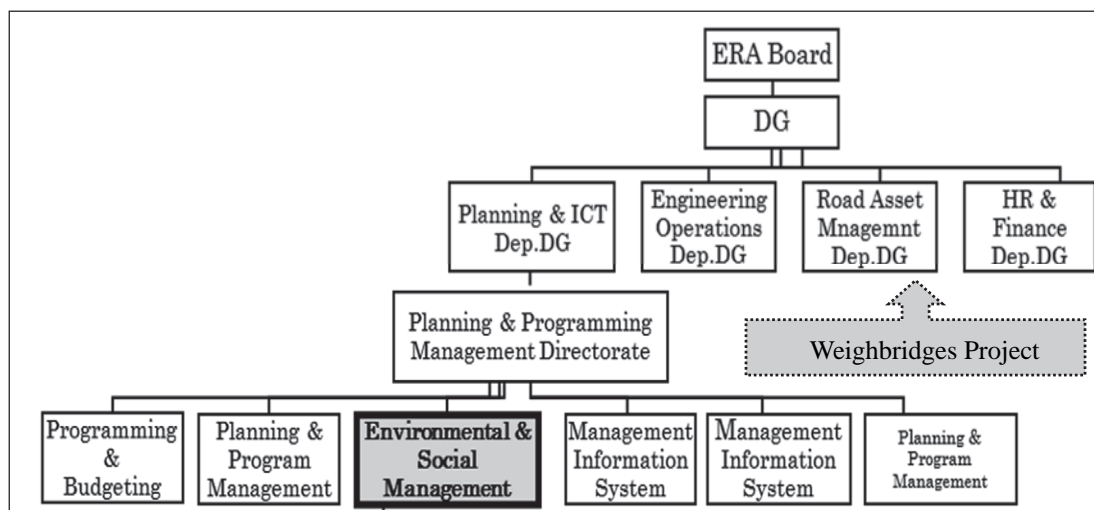
In 2008, EPA delegated its authorization power to ministries to expedite the EIA procedures within their jurisdiction. In road sector, EPA delegated such authority to MoT, and then MoT passed it to ESMB. Since then ESMT has capacity to evaluate and approve all EIAs under the road sector. This delegation is maintained even after EPA was elevated to Ministry of Environment Protection and Forestry in 2013.

³ Definition of the ESA: environmental and social assessment were not found and not clearly explained during the second field survey in May – June 2014. The term ESA is referred for EIA, and the terms are used interchangeably.

The major responsibilities of ESMT are to formulate and implement ERA’s environmental guidelines for aligning with the federal level requirement, to provide advice, coordination and supervision to all the ERA project from environmental and social aspect, and to coordinate with ERA regional directorates.

ESMT has total 11 staffs: a director, one vice director, nine professional staffs, and two support staffs (as of June 2014). The professional staff should be, at least, university/college graduate. All professional staff is trained to be able to conduct ESA, regardless their academic background, through trainings provided by their counterparts in the World Bank (WB) local office.

ESMT is located in ERA Head Office only. Whenever and wherever needs for the ESA arise in regions, the ESMT professional staff is/are deployed to conduct necessary field work and prepare EIA report and resettlement action plan (RAP) accordingly. Because of ever-increasing workload, works to monitor long-term projects have been commissioned to two private engineering companies.



Source : Edited by the JICA Study Team based on the ERA Organogram

Figure 1.6 ERA Organogram (Simplified)

3) ROW Team

ROW Team situated in regional directorates is in charge for land acquisition, and implementation of resettlement action plans prepared by ESMT. ROW Team organizes a property valuation committee inviting representatives of PAPs, community leaders, and concerned local administrations. The committee is the main body for the valuation, and handling claim and dispute over the land acquisition while ROW Team organizes payment of the compensation and confirm the transfer of the land from the land users to ERA.

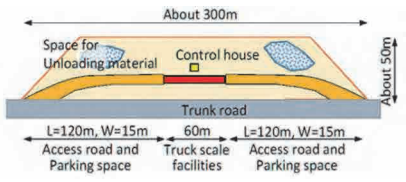
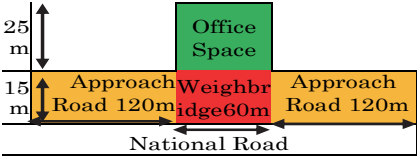
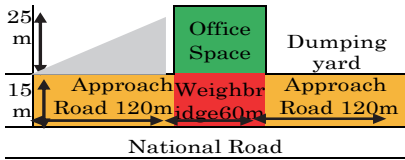
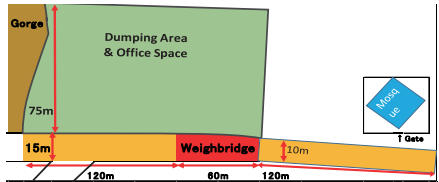
Division of task between ESMT and ROW Team is as follows. ESMT is responsible for the preparation of EIA and RAP, and for supervision and monitoring of the project from environmental and social aspects. ROW Team is responsible for implementation of land acquisition and resettlement.

1-3-4 Analysis of Alternative Site Plans

With consideration for the current situation of the sites, total three alternative site plans were identified and analyzed along with the standard site plan. See the following table for the detail of the analysis and selected site plans.

The main future of the Combolcha and Dengego site plans is having the best balance between engineering and social aspects. For Combolcha, number of the PAP is minimized in a manner effectiveness of the JICA equipment is maintained to produce the expected operational effect. For Dengego, relocation of the Mosque is avoided by reducing the width of the eastbound access road by five meters, which still allows smooth movement of trailers. Consequently, this arrangement contributes reducing the number of the PAPs around the Mosque.

Table 1.3 Analysis of the Alternative Site Plans

	1 Standard	2 Plan Proposed by ERA	3 Plan A	4 Plan B
Outline	①Weighbridge, ②Access Road, ③Office, ④Dumping Yard	①Weighbridge, ②Access Road, ③Office	①Weighbridge, ②Access Road, ③Office, ④Small Dumping Yard	①Weighbridge, ②Access Road, ③Office, ④Small Dumping Yard
Weighbridge	60mX15m	60mX15m	60mX15m	60mX15m
Access Road	120mX15mX2	120mX15mX2	120mX15mX2	120mX15m+120m×10m
Office Space	60mX25m	60mX25m	60mX25m	60mX25m
Dumping Yard	300mX70m=21,000m ² 	To be constructed in a different place 	15mX300m=4500m ² 	6150m ² 
Engineering Aspect	<ul style="list-style-type: none"> - Standard plan based on latest weighbridge stations in the country - With enough length of approach roads and large dumping yard, able to measure and control overloaded vehicle efficiently 	<ul style="list-style-type: none"> - Proposed by ERA, dumping yard to be constructed in a different place - Minimum area for measuring is maintained - Efficiency of measuring is decreased as vehicles have to make a round trip between the station and the dumping yard. - Vehicles waiting for the measurement may obstruct traffic. 	<ul style="list-style-type: none"> - Drawn during the 2nd field survey based on the ERA proposal. The dumping yard to be constructed in the same premises. - Area of the dumping yard is decreased but its impact is limited as the number of vehicles come to measurement is small. - Considering number of measured vehicle at Combolcha, waiting vehicles can be accommodated in the approach roads without obstructing the traffic flow. 	<ul style="list-style-type: none"> - Drawn for Dengego in 2nd field survey: based on the Plan A, width of the right side of the access road is reduced from 15 m to 10 m, and based on the Plan No.2, they dumping yard is added. - Although the size of the dumping yard is smaller than the standard plan, it may not affect smooth measuring under the situation of the Dengego station. - Considering number of measured vehicle at Dengego, waiting vehicles can be accommodated in the approach road without obstructing the traffic flow.
Social Aspect	<ul style="list-style-type: none"> - Expected No. of the PAPS is about 500 (98 HH) in Combolcha 	<ul style="list-style-type: none"> - Expected No. of the PAPS is about 19 Hs in Combolcha 	<ul style="list-style-type: none"> - Expected No. of the PAPS is about 27 HHs in Combolcha. - The dumping yard can be used as a buffer zone to reduce noise 	<ul style="list-style-type: none"> - No. of the PAPS in Dengego decreased than Plan A. - Can avoid relocation of the Mosque - Dumping yard can be used as a buffer zone to reduce noise of dumping and transshipment.
Evaluation	Not suitable for the two sites	Not applied	To be applied for Combolcha	To be applied for Dengego

Source : Made by the JICA Study Team

1-3-5 Assessment of Environmental and Social Impacts

(1) Background of the Assessment

ESMT conducted ESA, which was regarded as simplified EIA, in Combolcha and Dengego in January 2014 and February 2014 respectively, and prepared draft ESA reports including abbreviated RAP. The JICA Study Team undertook the second field study from May to June 2014 with the following aims: to determine site plan for the two sites, to review the draft ESA reports, and to provide technical support to revise the draft ESA reports incorporating the identified site plans.

The draft ESA reports were reviewed against to the JICA Guidelines to clarify the situation of the two sites. There were some areas information and data did not meet the JICA Guidelines, to which ESMT agreed to revise the draft EIA accordingly.

Findings from the field survey and draft review were presented using the form of the JICA Scoping Matrix as follows.

(2) Combolcha

Table 1.4 Result of Environmental and Social Assessment, Combolcha

Rating
 A±: Significant positive/negative impact is expected.
 B±: Some positive/negative impact is expected.
 C: Extent of positive/negative impact is unknown. (A further examination is needed, and the impact could be clarified as the study progresses)
 D: No impact is expected. IEE/EIA is not necessary.

Items	Rating		Brief Description	
	Construction Phase	Operation Phase		
Social Environment				
1	Involuntary Resettlement	B-	D	<p>Pre-construction A small scale involuntary resettlement of residents is expected due to land acquisition for the new weighbridge site. About one-third of the target land is situated on ROW.</p> <p>Construction Resettlement shall be completed prior to the commencement of construction. Interference between the two processes may not occur.</p>
2	The poverty group	D	D	<p>Pre-construction There are some vulnerable people among the PAPs: the elderly, female-headed households, and persons with disability.</p>
3	Indigenous and ethnic people	D	D	<p>All the PAPs are Amhara. There are a small number of the minority ethnic people in and around the proposed site. For the religion, Islam is relatively major than Christian. Confrontation due to ethnicity or religion have not occurred in the area, and the Project is not likely to cause such confrontation in arrangement of resettlement and valuation.</p>
4	Local economy such as employment and livelihood.	D	D	<p>The project is to shift the weighbridge station to the new site which is situated in an industrial zone; thus, it may have little effect on the local economy.</p> <p>Construction There may be a job opportunity being hired by a contractor, which is a short time job even though.</p>

Items		Rating		Brief Description
		Construction Phase	Operation Phase	
5	Land use and utilization of local resources	B-	D	Pre-construction (-) A small scale land acquisition is expected for the new weighbridge site.
6	Water usage or water rights	D	D	There is no water resources such as rivers and wells in and around the proposed site.
7	Existing social infrastructures and services	D	D	The project is to shift the weighbridge station to the new site; thus, it may have little effect on the existing social infrastructure. The relocation site should have provision of infrastructures prior to the relocation that should be of equivalent level that the PAPs has.
8	Social organs such as local decision-making institutions	D	D	The project is to shift the weighbridge station to the new site; thus, it may have little effect on the existing social structure. The relocation site is expected close to the existing place; thus social tie and bounding of the community may be maintained.
9	Misdistribution of benefit and damage Local conflict of interests	C	D	The project is to shift the weighbridge station to the new site; thus, it may not distribute benefit and damage in an invidious manner, and may unlikely to cause local conflict except the relocation of the PAPs. In regard with the PAPs, the followings may lead to local conflicts; amount of compensation and eligibility for assistance from ERA to the vulnerable people. A designated committee determines the exact amount of the compensation later.
10	Historical /cultural heritage	D	D	There is no historical and cultural heritage designated by the government or local authorities in the vicinity of the proposed site.
11	Landscape	D	D	Construction The project replaces the current weighbridge to the new site which is located in the industry zone designated by the City. Thus, the project may have little impact on the landscape.
12	Gender and children rights	D	D	No negative impacts on gender and children rights are expected.
13	Hazards (risk) infectious diseases such as HIV/AIDS	D	C	Construction No large scale construction work is expected. Most of the construction workers may be hired locally. Furthermore, ERA undertakes prevention measures for infectious diseases. Therefore, possibility the project causes spread of infectious diseases seems low. Operation Possibility of STD spread is quite low as the station area does not have accommodation for drivers and passengers. However, prevention measures that comply with the national regulation and ERA guidelines should be taken.
14	Working conditions (Occupational health & safety)	C	D	Construction The contents of construction works are not of high-risk. ERA makes it a condition to contractors take safety measures for construction workers during the construction.
Natural Environment				
15	National parks and reservation	D	D	There is no national parks and reservations designated by the government or local authorities in the vicinity of the proposed site.
16	Flora, fauna and biodiversity	D	D	Existence of rare animals and plants is not recognized in the vicinity of the proposed site. The project may not effect on the biodiversity of the area.
17	Topography, geotechnical and soil erosion (geological features)	D	D	Construction Filling and cutting of grounds is necessary for land preparation for the new site and installation of the weighbridge within the proposed site. Scale of the work is to be confirmed prior to the construction work. The current borrow-pit and quarry may be used for construction works, which has been operating under regulations of

Items	Rating		Brief Description	
	Construction Phase	Operation Phase		
			the City. Thus, the project may not affect geographical feature of the area. Nevertheless, the borrow pit and quarry are to be checked prior to the construction work according to ERA guidelines.	
18	Hydrological situation and groundwater	D	D	No impact are expected through the project activities.
Pollution Control				
19	Air Pollution	B-	D	<p>Construction Emission gas from construction vehicles and dust generated by the construction work may affect the air quality. Precautions should be taken.</p> <p>Operation Since the project is to shift the current weighbridge to the new site which located in a designated industrial zone, the shift may not affect current air quality of the new site.</p>
20	Water Pollution	D	D	There is no water resources such as rivers and wells in and around the proposed site.
21	Waste, Soil Contamination and Offensive Odor	D	D	<p>Construction Construction work generates solid waste: surface of the soil that is not desirable for any construction work and therefore must to taken from the site. Construction workers may produce additional garbage. All waste should be brought to a designated area according to regulation of the city.</p> <p>Operation Under ERA guidelines, discharged overloaded items are kept for one month at the site and are taken for the public sale. Those items cannot be left at the weighbridge station for a long time, therefore, does not exude offensive odors.</p>
22	Noise and Vibration	B-	C	<p>Construction Noise and vibration are emitted from construction vehicles to some extent.</p> <p>Operation Although noise and vibration are emitted in the new site, the site is located in the industrial zone and impact may be limited.</p>
23	Ground Subsidence and Bottom sediment	D	D	No impacts are expected through the project activities.
Others				
24	Accidents	B-	C	<p>Construction During the construction period, traffic accidents may occur due to increased traffic volume of construction vehicles. Precautions should be taken.</p> <p>Operation Although location of the current weighbridge is well known by the drivers and residents, accidents could occur until location of the new site come to be recognized.</p>
25	Global warming	D	D	No impacts are expected through the project activities.

(3) Dengego

Table 1.5 Result of Environmental and Social Assessment, Dengego

Rating
 A±: Significant positive/negative impact is expected.
 B±: Some positive/negative impact is expected.
 C: Extent of positive/negative impact is unknown. A further examination is needed, and the impact could be clarified as the study progresses)
 D: No impact is expected. IEE/EIA is not necessary.

Items	Rating		Brief Description	
	Construction Phase	Operation Phase		
Social Environment				
1	Involuntary Resettlement	B-	D	Pre-construction A medium scale involuntary resettlement of shops is expected due to land acquisition for expansion of the weighbridge station. Most of the target land is situated on ROW.
2	The poverty group	D	D	Pre-construction There are some vulnerable people among the PAPs: the elderly, female-headed households, and persons with disability.
3	Indigenous and ethnic people	D	D	There are a small number of the minority ethnic people other than Oromia in and around the proposed site. Most of the PAPs are Oromia, except one shop owned by Tigray. For the religion, Islam is relatively major than Christian. Confrontation due to ethnicity or religion have not occurred in the area, and the Project is not likely to cause such confrontation.
4	Local economy such as employment and livelihood.	D	D	The project is to expand the weighbridge using ROW. A candidate relocation site is close to the current place and faces the national road next to the ROW. Building of extra shops is planned for those currently renting shop from the owner to mitigate the negative impact of the land acquisition. Thus, it may have little effect on the local economy. Construction There may be a job opportunity being hired by a contractor, which is a short time job even though.
5	Land use and utilization of local resources	B-	D	Pre-construction (-) A small scale land acquisition is expected for the new weighbridge site.
6	Water usage or water rights	D	D	There is no water resources such as rivers and wells in and around the proposed site.
7	Existing social infrastructures and services	D	D	The project is to expand the weighbridge station using adjacent ROW. Thus, it may have little effect on the existing social infrastructure. The relocation site should have provision of infrastructures prior to the relocation that should be of equivalent level that the PAPs has.
8	Social organs such as local decision-making institutions	D	D	The project is to expand the weighbridge station using adjacent ROW; thus, it may have little effect on the existing social structure. The relocation site is expected close to the current place, and the PAPs shops may be relocated as a whole; thus social tie and bounding of the community may be maintained.
9	Misdistribution of benefit and damage Local conflict of interests	C	D	The project is to expand the weighbridge station using adjacent ROW; thus, it may not distribute benefit and damage in an invidious manner, and may unlikely to cause local conflict except the relocation of the PAPs. In regard with the PAPs, the followings may lead to local conflicts; amount of compensation and eligibility for assistance from ERA to the vulnerable people. A designated committee determines the exact amount of the compensation later.

Items		Rating		Brief Description
		Construction Phase	Operation Phase	
10	Historical /cultural heritage	D	D	There is no historical and cultural heritage designated by the government or local authorities in the vicinity of the proposed site.
11	Landscape	D	D	Construction The project is to expand the weighbridge station using adjacent ROW. Thus, the project may have little impact on the landscape.
12	Gender and children rights	D	D	No negative impacts on gender and children rights are expected.
13	Hazards (risk) infectious diseases such as HIV/AIDS	D	C	Construction No large scale construction work is expected. Most of the construction workers may be hired locally. Furthermore, ERA undertakes prevention measures for infectious diseases. Therefore, possibility the project causes spread of infectious diseases seems low. Operation Possibility of STD spread is quite low as the station area does not have accommodation for drivers and passengers. However, prevention measures that comply with the national regulation and ERA guidelines should be taken.
14	Working conditions (Occupational health & safety)	C	D	Construction The contents of the project construction works are not of high-risk. ERA makes it a condition to contractors take safety measures for construction workers during the construction.
Natural Environment				
15	National parks and reservation	D	D	There are no national parks and reservations designated by the government or local authorities in the vicinity of the proposed site.
16	Flora, fauna and biodiversity	D	D	Existence of rare animals and plants is not recognized in the vicinity of the proposed site. The project may not effect on the biodiversity of the area.
17	Topography, geotechnical and soil erosion (geological features)	D	D	Construction Filling and cutting of grounds is necessary work for land preparation, though scale of the work is to be confirmed after detail design of the site plan. The current borrow-pit and quarry may be used for construction works, which has been operating under regulations of the region. Thus, the project may not affect geographical feature of the area. Nevertheless, the borrow pit and quarry are to be checked prior to the construction work according to ERA guidelines.
18	Hydrological situation and groundwater	D	D	No impact are expected through the project activities.
Pollution Control				
19	Air Pollution	B-	D	Construction Emission gas from construction vehicles and dust generated by the construction work may affect the air quality. Precautions should be taken. Operation Since the project is to expand the weighbridge station using adjacent ROW, the shift may not affect current air quality of the current site.
20	Water Pollution	D	D	There is no water resources such as rivers and wells in and around the proposed site.
21	Waste, Soil Contamination and Offensive Odor	D	D	Construction Construction work generates solid waste: surface of the soil that is not desirable for any construction work and therefore must to taken from the site. Construction workers may produce additional garbage. All waste should be brought to a designated area according to regulation of the Woreda.

Items	Rating		Brief Description	
	Construction Phase	Operation Phase		
			Operation Under ERA guidelines, discharged overloaded items are kept for one month at the site and are taken for the public sale. Those items cannot be left at the weighbridge station for a long time, therefore, does not exude offensive odors.	
22	Noise and Vibration	B-	C	Construction Noise and vibration are emitted from construction vehicles to some extent. Operation Although noise and vibration are emitted in the new site, the site is located in the ROW and impact seems limited.
23	Ground Subsidence and Bottom sediment	D	D	No impacts are expected through the project activities.
Others				
24	Accidents	B-	C	Construction During the construction period, traffic accidents may occur due to increased traffic volume of construction vehicles. Precautions should be taken. Operation Although location of the current weighbridge is well known by the drivers and residents, accidents could occur until new road alignment come to be recognized.
25	Global warming	D	D	No impacts are expected through the project activities.

1-3-6 Mitigation Measures and Its Cost

Out of the items stated in the above assessment, items rated as “B-“ and “C” were further studied to identify mitigation measures. Since “B-“ and “C” rated items are similar between Combolcha and Dengego, the same mitigation measures can be applied to the two sites.

Table 1.6 Mitigation Measures for Combolcha and Dengego

Items	Impact	Mitigation Measures	Executing body	Responsible body	Cost	
I Pre-construction						
Social Environment						
1	Involuntary Resettlement	A medium scale involuntary resettlement	Organize public consultation with the concerned communities to obtain their consent for the resettlement, and to incorporate their opinion into the RAP Pay compensation for the loss of properties appropriately based on valuation undertaken by a resettlement committee. The committee involves the PAP representative and community leaders along with the officials from ERA and local authorities.	ERA Resettlement Committee	ERA	From ERA budget for land acquisition
2	Land use and utilization of	A medium scale land acquisition	Provide relocation site that has the same level of infrastructures	ERA Resettlement	ERA	From ERA budget for land

Items	Impact	Mitigation Measures	Executing body	Responsible body	Cost	
	local resources	as the current dwelling area has Provide assistance to the vulnerable people	Committee		acquisition	
3	Local conflict of interests	Confrontation among the PAPs on items for and the amount of compensation and support at the relocation	Organize public consultation with the concerned communities to obtain their consent for the resettlement, and to incorporate their opinion into the RAP Valuate the properties in a transparent manner by the resettlement committee Set up grievance system to be led by the resettlement Committee	Resettlement Committee	ERA	From ERA budget for land acquisition
II During Construction						
Social Environment						
4	Working conditions (Occupational health & safety)	Accident during the construction work	Carry out regular maintenance for construction vehicle and equipment Safety awareness training to the workers	Contractor	ERA	Included in the construction contract
Pollution Control						
5	Air Pollution	Dust due to operation of construction vehicles and equipment	Spray water during the construction work	Contractor	ERA	Included in the construction contract
6	Noise and Vibration	Noise and Vibration due to operation of construction vehicles and equipment	Make the neighbors know on working hours Keep the working hours	Contractor	ERA	Included in the construction contract
Others						
7	Accident	Accident caused by the construction vehicles and equipment	Install safety signs Traffic control	Contractor	ERA	Included in the construction contract
III Operation						
Social Environment						
8	Infectious diseases such as HIV/AIDS	Possible high-risk behavior of the station staff	Conduct awareness campaign Distribute condoms	ERA	ERA	From ERA regular budget
Others						
9	Accident	Accident caused by the vehicles using the weighbridge station	Install safety signs	ERA	ERA	Included in operation cost of the weighbridge station

1-3-7 Environmental Management and Monitoring Plan

See the appendix.

1-3-8 Stakeholder Consultations

ESMT organized stakeholder consultations as follows:

(1) Combolcha

Table 1.7 Summary of the Stakeholder Consultations in Combolcha

	With the City Administration	Public Consultation	Focus Group Discussion
Date	Jan 29, 2014	Jan 29, 2014	Jan 29 -30, 2014
Participants	City Officers ERA: ESMT, Combolcha RNMBD	PAPs and the neighboring residents ERA: ESMT, Combolcha RNMBD	Elderlies, Widows, Persons with disabilities ERA: ESMT
Agenda	Relocation of the current weighbridge station to the new site Identification of land acquired and the PAPs Confirmation of role and responsibility of ERA and the City Briefing on livelihood and characteristics of the PAPs Control of new developments after the cut-off-date	Relocation of the current weighbridge station: land required for the new site Resettlement: potential PAPs, schedule, items for compensation, concerned agencies, valuation committee, and grievance system Obtain opinions of and consents from the PAPs Discussion on expected positive and negative impacts	
Items Agreed	The public opinion shall be incorporated into the site design and the RAP Negative impact of the relocation shall be minimized The city shall provide the followings: relocation site to the PAPs, which needs to be located near to the existing place and equipped by basic infrastructures such as road, electricity and water; special assistance to vulnerable people among the PAPs.	No object to the relocation if a reasonable compensation is paid. The relocation site near to the current house is preferable, in which basic infrastructures such as road, water and electricity should be installed prior to the relocation. Collective relocation is needed.	No objection to the relocation if the relocation site is near to the present house, in acceptable conditions, and is organized efficiently. Compensation should be paid appropriately against the relocation and loss of property such as cutting down of trees.

(2) Dengego

Table 1.8 Summary of the Stakeholder Consultations in Dengego

	With the Woreda Administration	Public Consultation	Focus Group Discussion
Date	Feb 7, 2014	Feb 7, 2014	Feb 7-8, 2014, 2014
Participants	Woreda Officers ERA: ESMT, Dengego RNMBD	PAPs and the neighboring residents ERA: ESMT	Elderlies, Widows, Persons with disabilities ERA: ESMT
Agenda	Relocation of the current weighbridge station to the new site Identification of land acquired and the PAPs Confirmation of role and responsibility of ERA and the Woreda Briefing on livelihood and characteristics of the PAPs Control of new developments after the cut-off-date	Relocation of the current weighbridge station: land required for the new site Resettlement: potential PAPs, schedule, items for compensation, concerned agencies, valuation committee, and grievance system Obtain opinions of and consents from the PAPs Discussion on expected positive and negative impacts	
Items Agreed	The public opinion shall be incorporated into the site design and the RAP Negative impact of the relocation shall be minimized The Woreda shall provide the followings: relocation site to the PAPs, which needs to be located near to the existing place and equipped by basic infrastructures such as road, electricity and water; special assistance to vulnerable people among the PAPs.	No object to the relocation if a reasonable compensation is paid. The relocation site near to the current house is preferable, in which basic infrastructures such as road, water and electricity should be installed prior to the relocation. Collective relocation is needed.	No objection to the relocation if the relocation site is near to the present house, in acceptable conditions, and is organized efficiently. Compensation should be paid appropriately against the relocation and loss of property such as cutting down of trees.

1-3-9 Necessity of Land Acquisition and Resettlement

As described earlier, the Project aims to prevent trunk roads from being damaged by overloaded vehicles through providing or replacing weighbridge for the selected 14 weighbridge stations. As being a landlocked country, Ethiopia depends on commodities transported by surface from Djibouti port in the neighbouring country Djibouti. Both Combolcha and Dengego weighbridge stations, which are subjects of this environmental and social consideration, are located in the hub of the road network. Taking due account of the strategic location of the two sites, provision of weighbridge for those stations shall contribute to preventing road damages and making road transportation efficiently although small and medium scale of resettlement is expected.

In this section, the legal framework concerning land acquisition and compensation, and abbreviated resettlement action plan (RAP) are presented.

(1) Legal Systems and Institutional Framework for Land Acquisition and Resettlement

1) The Constitutional Stipulation

Under the Constitution of the Federal Republic of Ethiopia (FDRE), land is a public property. No person has the legal right of ownership; therefore, land can not be sold or mortgaged or transferred. However, the constitution guarantees usufruct right for the citizens. It gives the user of the land the right to use and the right to benefit from the fruits of her/his labor that are crops, trees and what found on the land or any permanent buildings and structures. The constitution also guarantees the usufruct right can be transferred and bequeathed. (Article No.40, the FDRE Constitution)

At the same time, the Constitution prerequisites the Government has the right to expropriate private property for a public purpose by providing the appropriate compensation. Persons who lost their land for such case are entitled to compensation to similar land and loss of property and assets. The related cost arising from relocation shall be paid too. (Article No.44 the FDRE Constitution)

2) Laws and Regulations Concerning Land Acquisition

The followings are fundamental laws and regulations concerning land acquisition formulated after the FDRE constitution.

- a) Expropriation of Land for Public Purpose and Compensation (Proclamation No.455/2005)
- b) Rural Land Administration and Use (Proclamation No.456/2005)
- c) FDRE Council of Ministers Regulation (Proclamation No.135/2007)

“a) Expropriation of Land for Public Purpose and Compensation (Proclamation No.455/2005)” was issued with the objective of minimizing and mitigating the impact of land acquisition occurred for the public purpose.

The proclamation states that Woreda or urban administration authorities have the power to acquire land for a public purpose. A landholder whose land has been taken by the concerned administrative authorities is entitled to compensation for his property situated on the land, and for the permanent improvement the person made on the land.

The amount of compensation for the loss is determined on the basis of full replacement cost. The PAP shall be paid the compensation, and cost for removal, transportation, and construction. The valuation of assets and properties shall be determined based on the valuation formula that is supposed to be adopted at the federal level. Until such time, valuation of assets shall be undertaken by property valuation committees to be established for projects.

In case of projects under ERA, after received details of the land acquisition, Woreda or urban administration has to notify in writing to the potential affected entity (either an individual or an organization) the time of land acquisition that is not less than 90 days when the land has to be evacuated, and the amount of compensation. The affected persons shall be given the compensation prior to their relocation or vacating the land. Institutional arrangement of ERA for land acquisition and relocation is as presented in the Section (3) 3).

3) Comparison of JICA Guidelines and the Regal Framework of Ethiopia

The JICA Guideline requires a JICA funded project comply with the JICA Guidelines, laws and policies related to the environmental and local communities of host countries, and the World Bank (WB) Safeguard Policies. (Article No.2.6, the JICA Guidelines) In this regard, the Government of Ethiopia has committed itself to abide by the relevant WB's policies and guidelines since the signing of credit agreements with the International Development Association (IDA). All the project under ERA are planned, implemented, and monitored according to WB Safeguard Policy. This weighbridge project is not an exemption from such practice. Thus, ERA shall handle this project in a way meeting the requirement of JICA Guidelines.

The most promised WB Safeguard Policies for ERA is "Operation Policy 4: Environmental and Social Safeguards Policies." Furthermore, ERA places particular emphasis on the following operation policies (OP).

- OP 4.01: Environmental Assessment
- OP 4.02: Environmental Action Plans
- OP 4.04: Natural Habitats
- OP 4.10: Indigenous Peoples
- OP 4.11: Physical Cultural Resources
- OP 4.12: Involuntary Resettlement
- OP 4.20: Gender and Development
- OP 4.36: Forests

In addition, ERA complies with “Good Practice 14.70: Involving NGOs” and the World Bank Policy on the Disclosure of Information.⁴

Nevertheless, the Ethiopian legal framework have some difference with that of WB on land acquisition and resettlement. As described earlier, private land ownership does not exist in Ethiopia. Therefore, land is not a subject of the compensation. Instead, in this project, the relocation site situated near to the current houses/shops shall be provided to the PAPs.

The Ethiopian laws do not regard the following people as the PAPs eligible for compensation: squatters, illegal settlers, and tenants renting houses/shops from either individuals or government. However, ERA includes occupants of ROW and tenants into the PAPs, so do in this project. Occupants of ROW in Combolcha and Dengego, and tenants of the Mosque owned shops in Dengego are counted as the PAPs.

In summary, ERA come up with the following policies for the PAPs: pay compensation based on current market values, provide relocation site as near as possible to the current location responding to opinion of the PAPs, provide utilities such as electricity and water with same or above the current service level, build shops for the tenants of the Mosque owned shops. Construction of these shops is an additional support for the tenants since it is not sure that the Mosque would build shops for the tenant in the relocation site.

(2) Outlines of Land Acquisition and Resettlement

After the first JICA field study, ESMT undertook socio-economic study of the PAPs. Below table presents the outline of the survey. Also see the Section (2) 4) for the situation and photographs of the two sites. The total PAP number is 27 residents and 141 shop owners /tenants and their family in Combolcha and Dengego respectively. This number does not require a full-scale RAP according to the JICA guideline, WB OP.4 and the ERA ESA classification of projects. Thus, abbreviated RAP was prepared.

⁴ ERA, Environmental and Social Management Manual, Guideline No.ES1, p.11

Table 1.9 Outline of Situation of the PAPs

(As of the draft documents, Jun 5, 2014)

Location		Combolcha						Dengego			
Area		6,000m ² (25×60m + 15×300m)						10,650m ²			
Cut-off date		January 29, 2014						February 7, 2014			
Housing	No. of house	27						1			
	Materials used	Traditional: timber, stone, and mud. Some have a tin roof.						Traditional: timber, stone, and mud.			
	No. of the house owner	27						1			
	- Male	15						0			
	- Female	12						1			
	No. of tenant	0						0			
	No. of the PAPs to be relocated	97						1			
Total area of the houses to be demolished	1187.85m ²						8m ²				
Shop	No. of shop	0						17			
	Material used	-						Traditional: timber, stone, and mud. Some have a tin roof. Some use old cargo container as shop.			
	No. of owner	0						17			
	- Male	0						13			
	- Female	0						4			
	No. of shop rent out	0						10 (Mosque-owned:8, Private:2)			
	Material used	Traditional: timber, stone, and mud. Some tin roof.						Traditional: timber, stone, and mud. Some tin roof.			
	No. of the PAP (shop)	0						142			
Area of shops to be demolished	0						608.13m ²				
Another property to be compensated	Trees 2,093						0				
Property owned by Community	0						0				
Primary income resource of the head of the PAP households	Agriculture	Daily labourer	Business	Government Employee	Factory worker	Student	Shop	Agriculture and Shop	Worker	Pension	
	15	5	2	2	2	1	19	5	2	1	
Annual Income in Ethiopian Burr ^{*1}	2,400	18,000	72,000	30,000	30,000	--	155,179	177,600	48,000	7,200	
Average No. of the family member	4						5				
Culture/Society	Ethnicity & language: Both Amhara Religiously-mixed: Christian and Muslim						Ethnicity & language: Oromia and Oromifa Religiously-mixed: Christian 1 HH, the rest are Muslim evenly				
Vulnerable	There are households of the elderly, female-headed, people with disability, and singles. Assistance shall be provided to those during building of house/shop and relocation.										

*1 Annual Income of Combolcha: The amount is estimated based on the hearing results.

Source: Prepared by the JICA Study Team based on the ERA reports and findings from the second field survey undertaken by the JICA Study Team.

(3) Valuation of Compensation for Losses and Other Resettlement Assistance Measures

- Valuation of Compensation

Subjects of the compensation under this project are houses, shops, and trees (trees are found in Combolcha only).

The compensation for the houses and shops shall be evaluated on the basis of the WB O.P.4.12. The market value of materials for building houses and shops shall be applied to calculate the compensation amount. The compensation for the tree shall be valued based on the standardized rate set out by Department for Agriculture and Forestry of the relevant local authorities. Relocation cost is also paid to the PAPs according to the federal laws.

- Cut-off-date and Eligibility

ERA set January 29, 2014 and February 7, 2014 as cut-off-date for Combolcha and Dengego respectively. Both dates are the day when ERA and the respective local authority agreed on this project. Any construction, development, and the alternation made after the cut-off-date are not eligible for the compensation. ESMT informed this policy to the PAPs during the socio-economic survey and provided on-the-spot consultation and clarification of the items for which the PAPs were not sure if the items are eligible for the compensation.

Eligibility of the PAPs was in line with the WB O.P.4.12 as follows.

- a) Those who have formal legal right to use land (including customary and traditional rights of occupancy recognized under the laws of the country).

[The original sentence was modified omitting words “(legal right to) have” to incorporate the practice of the land use right in Ethiopia.]

- b) Those who do not have formal legal rights to land at the time of census begins but have a claim to such land or assets provided that such claim are recognized under the laws of country, or become recognized through a process identified in the resettlement plan

[The socio-economic survey was undertaken instead for census.]

- c) Those who have no claim to land they are occupying. This includes squatters and street vendors.

Furthermore, ESMT has made those whose properties and assets were inventoried prior to the cut-off-date are entitled to the compensation.

- Relocation Sites

The City of Combolcha and Haramaya Woreda have offered a candidate relocation site located closely to the existing place respectively.

In the case of Combolcha, there are several relocation sites constructed for people affected by implementations of the City Development Plan and a road rehabilitation project funded by WB. Utilities such as water and electricity are already available in these relocation sites. Other project affected people have been moving in the candidate relocation site and the site still has enough

area for group relocation that is requested by the PAPs. With the extension of power and water lines to the area kept for the PAPs, infrastructure development for the relocation seems finish shortly. Furthermore, the candidate site is located in the opposite site of a hill that situated behind the current housing plot of the PAPs. Under such geographical arrangement, accesses to their farmland and cemetery can be maintained.

In the case of Dengego, a candidate relocation site is situated out of ROW, but facing the national road, and is surrounded on the three sides by houses and shops, whose location offer the almost same level of the access for shoppers. The area was once used for storage site of equipment and materials during the national rehabilitation works. Water and electricity lines are already installed in surrounding structures (houses and shops), what required for the relocation is extension of the lines to the relocation site. Thus, all works for infrastructure are expected finish shortly.

(4) Grievance Redress

Following the Ethiopian laws, ERA sets up Resettlement Implementation Committee (RIC) for the valuation of assets and properties of the PAPs, calculation of the compensation, grievance redress, and monitoring of the relocation. The RIC comprises of ROWT on behalf of ERA, representatives from the PAPs, local authorities (Kebele and the city for Combolcha, Woreda for Dengego) and other relevant persons.

The mechanism of the grievance redress shall be arranged with the following considerations.

- Be transparent and simple to understand
- Access to the procedures should be free
- The procedure should be able to be activated rapidly
- Representatives of PAPs should be part of the RIC during deciding how to respond the grievances
- The response time between activating the procedure and reaching a resolution should be as short as possible

Settling a dispute amicably among the aggrieved parties is the primal and the most preferred method. Nevertheless, the grievance process shall be as follows in case it failed.

- i. The PAP shall file his/her discontents in writing to RIC chairperson. The grievance needs to be signed and dated by the aggrieved person. When the PAP is unable to write, he/she shall obtain assistance to write a note and endorse the letter with his/her thumbprint.
- ii. The RIC shall respond within 15 days after they discussed the matter with the aggrieved person. If the grievance relates to valuation of assets, external experts may be called to revalue the assets, and this may necessitate a longer period. In this case, the aggrieved person must be notified by the RIC that his/her complaint is being considered.
- iii. If the aggrieved person does not receive a response or is not satisfied with the outcome, he/she may lodge the case to the local Court.

iv. Decisions of local courts shall be the final.

The PAPs also have right to appeal their cases to ERA's ROW Team, to the resident engineer or to the contractor before taking their appeals to the court.

(5) Implementation Arrangement and Responsible Organizations

In Ethiopia, only administrative authorities (Woredas and city administrations) have the power to perform land acquisition, and they are also responsible for implementation of resettlement. However, in the case of this project, ERA shall shoulder principal responsibility for the relocation for the time being. Road Network Management Branch Directorate (RNMBD), ROWT, and ESMT shall act for the administrative authorities in order to organize implementation process in a smooth and consistent manner. Compensation and other expenses for the relocation shall be paid from ERA's budget for the time being, which are paid by administrative authorities usually. ERA, with the cooperation from the concerned authorities, shall make water and electricity available in the relocation site prior to the resettlement.

(6) Implementation Schedule

A detailed schedule of the implementation is under preparation along with that of construction works at the designated office of ERA. Taking example of other projects, ERA sees relocation/restoration of the PAPs would take three to four (3-4) months if proper support, guidance, and supervisions were carried out.

(7) Cost and Budget

The following table presents relocation cost estimated by ERA. As stated earlier, ERA shall cover the cost concerning the relocation for the time being, not to wait financial arrangement by the city of Combolcha and Haramaya Woreda.

Table 1.10 Estimated Amount for the Relocation

(Unit: Ethiopian Barr)

	Combolcha	Dengego
Replacement Cost of Structures	1,453,928	719,082
Compensation for trees	533,715	0
Monitoring & Evaluation	5,000	10,000
Administrative Cost	25,000	8,000
Sub-total	2,017,643	737,082
Contingency (10% of the Sub-total)	201,764	73,708
Grand total	2,219,407	810,790

Source : Compiled by the JICA Study Team based on the ERA report (Version June 2014)

The above amounts are based on unit costs provided by the city of Combolcha and Haramaya Woreda. The unit cost is for 1m² of the land including the cost of housing materials, its transportation, and labor charges for the most common type of housing in the area. Each local

authority prepares such unit rate to apply for all relocation programs in the area. Thus, ERA uses this rate accordingly.

Transportation cost for the relocation has not been included in the above cost estimation because the relocation site is not finalized yet.

(8) Monitoring and Supervision

In projects of ERA, RIC monitors the resettlement process under supervision of ROWT. Besides members selected from the PAPs, RIC can designate further member(s) from the PAPs for the monitoring if necessarily. Having more PAP member within the RIC helps making the implementation of the resettlement more transparent and fair one.

The cash compensation shall be paid directly to the PAPs. Then, the RIC shall monitor the resettlement process and be responsible for ensuring that the PAPs are using the compensation fund for re-establishing the demolished houses/shops and for resettlement-related purpose appropriately.

Below listed are expected monitoring items, whose monitoring indicators shall be set by the RIC. Each month the RIC should document the following items. (See appendix for the detail)

- Land acquisition progress and restoration of house/shops and transfer procedure
- Disbursement of compensation and assistance
- Construction of replacement structures by the displaced families
- Re-establishment of the demolished houses and business enterprises
- Rehabilitation of income levels

Furthermore, ESMT has plan to undertake an evaluation of the abbreviated RAP to see the appropriateness of the abbreviated RAP. The following items shall be assessed in the ERA evaluation.

- The appropriateness of the relocation site,
- The appropriateness of the implementation schedule,
- The appropriateness of the grievance mechanism,
- The appropriateness of the assistance to the vulnerable people

(9) Community Participation and Public Consultation

A series of public consultation was organized prior to the formulation of the RAP. (See the Section 2.2.3.8 for the detail) Community participation during the resettlement period shall be actualized through community meetings for setting up of RIC. Once the RIC is found, RIC shall organize community meetings to explain valuation and other necessary information. Number of the meeting shall serve as a monitoring indicator at the same time.

In February 2015, ERA submitted “the Final Abbreviated Resettlement Action Plan (RAP)” for each target weighbridge stations: namely Combolcha and Dengego to JICA Ethiopia office. The above documents describe both environmental and social considerations, which ERA would take into the JICA weighbridge project.

CHAPTER 2 CONTENTS OF THE PROJECT

2-1 Basic Concept of the Project

2-1-1 Overall Goal and Project Goal

The project has the following two goals.

Overall goal: To assure the provision of an adequate and high quality road network to Ethiopia.

Project goal: To promote the facilitation of road traffic by prevention of road damage from overloaded vehicle through installation and updating of the weighbridge at weigh bridge stations.

2-1-2 Objectives of the Project

To achieve the above goals, the objectives of the project are set as follows:

- To improve the efficiency of axle load control to cope with rapidly increasing flow of heavy vehicles especially trucks;
- To ensure transparency and effectiveness in axle load control; and
- To increase the number of weighbridge stations for more effective control of axle load on the main roads of the country.

This preparatory survey was conducted to review requested weighbridge stations both existing and newly installed and to select candidate stations, concurrently set specifications of weighbridges and incidental facilities required. The study also made a line of demarcation between Ethiopian and Japanese sides of works for reconstructing/ newly constructing weighbridge stations.

2-2 Outline Design of the Japanese Assistance

2-2-1 Design Policy

The following requests were raised by the ERA. Upon the request, the preparatory study team visited and evaluated the sites and selected candidate stations. The criteria to select candidate sites were set based on the agreement of the minutes of discussion (MD).

- 1) Contents of the Project Requested from Ethiopia
 - Updating of weighbridge at the existing eleven weighbridge stations
 - Installation of weighbridge at the new planned eight weighbridge stations

- 2) Project area Requested from Ethiopia

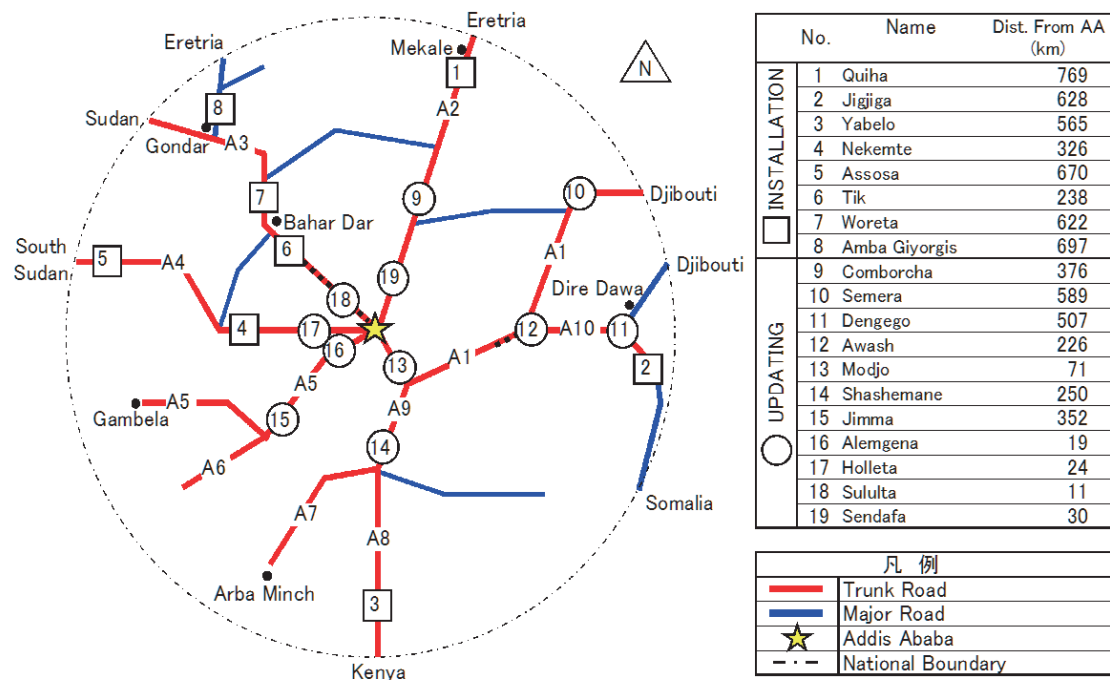
Project area and stations requested from Ethiopia are shown in Table 2.1.

Table 2.1 Project Area and Station Requested from ERA

Area	Station
1) Updating, 11 stations	
Around Addis Ababa	Alemgena, Holleta, Sululta, Sendafa
Amhara Region	Combolcha
Oromia Region	Awash, Modjo, Shashemane
Southern Nations, Nationalities, and Peoples' Region	Jimma
Afar Region	Semera
Somali Region	Dengego
2) Installation, 8 stations	
Tigray Region	Quiha
Amhara Region	Amba Giyorgis, Woreta, Tik
Oromia Region	Yabelo
Southern Nations, Nationalities, and Peoples' Region	Nekemte, Assosa
Somali Region	Jigjiga

Source: ERA, Study Team

Location of the stations is indicated in Figure 2.1.



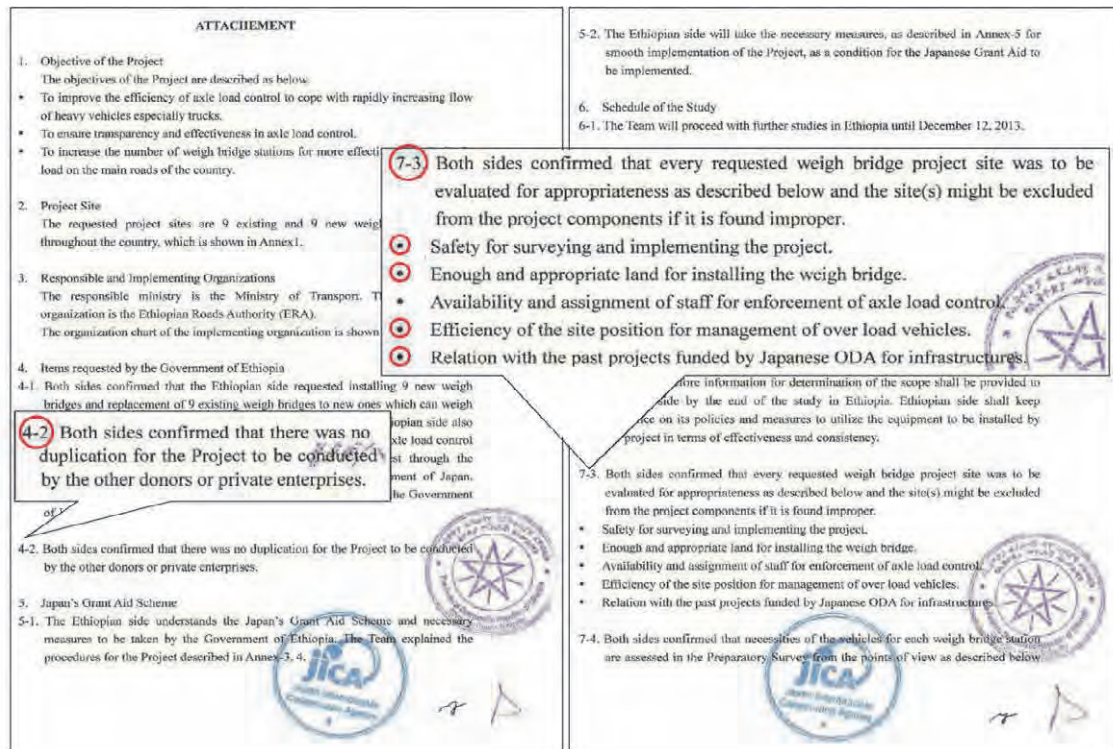
Source: ERA, Study Team

Figure 2.1 Location Map

2-2-2 Basic Plan

2-2-2-1 Selection of the Candidate Station

Candidate stations for the project were selected from 19 stations requested from the ERA based on the agreement of the MD dated on November 19, 2013 as shown in Figure 2.2 and Appendices.



Source: Study Team

Figure 2.2 Copy of MD (1)

Selection process applied the following criteria:

- 1) Safety (MD 7-3): The candidate station shall not be in the danger area of overseas safety information provided by the Ministry of Foreign Affairs of Japan.
- 2) Duplication (MD 4-2): The candidate station shall not be planned to be installed/ improved other than JICA.
- 3) Land availability (MD 7-3): The candidate station shall have enough and appropriate land for installing the weighbridge.
- 4) View of Axle load control (MD 7-3):
 - Station located in the node of the road network.
 - Station located in the center of the radial road network.
 - Station located in an area having no existing station.
 - Station is canceled if existing station is located nearby.
- 5) Conservation of projects funded by Japan (MD7-3): Relation with the past project funded by Japanese ODA for infrastructures is considered.

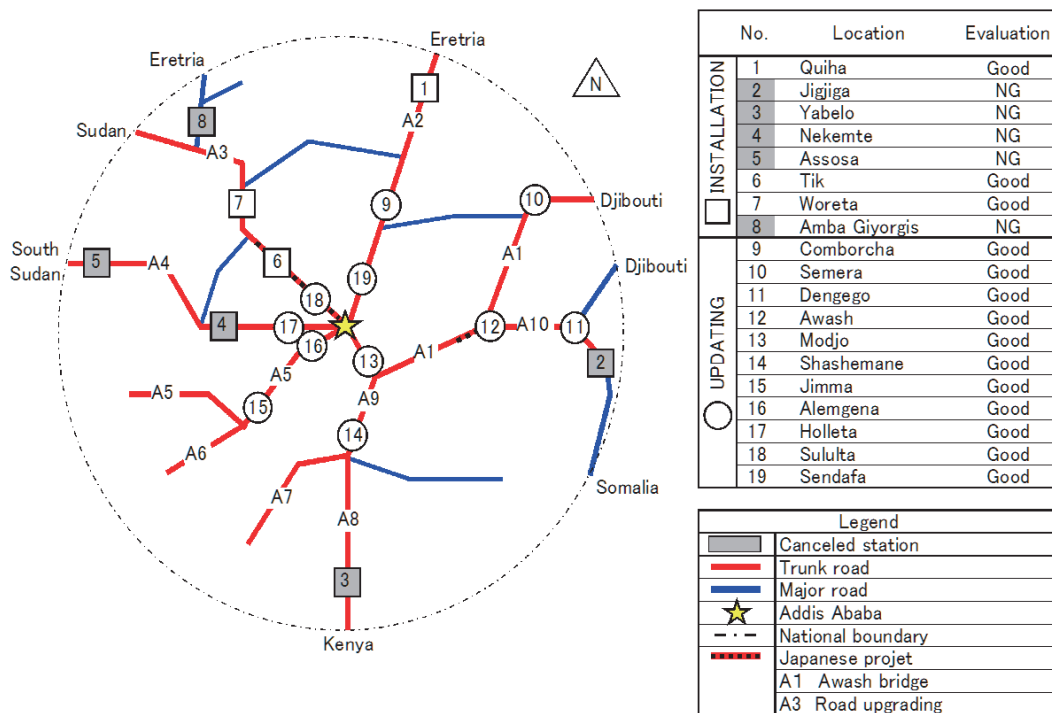
Table 2.2 shows the results of the evaluation. Five locations, Jigjiga, Amba Giyorgis, Nekemte, Assosa, Yabelo, were canceled from the project. Selected fourteen candidate locations are shown in Figure 2.3.

Table 2.2 Results of Evaluation

No.	Name	New/ Replace	1) Safety		2) Project Duplication		3) Appropriate Land		4) Efficiency of Location		5) Relation with Japanese ODA Projects		Evaluation
			A: Safe B: Unsafe	A: No Duplication B: Duplicated	A: Good B: Poor	(See bottom note)	A: Exist on the Route B: Exist but out of the Route						
1	Quiha	New	Good	A	Good	A	Good	A	Good	C	OK	B	Good
2	Jigjiga	New	Good	A	Good	A	Good	A	Poor	D	OK	B	NG
3	Yabelo	New	Good	A	Poor	B	Good	A	Good	C	OK	B	NG
4	Nekemte	New	Good	A	Poor	B	Good	A	Good	C	OK	B	NG
5	Assosa	New	Good	A	Poor	B	Good	A	Good	C	OK	B	NG
6	Tik	New	Good	A	Good	A	Good	A	Good	A	Good	A	Good
7	Woreta	New	Good	A	Good	A	Good	A	Good	A	Good	A	Good
8	Amba Giyorgis	New	Good	A	Good	A	Poor	B	Good	C	OK	B	NG
9	Combolcha	Replace(Relocate)	Good	A	Good	A	Good	A	Good	A	OK	B	Good
10	Semera	Replace	Good	A	Good	A	Good	A	Good	C	Good	A	Good
11	Dengego	Replace(Expansion)	Good	A	Good	A	Good	A	Good	A	Good	A	Good
12	Awash	Replace(Relocate)	Good	A	Good	A	Good	A	Good	A	Good	A	Good
13	Modjo	Replace	Good	A	Good	A	Good	A	Good	A	Good	A	Good
14	Shashemane	Replace(Relocate)	Good	A	Good	A	Good	A	Good	A	OK	B	Good
15	Jimma	Replace	Good	A	Good	A	Good	A	Good	A	OK	B	Good
16	Alemgena	Replace(Relocate)	Good	A	Good	A	Good	A	Good	B	OK	B	Good
17	Hollela	Replace	Good	A	Good	A	Good	A	Good	B	OK	B	Good
18	Sululta	Replace	Good	A	Good	A	Good	A	Good	B	Good	A	Good
19	Sendafa	Replace	Good	A	Good	A	Good	A	Good	B	OK	B	Good

A: The nodal point of road network
 B: The center of radial roads
 C: Not existing weighbridge
 D: Near existing weighbridge

Source: Study Team



Source: Study Team

Figure 2.3 Location Map by Evaluation

Note

- 1) Sendafa (No.19 in Figure 2.3) and Semera (No.10 in Figure 2.3)

Weighbridges at the both stations were installed recently but they were single axle load weighbridges. The ERA regarded these stations as important locations to be replaced to new multi axle load weighbridges and proposed to remove the existing weighbridges and to transfer both of them to Nekemte and Assosa new stations under the ERA's responsibility. It was agreed that the project will install the multi axle weighbridges after removal of these existing weighbridges.

- 2) Combolcha (No.9 in Figure 2.3) and Dengego (No.11 in Figure 2.3)

Both stations have social environmental and resettlement issue, as described in Section 1.3 of Chapter 1. Land for weighbridge station was reconsidered in order to mitigate the resettlement impact by the project.

- 3) Comparison of ERA's study and Japanese study

Summary of the both results are tabulated in Table 2.3 below.

Table 2.3 Comparison of the Study Results by ERA with JICA

NO.	Location	The report on the design of new weighbridge stations by ERA			Evaluation from the project for improvement of axle load control on trunk roads by JICA
		Status	Priority	Equipment	
1	Quiha	Proposed	2019-24	SWBS	Applied with SWBS.
2	Jijiga	Proposed	2015-19	MWBS	Not applied due to "Poor efficiency".
3	Yabelo	Proposed	2015-19	SWBS	Not applied due to "Duplication".
4	Nekemte	Proposed	2019-24	SWBS	Not applied due to "Duplication".
5	Assosa	Proposed	2015-19	MWBS	Not applied due to "Duplication".
6	Bure	Proposed	2019-24	SWBS	Applied with SWBS.
7	Woreta	Proposed	2015-19	SWBS	Applied with SWBS.
8	Amba Giyorgis	Proposed	2019-24	SWBS	Not applied due to "Land availability" and "Poor efficiency".
9	Combolcha	Relocated	2015-19	SWBS	Applied with SWBS after resolving resettlement issue.
10	Semera	Proposed	2015-19	SWBS+WIM	Applied with SWBS after removal of the existing equipment and WIM was canceled due to less traffic.
11	Dengego	Existing	2015-19	SWBS	Applied with SWBS after resolving resettlement issue.
12	Awash	Existing	2015-19	SWBS+WIM	Applied with SWBS and WIM canceled due to less traffic.
13	Modjo	Existing	2015-19	SWBS+WIM	Applied with SWBS and WIM canceled due to less traffic.
14	Shashemane	Relocated	2015-19	SWBS	Applied with SWBS.
15	Jimma	Existing	2015-19	SWBS	Applied with SWBS.
16	Alemgena	Relocated	2015-19	SWBS+WIM	Applied with SWBS and WIM canceled due to less traffic.
17	Hollela	Existing	2015-19	SWBS	Applied with SWBS.

NO.	Location	The report on the design of new weighbridge stations by ERA			Evaluation from the project for improvement of axle load control on trunk roads by JICA
		Status	Priority	Equipment	
18	Sululta	Existing	2015-19	SWBS	Applied with SWBS.
19	Sendafa	Existing	No plan	No plan	Applied with SWBS after removal of the existing equipment and WIM was canceled due to less traffic.

2015-19, 2019-24: Bussiness plan
SWBS: Static WeighBridge Station
MWBS: Mobile WeighBridge Station
WIM: Weigh In Motion

2-2-2-2 Selection of Weighbridge

1) Specification

General specification was requested by the ERA with the following concept:

- Weighbridge needs high accuracy and transparency in order to fair regulation.
- Modernization of the ERA

It was also indicated in the agreement of the MD dated on November 19, 2013 as shown in Figure 2.4 and Appendices.

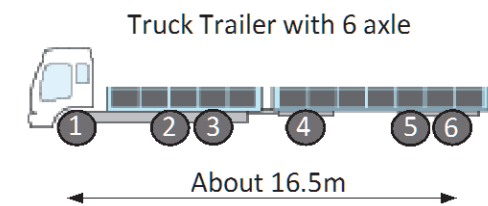
7-5. The Team explained that major functions of weigh bridges are to be capable for simultaneous measurement of three data (vehicle gross weight, axle weight and tyre weight) and automatic data storing. Details of the equipment type and number will be assessed in the Preparatory Survey.

Source: Study Team

Figure 2.4 Copy of MD (2)

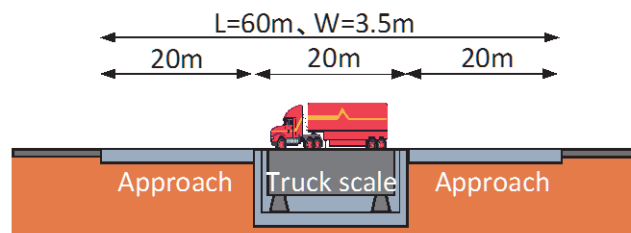
a) Size of weighbridge

The proposed weighbridge size of 20 meters long and 3.5 meters wide was designed to cover a length of about 16.5 meters from six axle truck trailer (which is common use in Ethiopia.



Source: ERA

All facilities for the proposed weighbridge need a concrete structure with a length of 60 meters in total as shown in Figure 2.6.

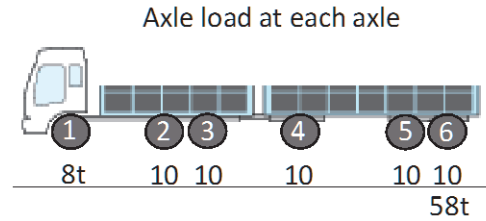


Source: Study Team

Figure 2.6 Facilities for the Proposed Weighbridge

b) Weight, accuracy

Distribution of axle load at each axle is regulated under the traffic law of Ethiopia as shown in Figure 2.7. Accordingly, 58 tons is the maximum allowed weight. However, average overloaded weight is about 6.5 tons according to the record of the ERA. In total,



Source: ERA

Figure 2.7 Distribution of Axle Load

64.5 tons are required as the maximum weight for the weighbridge and specification shall be more than 70 tons since weighbridge is manufactured with a design by 10 tons in general. Heavy truck trailer over 70 tons can be weighed by twice measurements. Withstand load of the proposed weighbridge is over 100 tons, approximately 1.5 times of 70 tons, therefore the scale will not be broken with any heavy vehicle moving in Ethiopia.

The ERA reviews fine system for excessive loading. Measuring accuracy is required below ± 50 kg because the ERA will charge overload vehicle by a unit of 100 kg. The measuring accuracy of the proposed weighbridge is a range of ± 20 of 30 kg and it satisfies ERA's requirement.

c) Measurement item

Multi axle weighbridge is applied to the project in order to minimize time for measurement as the ERA requests. Each axle and gross weight of truck trailer can be weighed at once by the multi axle weighbridge.

d) Type of installation of weighbridge

The 11 proposed weighbridges are all "Pit type" as all the existing weighbridge under the ERA are same type. Measurement equipment of "Pit type" is installed below the ground level but not over the ground level.

e) Others

All other detailed specifications will be prepared in tender documents.

2) Incidental facilities

Procurement of the following incidental facilities was also agreed under the project to follow ERA's modernization policy.

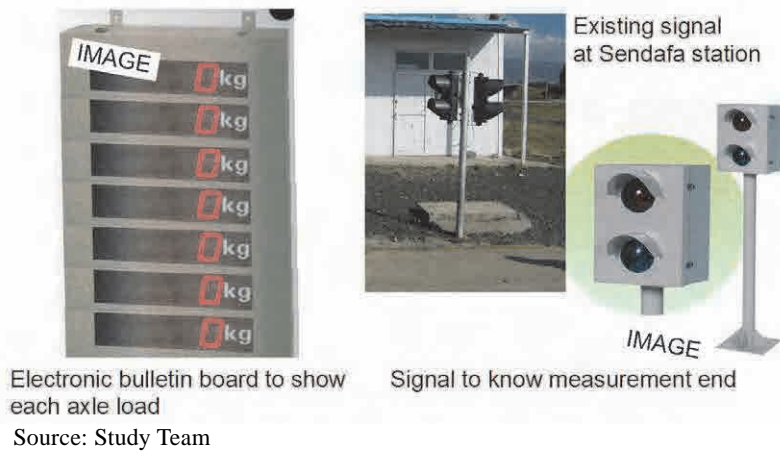
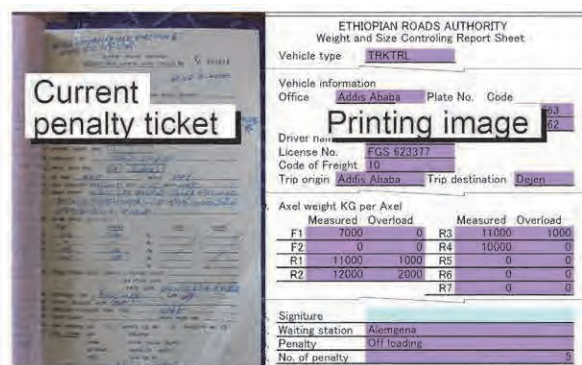
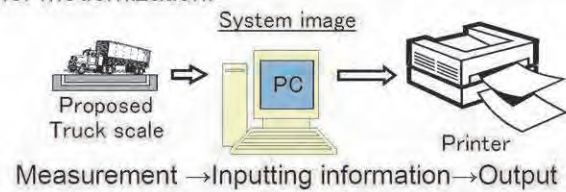


Figure 2.8 Incidental Facilities to Control Vehicles



Current manual work needs to be computerization for modernization.



Source: Study Team

Figure 2.9 Incidental Facilities for Computerization

2-2-2-3 Other Procurement

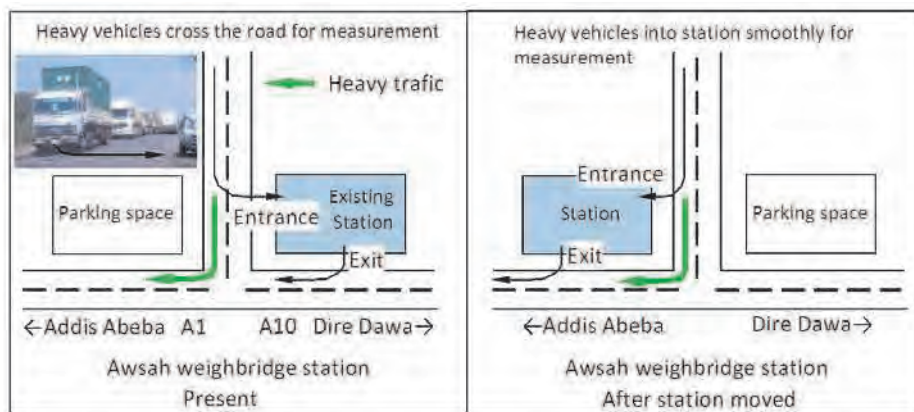
1) Vehicle

The ERA requested to provide double cabin trucks with all the weigh bridge stations to enhance crackdown of overload. However, provision of the vehicle has been canceled under the project, as the purpose of vehicle use was not clarified after the first field investigation.

2) Weigh in motion

Installation of weigh in motion was requested at Awash and Modjo weighbridge stations to avoid heavy traffic by an overload crackdown on Trunk road A1. However, the ERA and the study team agreed to cancel the installation from the project procurement by the following reason:

Awash : It was confirmed by both the ERA and the study team during the joint field investigation that the location of the existing station caused traffic congestion at this location. The existing station is not located on the heavy traffic side (Djibouti to Addis Ababa side) as shown on the left of Figure 2.10. This congestion will be improved to transfer the existing station to the other side of the road, currently parking space use, as shown on the right of Figure 2.10. The ERA was agreed on transfer of the existing station location and upgrading of the existing weighbridge instead of installation of weigh in motion at the current location.



Source: Study Team

Figure 2.10 Awash Weighbridge Station

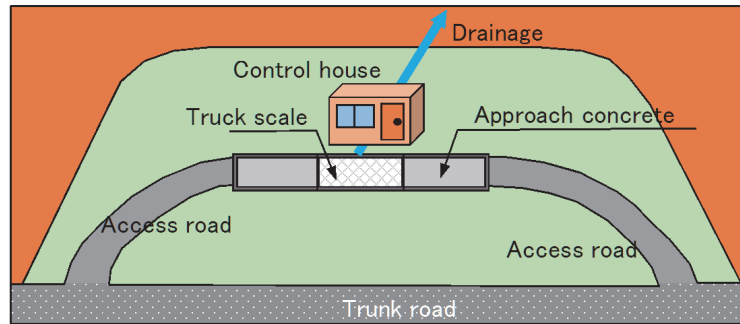
Modjo : New bypass road has been open since April 2014. Because of this bypass road, traffic volume at Modjo station will become smaller than current traffic forecast.

2-2-2-4 Design of Weighbridge Station

(1) Facilities for Measurement

The following facilities as shown in Figure 2.11 were confirmed by both the ERA and the study team through the field investigation.

- Weighbridge
- Approach concrete
- Access road
- Control house
- Local drainage



Source: Study Team

Figure 2.11 Facilities of Weighbridge Station

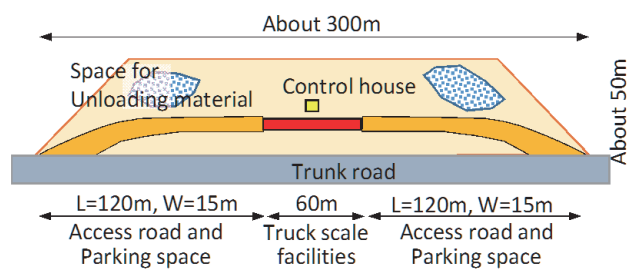
(2) Site Scale

1) Component

Weighbridge station consists of measurement facilities (weighbridge and control house), a space for waiting vehicle and keeping unloaded material.

2) Station Area

There is no design standard about a weighbridge station in the ERA. Standard station layout as shown in Figure 2.12 was confirmed by the ERA and the study team after joint field investigation at Sendafa station where was the latest weighbridge station of the ERA installed in 2013. Station site designed a space having a length of 300 m and a width of 50 m to accommodate the facilities, while Access roads having a length of 120 m and a width of 15 m are provided at the both sides of weighbridge portion.



Source: Study Team

Figure 2.12 Standard Weighbridge Station

3) Drainage Facilities

Proper local drainage facilities are necessary to drain rainfall water in a pit of weighbridge to the outside in order to maintain weighbridge performance correctly. Figure 2.13 shows the existing drainage facilities.



Source: Study Team

Figure 2.13 Existing Drainage Facilities

(3) Combolcha and Dengego Station

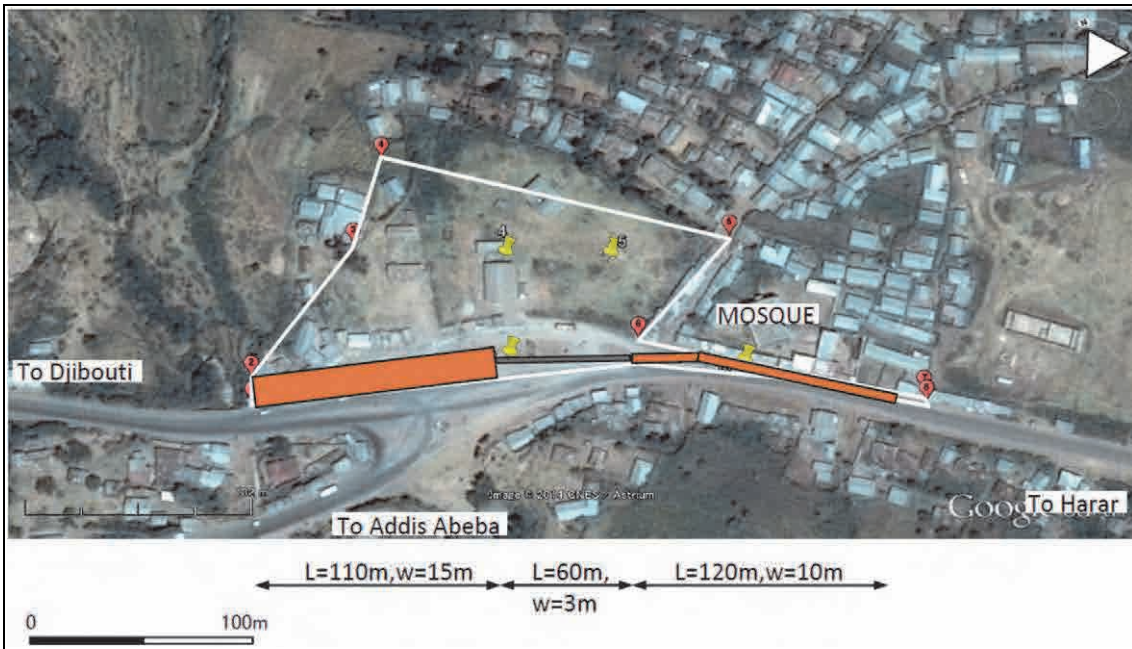
These two stations have resettlement issues as explained in Section 1.3 of Chapter 1. With this reason, the standard weighbridge design as mentioned before will not be applied in both stations. Following designs as shown in Figure 2.14 and Figure 2.15 will be applied to both stations to minimize resettlement while ensuring the function.



Space for unloading material was smaller than that of the standard design.

Source: Study Team

Figure 2.14 Combolcha Station

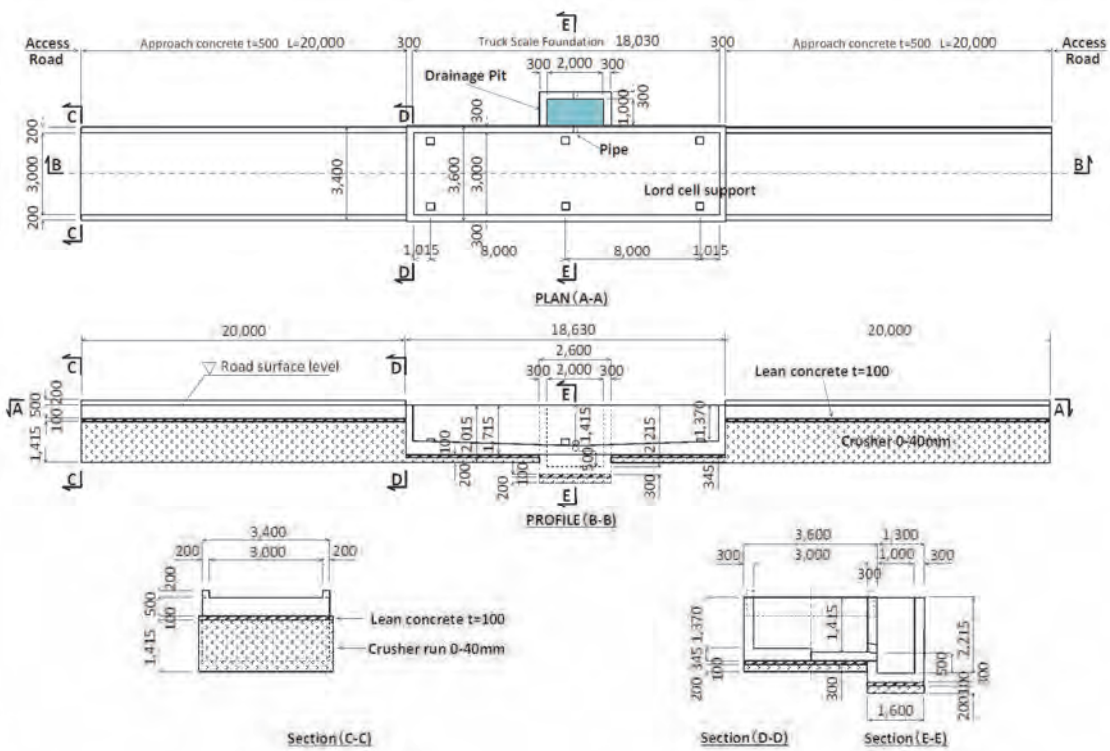


Space for the right side access road was narrower than that of the standard design.
 Source: Study Team

Figure 2.15 Dengego Station

2-2-3 Outline Design Drawing

Outline design drawing of structures for weighbridge installation is shown in Figure 2.16.



Source: Study Team

Figure 2.16 Outline Design

2-2-4 Implementation Plan

2-2-4-1 Implementation Policy

(1) Project Implementation Structure

In accordance with the Grant Aid framework of the Japanese Government, a Japanese consulting firm will take charge of detailed design and supervision of procurement process, and equipment will be procured mostly from Japanese corporations. Figure 2.17 shows the organizations related the project when this Project is implemented according to the framework of Japan's Grant Aid.

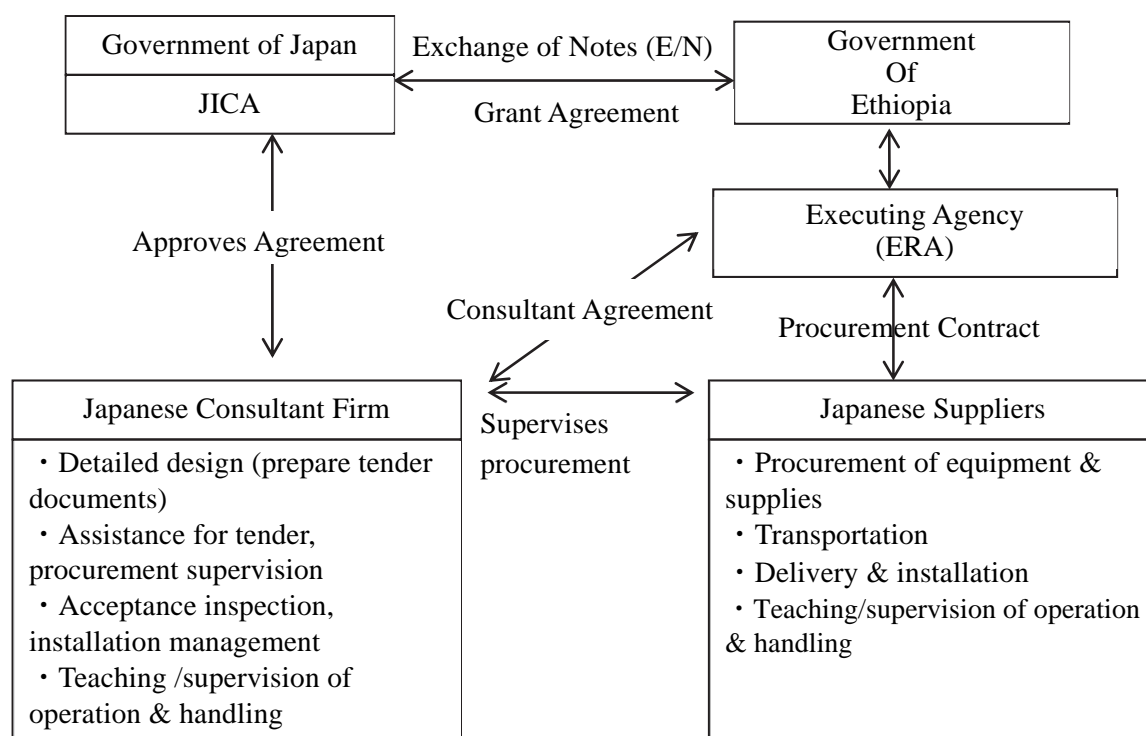


Figure 2.17 Relationships of Organizations Engaged in Project Implementation

1) Ethiopian Organizations

The executing agency of this Project on the Ethiopian side is the ERA. Responsible organizations on the Ethiopian side at each implementing stage are listed in Table 2.4.

Table 2.4 Responsible Organizations on the Ethiopian Side at Each Stage

Implementing stage	Responsible organization
E/N, Grant Agreement (G/A)	Ministry of Finance and Economic Development (MOFED)
Procurement, delivery and installation of equipment	Road Asset Management, ERA
Weighbridge station	Axle Load Management Team, Road Asset Management, ERA

2) Consultant

After the signing of E/N and G/A, the ERA will immediately conclude a consultant contract with a Japanese consulting firm. The consultant will be responsible for providing engineering services with regard to the preparation of detailed design and tender documents, assistance for the tender procedure, and supervision of procurement until the handover of equipment under this Project.

3) Equipment Supplier

The equipment supplier will procure equipment, deliver them to project sites, construct foundations for weighbridges and install them. After installation of all equipment, operation guidance will be conducted on operators by the supplier.

(2) Schedule

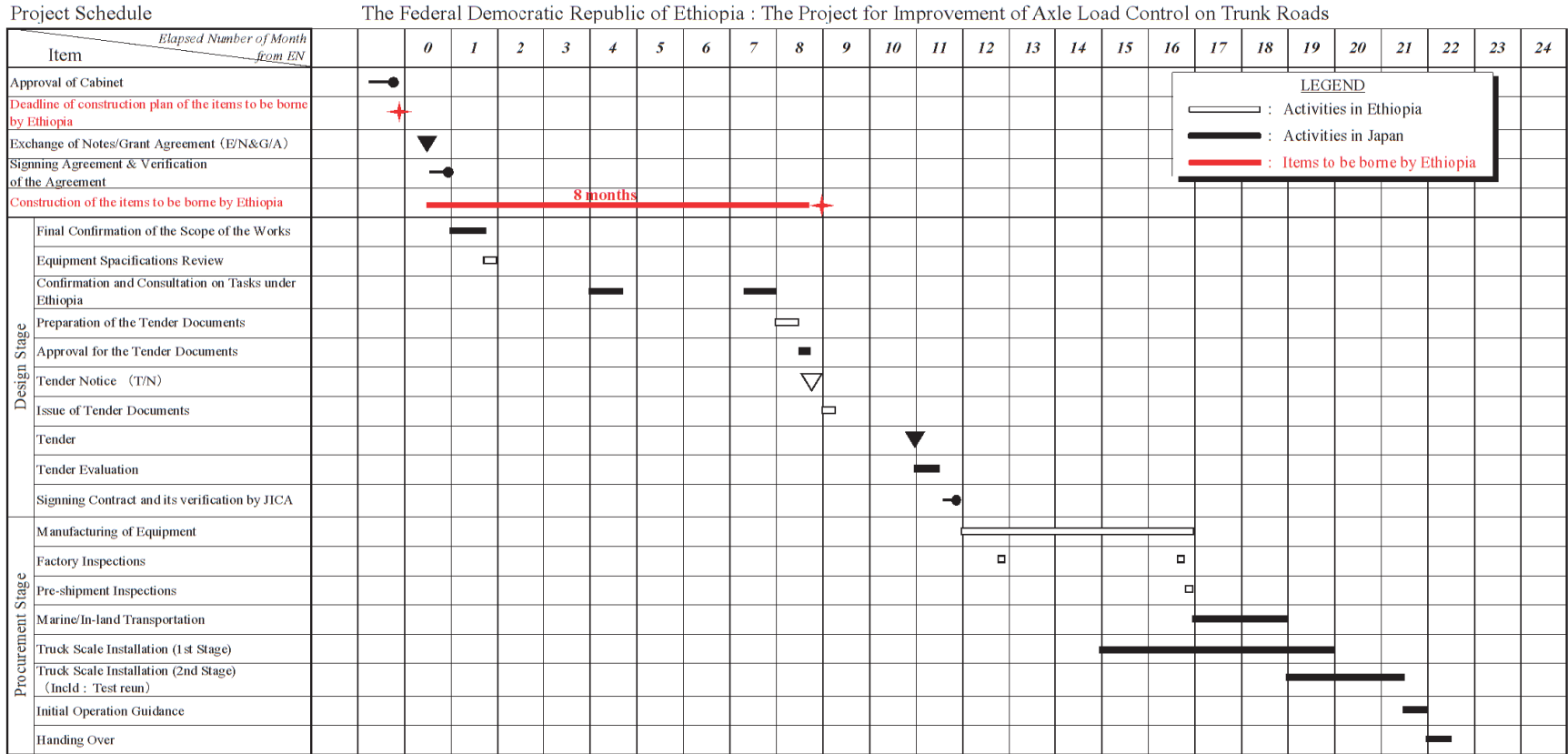
Japanese Grant Aid scheme allows 24 months for all the works of this project including final payment after conclusion of Exchange of Notes (E/N). Considering working periods for manufacturing and installations of weighbridges, Ethiopian side shall conduct site preparation and construction of required facilities within eight (8) months. Whole implementation schedule is as shown in Figure 2.18.

It was agreed that the ERA submitted the actual work schedule at each location to JICA Ethiopia office before the conclusion of E/N as shown in Figure 2.18 of the section 7-7 from MD below.

7-7. Both side agreed that construction of access road, office buildings, control center and land grading for new weigh bridge stations will be conducted by Ethiopian side. The plan for access road construction shall be prepared by Ethiopian side before concluding Exchange of Notes and construction of the same shall be completed by tender notice of the weigh bridges. Construction of approach concretes, foundations and installation of weigh bridges are included in the project.
Source: Study Team

Figure 2.18 Copy of MD (3)

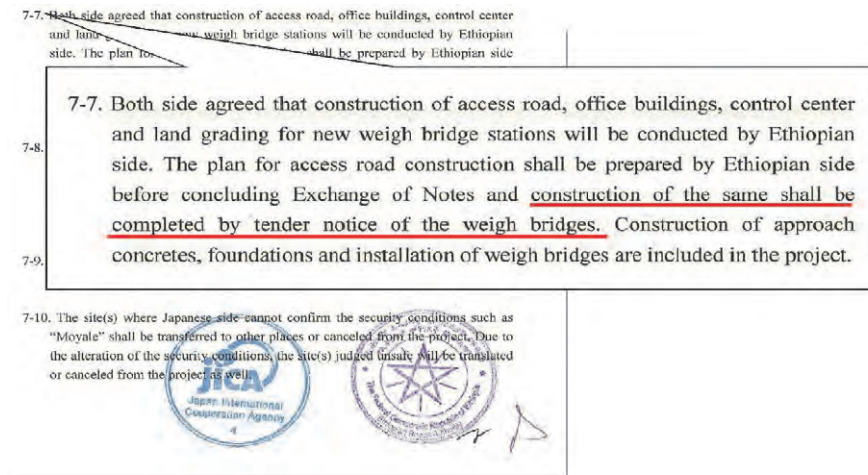
Table 2.5 Whole Implementation Schedule



2-2-4-2 Implementation Conditions

(1) Tender Quantity

Tender quantity will be finalized before tender notice upon number of stations where completed related facilities to be constructed by the ERA. This condition is clearly mentioned in MD as shown in Figure 2.19. The mentioned preparation work needs to be completed before installation of the proposed weighbridges. Installation of weighbridges appropriately needs fixed alignment of the access road in advance.



Source: Study Team

Figure 2.19 Copy of MD (4)

(2) Obligation of Recipient Country

- Land acquisition; land preparation and implementing the work related to distribution of electric power, water supply and drainage necessary for the operation of the weighbridge
- To bear commissions to the Japanese foreign exchange bank for its banking services, based upon the Banking Arrangement (B/A).
- To provide facilities for Japanese personnel in entering and staying in Ethiopia and visiting relevant government agencies to perform their duties under the Project.
- To exempt Japanese nationals and corporations engaged in the Project from custom duties and other internal taxes.
- To ensure exemption of preparation documents needed for customs clearance for the equipment under the Project.
- Making arrangements for budgets related to custom duties concerning procurement of equipment
- To secure the necessary personnel and obligations at the execution of the guidance for initial operation, inspection and maintenance.
- To bear all expenses, other than those covered by the Japan's Grant Aid, necessary for the Project.

- Making appropriate and effective use of, and maintaining and managing equipment to be procured.

2-2-4-3 Scope of Works

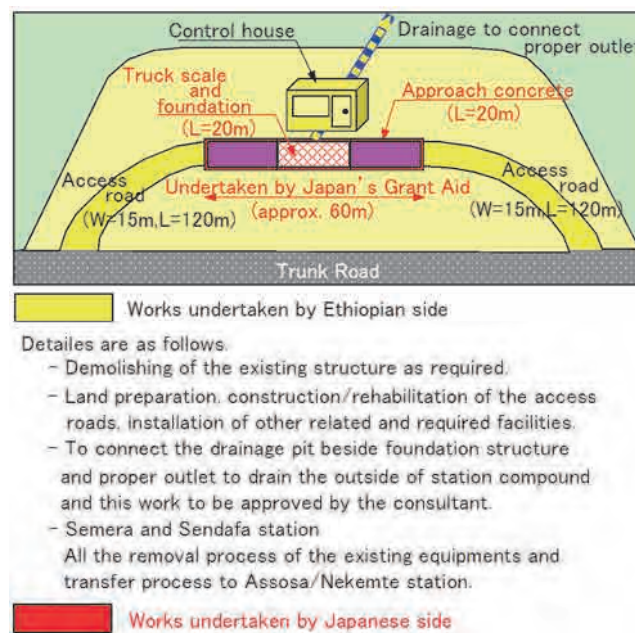
Section 7-7 of MD below clarified Work Demarcation at each station.

7-7. Both side agreed that construction of access road, office buildings, control center and land grading for new weigh bridge stations will be conducted by Ethiopian side. The plan for access road construction shall be prepared by Ethiopian side before concluding Exchange of Notes and construction of the same shall be completed by tender notice of the weigh bridges. Construction of approach concretes, foundations and installation of weigh bridges are included in the project.

Source : Study Team, MD

Figure 2.20 Copy of MD (5)

Figure 2.21 shows works demarcation undertaken by Ethiopian side and Japanese side respectively at a weighbridge station.



Source : MD, Study Team

Figure 2.21 Work Share (1)

Table 2.6 indicates works demarcation at the existing/new/relocation weighbridge station undertaken by Ethiopian side and Japanese side respectively.

Table 2.6 Work Share (2)

	Ethiopian side	Japanese side
New and Relocation	Site preparation, Construction of access road, Construction of control house, Construction of office buildings, Installation of drainage facilities	Installation of weighbridge including foundation work
Existing	Removal of the existing equipment and related structures, Site grading, Construction of access road, Installation of drainage facilities	

Source : Study Team

2-2-4-4 Consultant Supervision

(1) Detailed Design

After the signing of E/N and G/A, the Japanese Consultant will conclude a consulting contract with the Ethiopian Government and supervise the procurement work according to the framework of Japan's Grant Aid and within the scope stipulated in E/N. It is important for the Consultant to perform its duties based on thorough understanding of the background of this Project, as well as how and why the content of the basic design was determined.

(2) Procurement Supervision

The procurement supervision work consists mainly of the following:

- Discussion and confirmation with the Ethiopian side
- Review of equipment specifications
- Preparation of tender documents
- Explanation and acquiring approval by the Ethiopian side on the tender documents
- Assistance for tendering (public announcement, provision of tender document, execution of tender, evaluation of tender)
- Assistance for contract (negotiation, witness of contract, verification of contract)
- Confirmation of the issuance of order sheets for the equipment
- Factory inspection, inspection before delivery
- Pre-shipment inspection (committed to the third party)
- Discussion with the Ethiopian side (delivery/installation schedule, customs clearance, initial instruction procedure)
- Supervision of installation work
- Final inspection and handover
- Witness of instruction of operation and inspection/maintenance

2-2-4-5 Quality Control Plan

In order to verify quality and specifications set forth in the contract, the following inspections will be conducted at each stage of the procurement work:

- Confirmation of contents of equipment order sheets issued by the supplier
- Inspection before delivery in the manufacturing plant
- Pre-shipping inspection
- Inspection at plant installation
- Inspection at handover of equipment

2-2-4-6 Procurement Plan

(1) Country of Origin

Existing weighbridges in the ERA are made in France, UK and China. In this project, Japanese made weighbridges will be procured as these only met specification and quality the project required through this preparatory study.

(2) Delivery Route

The following route seems best to deliver equipment procured in Japan, in terms of safety, time, cost and other aspects: to transport the equipment by sea, land them in the Djibouti harbor in the neighboring Djibouti, and to transport them by land to Addis Ababa. Both marine and land transportation on the above route will be with 40 Ft container use trip and transportation period will be expected in about two months in total. All equipment will be stored in the ERA's warehouse in Addis Ababa temporarily and will deliver to each site depending on installation progress at each station. All transportation cost to each site were estimated as the project expenses covered by Japan's Grant.

However, the facilities of the Djibouti harbor are relatively small and thus are easily overcrowded; that is, it takes time for the harbor procedures, landing, and other businesses, and it is likely to cause a delay in the delivery. The choice of a carrier (depending on the timing of arrival in Djibouti) is an extremely important factor for observance of the delivery time.

2-2-4-7 Operational Guidance Plan

The following contents of initial operational guidance were considered conducted by supplier and held in Ethiopia.

- Guidance will be held at a weighbridge station near Addis Ababa supported by supplier...
- A staff of about 42 people will be expected to join the guidance those who selected from the all 14 stations.
- , The guidance will be divided into two for smooth management of the participants.
- Inspection and repair training will be also conducted for maintenance staff.

2-2-4-8 Soft Component (Technical Assistance) Plan

No soft component will be implemented in this Project.

2-2-4-9 Implementation Schedule

This Project will be implemented in accordance with the Grant Aid framework of the Japanese Government in the schedule shown in Table 2.7.

Table 2.7 Implementation Schedule of Procurement

Items		Month																				
		1	2	3	4	5	6	7	8	9	10	11										
Procurement	Manufacturing of Equipment																					
	Factory Inspections and Pre-shipment Inspections			□		□	□															
	Marine/In-land Transportation																					
	Truck Scale Installation (1st Stage)																					
	Truck Scale Installation (2nd Stage) (Incl : Test re																					
	Initial Operation Guidance																					
	Handing Over																					

: Activities in Ethiopia
 : Activities in Japan

Source: Study Team

2-3 Obligations of Recipient Country

The Government of Ethiopia shall be responsible for the following matters.

Table 2.8 Works to be done by ERA

Works	Existing	New/Relocation
Removal of the existing weighbridges	√	-
Land preparation (Earth work, Drainage facilities, Water supply, Power supply)	-	√
Land preparation (Removal of the existing foundations)	√	-
Construction of access roads	√	√
Construction of control house	-	√

2-4 Project Operation Plan

Operation plan is the same as the present operation that has been conducted for over the past 30 years.

(1) Personnel Assignment

Staffing for a new station is tabulated in Table 2.9 based on that of the existing station.

Table 2.9 Staffing at One Station

Position	Number
Station Inspector	1
Inspector	6
Cleaner	1
Security man	3
Driver	1
Total	12

Source: Study Team

Additional thirty staffs shall be hired for the new three stations operation.

(2) Operation and Maintenance Cost

Operation and Maintenance costs are estimated in the section 2-5-2.

2-5 Project Cost Estimation

2-5-1 Project Cost Estimation

2-5-1-1 Total Project Cost

Confidential until the Contract of Construction is verified.

2-5-1-2 Cost borne by the Government of Japan

Confidential until the Contract of Construction is verified.

2-5-1-3 Cost borne by the Government of Ethiopia

Items	Estimation
	10 thousand Birr
Works done by Ethiopian side	12,184
Tax	832
Bank commission	11
Resettlement	303
Total	13,330

Ethiopian side should bear the implementation of this project with an expenses of 13,330 ten thousand birr.

2-5-1-4 Conditions in Cost Estimate

- Time of Cost Estimation: December 2013
- Exchange Rate : US\$1.00=99.99 Yen
- 1 Birr=5.30 Yen
- Procurement Period: As shown in the implementation schedule in Section 2-2-4-9
- Other Condition: Cost estimate is implemented in accordance with the guideline of Japan's Grant Aid

2-5-2 Operation and Maintenance Cost

(1) Staffing Cost

Each station needs ten staff for proper operation estimated in Section 2-4 (1) before. Additional staffing cost is estimated in the Table 2.10 upon salary provided by the ERA as of June 2014.

Table 2.10 Estimated Salary at One Station

Position	Number	Annual salary(birr/year)
Station Inspector	1	3,300×12 = 39,600
Inspector	6	3,000×12×6 = 216,000
Cleaner	1	1,200×12 = 14,400
Security man	3	1,500×12×3 = 54,000
Driver	1	2,200×12 = 26,400
Total	12	350,400

Source : ERA

Staff cost of 350.4 thousand birr per year is additionally needed at each station. Staff cost of the new three stations is 1,401.6 thousand birr per year in total.

(2) Cost of Equipment Operation and Maintenance

Cost of operation and maintenance for new fourteen weighbridge procured in the project was estimated at 18,000 birr per year as calculated in Table 2.11.

Table 2.11 Operation and Maintenance Cost

Equipment	Number	Repair ratio in whole life (%)	Standard year of use (year)	Repair ratio per year (%)	Cost per one machine per year (birr)	Total cost per year (birr)
Weighbridge	14	7.0	12.5	0.56	1,285	18,000

Note: Cost table of Construction machinery depreciation, Japan Construction Equipment Construction Association 2012

- Standard year of use from Japanese standard
- Repair ratio per year calculated from Repair ratio in whole life / Standard year of use.
- Cost per each and per year calculated from Equipment price x Repair ratio per year.
- Equipment price is estimated at CIF price (including cost, insurance and freight).

Total operation and maintenance cost is estimated at 1,419.6 thousand birr per year (1,419.6 = 1,401.6 + 18).

CHAPTER 3 Project Evaluation

3-1 Preconditions

Preconditions to implement the Project include issues such as (i) Securing land space, (ii) Environmental and Social Considerations, (iii) Obtaining construction permission, (iv) Fulfilling obligations of the Country, and the followings.

- 1) ERA shall complete the site preparation in accordance with in section 2-2-4-3 at 14 candidate sites before tender notice as scheduled in Table 2.4 in Section 2-2-4-1 of Chapter 2; otherwise the candidate site(s) will be excluded from the scope of the JICA project.
- 2) ERA shall complete land acquisition in accordance with the abbreviated Resettlement Action Plan(RAP) prepared by ERA at Combolcha and Dengego candidate sites (see Section 1-3 Environmental and Social Considerations) prior to concluding the Exchange of Notes (EN), as agreed in the technical note dated on 13th December 2013 (see below figure). Otherwise the candidate site(s) will be excluded from the scope of the JICA project.

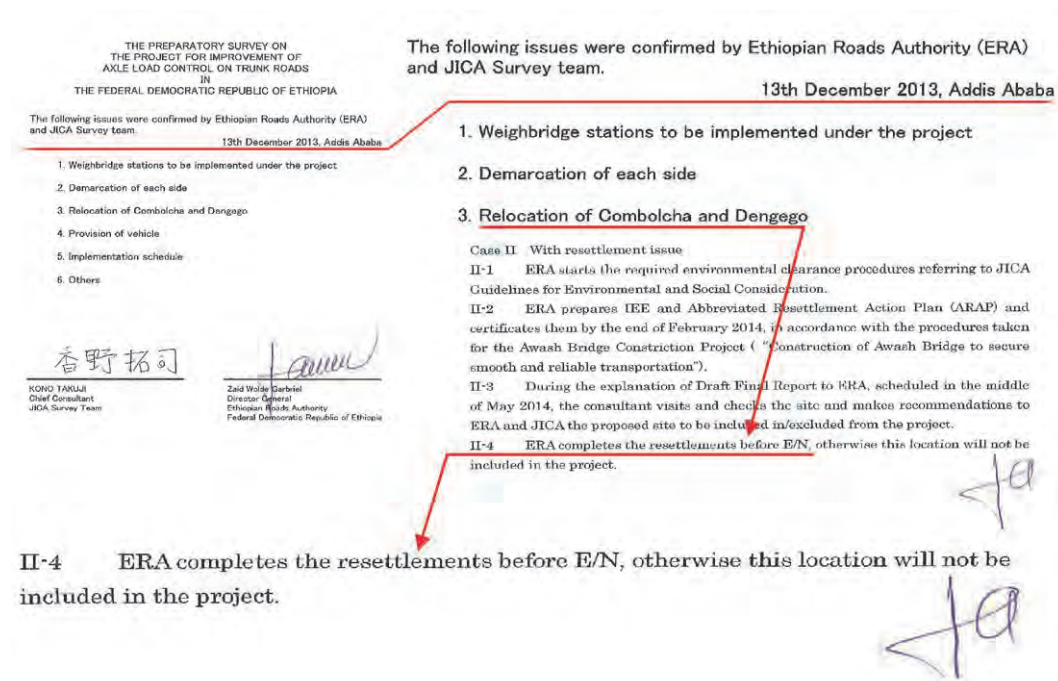


Figure 3.1 Copy of the technical note on 13th December 2013

- 3) ERA shall confirm and maintain good security of all candidate sites all through the project implementation period. Otherwise the candidate site(s) will be excluded from the scope of the JICA project.

3-2 Necessary Inputs by Recipient Country

For the effective application of the equipment, provided by the project, necessary inputs and costs by ERA are described in Table 3.1.

Table 3.1 Necessary inputs/costs by the recipient country

Period	Remarks
Before equipment installation period	See Section 2-2-4-3 and 2-3 of Chapter 2
Removal of the existing weighbridges	
Land preparation	
Constriction of access roads Construction of control house	
Operation period	See Section 2-4 and 2-5 of Chapter 2
Personnel assignment Operation and maintenance cost	

3-3 Important Assumptions

The project requires fully secure site during whole implementation including site preparation period by ERA for progress monitoring.

3-4 Project Evaluation

The project was evaluated with the following two viewpoints.

3-4-1 Relevance

Road damage by overloaded vehicle occurs in Ethiopia nationwide. Road transportation is a development foundation of Ethiopia. Equipment procured by the project prevents road damage. Based on the above situations, beneficiaries by the project are about 83 million of all Ethiopian people.

Japanese aid policy of April 2012 is to assist for realization both the industrial and agricultural development listed in "Five years development plan of Ethiopia".

Consequently, there is enough appropriateness that the procurement for the project will be carried out with Japan's grant aid scheme.

3-4-2 Effectiveness

Effectiveness from the new truck scale procured by the project was summarized in the Table 3.2 below.

Table 3.2 Effectiveness

Item	Baseline (2014)	Target (2018)
Measurement time (second per a trailer with six axle)	180	10
Axle load crackdown section (km)	About 3,000	About 6,200

Source: Study Team

Appendices

1. Member List of the Survey Team
2. Survey Schedule
3. List of Interviewed Persons and Parties
4. Minutes of Discussions
5. List of Collected Documents
6. Other Information
- (1) Site Survey Results
- (2) Survey Results of Traffic Survey
- (3) Monitoring Formats for Environmental and Social Consideration

1. Member List of the Survey Team

Name	Job title	Affiliation
Mr. Yoshihiro KAKISHITA	Team Leader	Senior Advisor to the Director General, Economic Infrastructure Economic Infrastructure Department, JICA
Mr. Daiki ISE	Coordinator	Transportation and ICT Division 2 Transportation and ICT Group Economic Infrastructure Department, JICA
Mr. Kiyohito SHIMADA	Coordinator	Team 1 Transportation and ICT Group Infrastructure and Peacebuilding Department, JICA
Mr. Takuji KONO	Chief Consultant/ Traffic Management	Katahira & Engineers International
Mr. Hideaki BABA	Equipment Planner	Katahira & Engineers International
Mr. Yoshiro KUNIMASA	Traffic Expert	Katahira & Engineers International
Mr. Takakazu TAMAKI	Procurement Planner/ Cost Estimator	Katahira & Engineers International
Ms. Naomi Ichimiya	Social Environmental Consideration	Katahira & Engineers International

2. Survey Schedule

The First Field Survey in Ethiopia

Date	Day	1 Leader Mr. KAKISHITA	2 Project coordinator Mr. ISE	3 Chief consultant Mr. KONO	4 Equipment planning Mr. BABA	5 Traffic expert Mr. KUNIMASA	6 Cost estimation Mr. TAMAKI	Stay						
	13	Leaving for Ethiopia						In-flight						
1	14	Arriving in Ethiopia A.M.		Leaving for Ethiopia and arriving in Ethiopia P.M.				In-flight						
		Meeting with JICA Ethiopia and courtesy call on EoJ						Addis Ababa						
2	15	Courtesy call on ERA & explanation about Inception Report						Addis Ababa						
3	16	Site visit at Alemgena (Existing) and Holleta (Existing)						Addis Ababa						
4	17	Site visit at Sendafa (Existing) and Sululta (Existing)						Addis Ababa						
5	18	Meeting with ERA about the draft of M/D			Meeting with ERA for the site investigation			Addis Ababa						
6	19	Meeting with ERA about the draft of M/D. Signing on M/D. Report to EoJ				Surveying in AA		Addis Ababa						
7	20	Report to JICA Ethiopia				Meeting with ERA		Addis Ababa						
8	21	Leaving for Japan			Meeting with ERA				In-flight and AA					
9	22							AA and site						
10	23							Data compiling						Addis Ababa
11	24							Site investigation at Modjo and Awash along Trunk 1						Addis Ababa
12	25							Surveying in AA		Surveying in AA		Surveying in AA		Addis Ababa
13	26							Site investigation at Dengego and Jigjiga along Trunk 10						AA and site
14	27							Site investigation at 3 locations along Trunk 3		Surveying in AA		Surveying in AA		AA and site
15	28									Site investigation at Nekemte and Jimma		Data compiling		AA and site
16	29							Surveying in AA		Surveying in AA		Surveying in AA		AA and site
17	30									Site investigation at Shashemane and Yabelo along Trunk 8 and 9.				AA and site
18	1									Site at Assosa.				AA and site
19	2									Site investigation at Combolcha and Semera		Data compiling		AA and site
20	3									Data compiling		Data compiling		AA and site
21	4									Site at Quiha				AA and site
22	5									Surveying in AA		Surveying in AA		AA and site
23	6									Meeting with ERA		Meeting with ERA		Addis Ababa
24	7			Surveying in AA		Surveying in AA		Addis Ababa						
25	8			Meeting with ERA		Meeting with ERA		Addis Ababa						
26	9			Leaving for Japan		Leaving for Japan		In-flight and AA						
27	10			Arrive in Japan		Arrive in Japan		Addis Ababa						
28	11							Addis Ababa						
29	12							Addis Ababa						
30	13							Addis Ababa						
31	14							Addis Ababa						
32	15							Addis Ababa						
33	16							Addis Ababa						
34	17							Addis Ababa						
35	18							In-flight						

The Second Field Survey in Ethiopia

No.	Date	1 MR.KONO Chief consultant	2 MS.ICHIKIYA Environmental & social consideration specialist	Stay
1	MAY 10 Sat	Departure from Japan		In-flight
2	MAY 11 Sun	Arrive at AA		Addis Ababa
3	MAY 12 Mon	Meeting with ERA		AA
4	MAY 13 Tue	Meeting with JICA at 8:30, and ERA		AA
5	MAY 14 Wed	Move to Kombolcha by surface		Kombolcha
6	MAY 15 Thr	Field Survey in Kombolcha		Kombolcha
7	MAY 16 Fri			Kombolcha
8	MAY 17 Sat	Back to AA by surface		AA
9	MAY 18 Sun	Meeting with ERA		AA
10	MAY 19 Mon	Departure from AA		AA
11	MAY 20 Tue	Arrival at Tokyo		AA
12	MAY 21 Wed	/	Assist Environmental and Social Management Team on IEEA reports	AA
13	MAY 22 Thr		AA	
14	MAY 23 Fri		AA	
15	MAY 24 Sat		AA	
16	MAY 25 Sun		AA	
17	MAY 26 Mon		Data compiling	AA
18	MAY 27 Tue		Move to Dire Dawa by air	Dire Dawa
19	MAY 28 Wed		Field Survey in Dengego	Dire Dawa
20	MAY 29 Thr			Dire Dawa
21	MAY 30 Fri			Dire Dawa
22	MAY 31 Sat		Back to AA by air	AA
23	JUNE 1 Sun		Data compiling	AA
24	JUNE 2 Mon			AA
25	JUNE 3 Tue		Assist ESMT on IEEA reports	AA
26	JUNE 4 Wed			AA
27	JUNE 5 Thr			AA
28	JUNE 6 Fri		Meeting with JICA Ethiopia and ERA	In-flight
29	JUNE 7 Sat		Arrive at Japan	In-flight

The Third Field Survey in Ethiopia

Date	Day	1 Leader Mr. KAKISHITA	2 Project coordinator Mr. SHIMADA	3 Chief consultant Mr. KONO	Stay
1	NOV 22 Sat	Departure from Japan			In-flight
2	NOV 23 Sun	Departure from Japan	Arriving at AA	Departure from Japan	In-flight and AA
3	NOV 24 Mon	Arriving at AA	Meeting with ERA about Draft Final Report	Arriving at AA	Addis Ababa
4	NOV 25 Tue	Courtesy Call and Meeting with ERA			AA
5	NOV 26 Wed	Meeting with ERA, Meeting with JICA Ethiopia Office			AA
6	NOV 27 Thu	Signing on M/M with ERA, Report to JICA Ethiopia Office			AA
7	NOV 28 Fri	Field investigation at Modjo station, Courtesy call on EoJ			AA
8	NOV 29 Sat	Departure from AA		Data compiling	In-flight and AA
9	NOV 30 Sun	Arrive in Japan		Departure from AA	In-flight
10	DEC 1 Mon			Arrive in Japan	In-flight

3. List of Interviewed Persons and Parties

(1) The Embassy of Japan in Ethiopia

Okubo Takehiro	Counsellor
Sasaki Kazuhiko	Economic Division Second Secretary
Hakuno Tomoyuki	Consul and Security Division

(2) JICA Ethiopia Office

Jin Kimiaki	Chief Representative
Kimura Takusaburo	Senior Representative
Ichikawa Yuichi	Representative

(3) Ethiopian Road Authority (ERA)

Headquarter	
Mr. Zaid Wolde Gebriel	Director General
Mr. Haddis Tesfaye	Deputy Director General
Mr. G / Anaria Tsadile	Road Asset Management
Mr. Yosef Yamiru	Project Coordinator, Junior, Road Asset Management,
Mr. Amede Muhye	Junior, Road Asset Management,
Ms. Danait Andom	Junior, Road Asset Management,
Ms. Sara Behailu	Road asset management, Junior engineer
Mr. Sisay Abebe	Senior Assistant Engineer, Road management team
RNMD (Road Network Management Directorate)	
Mr. Nedew Nigussie	Acting Director, Diredawa RNMD
Mr. Derese Esheti	Engineer, Dire Dawa RNMD
Mr. Matiyos Kaseye	Engineer, Dire Dawa RNMD
Mr. Nugusie Sheribu	Director, Combolcha RNMD
Mr. Biruk Tekle	Engineer, Combolcha RNMD
Mr. Frezer Mamo	Junior Engineer, Combolcha RNMD
Mr. Bogale Shferaw	Director, Jimma RNMD
Mr. Ayele Bogale	Engineer, Vehicle size & Axle Load management Team (Jimma)
Mr. Chala	Associate Engineer, Nekemte RNMD
Mr. Negero Belay	Nekemte RNMD
Gemecuis Teina	Nekemte RNMD
Mr. Mulisken Zergaw	Shashemene RNMD
Mr. Hailemariam Testoy	Director, Mekele RNMD
Mr. Gashaw	Debre Markos
Mr. Getachew Assefa	Captain of Shashemene station
Mr. Abraham	ERA Gonder branch, Acting director
Mr. Shiferawi Abebe	Alemgena weighbridge station, supervisor
Axle Load Team	
Mr. Habtom / Iagatom Dikesoen Hadl	Team Leader of Axle Load Team
Mr. Worku Mekonnen	Administrative Assistant
Mr. Dereb H/ masiam	Electronics Technician

Planning and Programming Management Directorate	
Mr. Daniel Mengestie	Director, Planning and Programming Management Directorate
Mr. Kefargachew Kassahva	Vice Leader/Lead Hydrologist, Environmental and Social Management Branch
Mr. Teshome Cheru	Lead Socio-environmentalist, Environmental and Social Management Branch

(4) Ministry of Trade

Mr. Erasu Adugna	Technician, Standardization Organization
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(5) Construction Machine Rental Company

Mr. Muiugeat	Representative
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(6) Quarry Operator

Mr. Kebede Retta	Representative, BH Trading and Manufacturing PLC.
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(7) Project Affected People

Mr. Shimaris Ahbatas	Representative, PAPs, Combolcha
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(8) Local Government

Mr. Kalid Ahmed	Woreda Administration Expert, Haramaya Woreda
Mr. Fufa Wakgori	Vice Head of Rural Road, Haramaya Woreda
Mr. Zeiere Abdefe	Vice Hear of Administration and Agriculture, Haramaya Woreda
Ms. Firehiwot Tesfaye	Chief Engineer, Haramaya Woreda

4. Minutes of Discussion

(1) The first field survey in November 2013

Minutes of Discussions on the Preparatory Survey on the Project for Improvement of Axle Load Control on Trunk Roads

In response to the request from the Government of the Federal Democratic Republic of Ethiopia (hereinafter referred to as “Ethiopia”), the Government of Japan decided to conduct a Preparatory Survey on the Project for Improvement of Axle Load Control on Trunk Roads (hereinafter referred to as “the Project”), and entrusted the Survey to Japan International Cooperation Agency (hereinafter referred to as “JICA”).

JICA sent the Preparatory Survey Team for the Outline Design (hereinafter referred to as “the Team”) to Ethiopia. The Team is headed by Mr. Yoshihiro KAKISHITA, Senior Advisor to the Director General, Economic Infrastructure Department, JICA, and is scheduled to stay in the country from November 14th to November 21th, 2013.

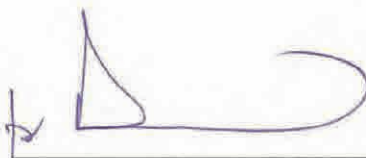
The Team held a series of discussions with the officials concerned of the Government of Ethiopia and conducted a field survey in the Project area. In the course of the discussions, both sides have confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the Preparatory Survey Report.

Addis Ababa, November 19th, 2013




Yoshihiro KAKISHITA
Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan





Zaid Wolde Garbriel
Director General
Ethiopian Roads Authority
Federal Democratic Republic of Ethiopia



(1/12)

ATTACHEMENT

1. Objective of the Project

The objectives of the Project are described as below.

- To improve the efficiency of axle load control to cope with rapidly increasing flow of heavy vehicles especially trucks.
- To ensure transparency and effectiveness in axle load control.
- To increase the number of weigh bridge stations for more effective control of axle load on the main roads of the country.

2. Project Site

The requested project sites are 9 existing and 9 new weigh bridge stations throughout the country, which is shown in Annex 1.

3. Responsible and Implementing Organizations

The responsible ministry is the Ministry of Transport. The implementing organization is the Ethiopian Roads Authority (ERA).

The organization chart of the implementing organization is shown in Annex 2.

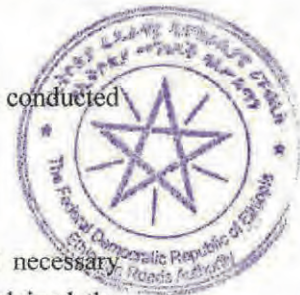
4. Items requested by the Government of Ethiopia

4-1. Both sides confirmed that the Ethiopian side requested installing 9 new weigh bridges and replacement of 9 existing weigh bridges to new ones which can weigh multi axles at the same time and store the data automatically. Ethiopian side also requested 18 vehicles for each weigh bridge station to implement axle load control adequately. JICA will assess the appropriateness of the request through the Preparatory Survey and will report the findings to the Government of Japan. Implementation and components of the Project will be decided by the Government of Japan.

4-2. Both sides confirmed that there was no duplication for the Project to be conducted by the other donors or private enterprises.

5. Japan's Grant Aid Scheme

5-1. The Ethiopian side understands the Japan's Grant Aid Scheme and necessary measures to be taken by the Government of Ethiopia. The Team explained the procedures for the Project described in Annex-3, 4.



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(2/12)

5-2. The Ethiopian side will take the necessary measures, as described in Annex-5 for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented.

6. Schedule of the Study

6-1. The Team will proceed with further studies in Ethiopia until December 12, 2013.

6-2. JICA will prepare a draft final report in English and dispatch a mission to Ethiopia in order to explain its contents around May 2014.

6-3. If the contents of the draft final report is accepted in principle by the Ethiopian side, JICA will complete the final report in English and send it to Ethiopia around July 2014.

7. Other Relevant Issues

7-1. As the result of the Preparatory Survey, JICA may propose amendment on the contents of the project including the distribution of the project sites.

7-2. The scope of the project will be determined by the findings of the Preparatory Survey. Therefore information for determination of the scope shall be provided to Japanese side by the end of the study in Ethiopia. Ethiopian side shall keep relevance on its policies and measures to utilize the equipment to be installed by the project in terms of effectiveness and consistency.

7-3. Both sides confirmed that every requested weigh bridge project site was to be evaluated for appropriateness as described below and the site(s) might be excluded from the project components if it is found improper.

- Safety for surveying and implementing the project.
- Enough and appropriate land for installing the weigh bridge.
- Availability and assignment of staff for enforcement of axle load control.
- Efficiency of the site position for management of over load vehicles.
- Relation with the past projects funded by Japanese ODA for infrastructures.

7-4. Both sides confirmed that necessities of the vehicles for each weigh bridge station are assessed in the Preparatory Survey from the points of view as described below



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(3/12)

7-11. Ethiopian side explained about the need of the full facility of weigh bridge stations which Ethiopian side plans as a goal for full implementation, but some facilities are excluded in official request and from the project.

Annex-1 Project Site

Annex-2 Organization Chart

Annex-3 Japan's Grant Aid

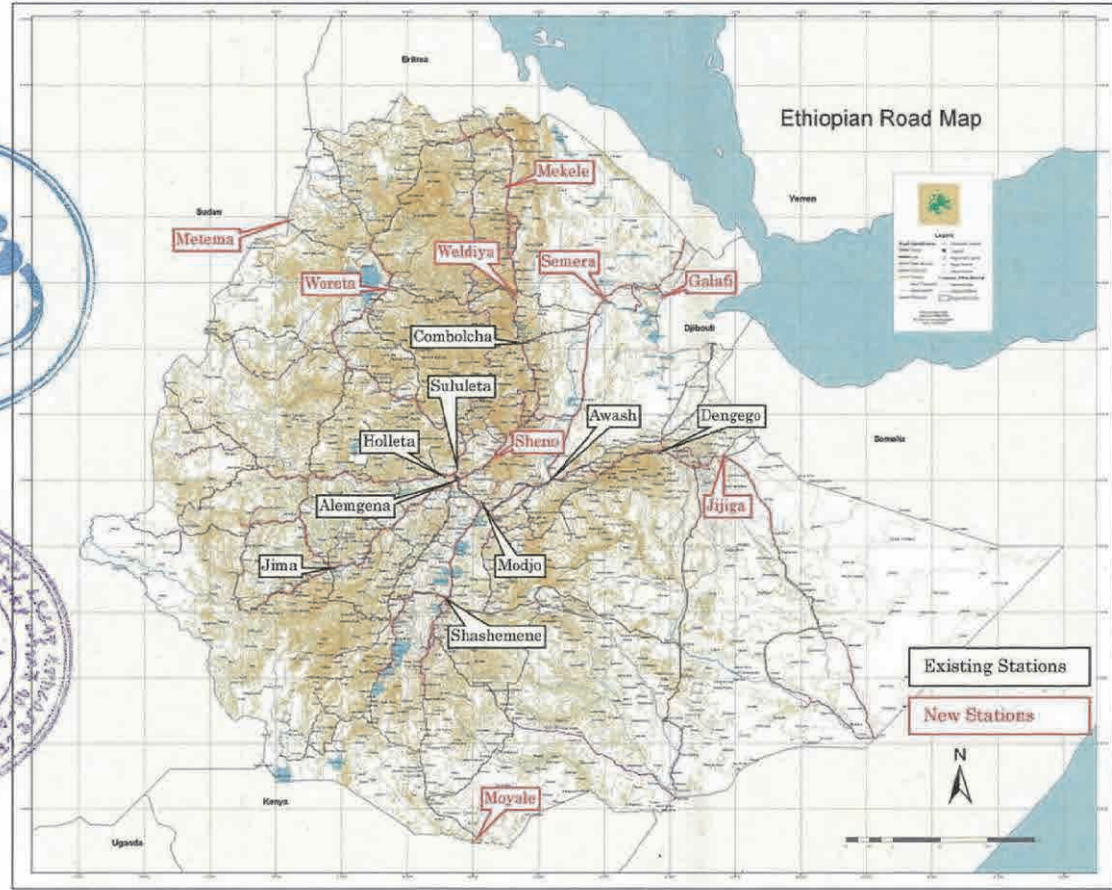
Annex-4 Flow Chart of Japan's Grant Aid Procedures

Annex-5 Major Undertakings to be taken by Each Government



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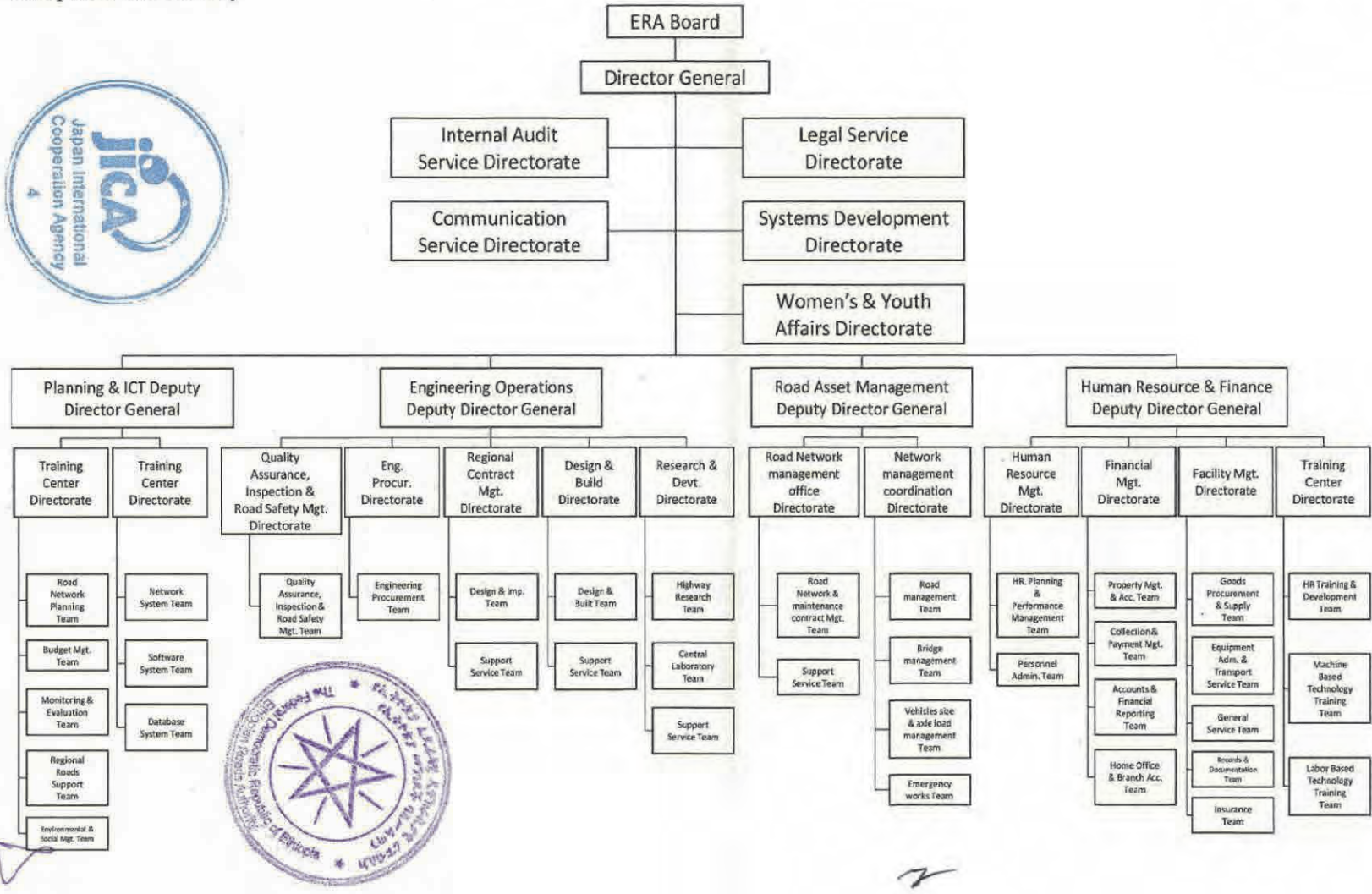
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(5/12)

Ethiopian Roads Authority



(6/12)

JAPAN'S GRANT AID

The Government of Japan (hereinafter referred to as "the GOJ") is implementing the organizational reforms to improve the quality of ODA operations, and as a part of this realignment, a new JICA law was entered into effect on October 1, 2008. Based on this law and the decision of the GOJ, JICA has become the executing agency of the Grant Aid for General Projects, for Fisheries and for Cultural Cooperation, etc.

The Grant Aid is non-reimbursable fund provided to a recipient country to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures :

- Preparatory Survey
 - The Survey conducted by JICA
- Appraisal & Approval
 - Appraisal by the GOJ and JICA, and Approval by the Japanese Cabinet
- Authority for Determining Implementation
 - The Notes exchanged between the GOJ and a recipient country
- Grant Agreement (hereinafter referred to as "the G/A")
 - Agreement concluded between JICA and a recipient country
- Implementation
 - Implementation of the Project on the basis of the G/A

2. Preparatory Survey

(1) Contents of the Survey

The aim of the preparatory Survey is to provide a basic document necessary for the appraisal of the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, financial, social and economic point of view.



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- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of an outline design of the Project.
- Estimation of costs of the Project.

The contents of the original request by the recipient country are not necessarily approved in their initial form as the contents of the Grant Aid project. The Outline Design of the Project is confirmed based on the guidelines of the Japan's Grant Aid scheme.

JICA requests the Government of the recipient country to take whatever measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization of the recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA employs (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the Report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the appropriateness of the Project.

3. Japan's Grant Aid Scheme

(1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes(hereinafter referred to as "the E/N") will be signed between the GOJ and the Government of the recipient country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

(2) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the recipient country to continue to work on the Project's implementation after the E/N and G/A.



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(3) Eligible source country

Under the Japanese Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When JICA and the Government of the recipient country or its designated authority deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals".

(4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by JICA. This "Verification" is deemed necessary to fulfill accountability to Japanese taxpayers.

(5) Major undertakings to be taken by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as Annex.

(6) "Proper Use"

The Government of the recipient country is required to maintain and use properly and effectively the facilities constructed and the equipment purchased under the Grant Aid, to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Grant Aid.

(7) "Export and Re-export"

The products purchased under the Grant Aid should not be exported or re-exported from the recipient country.

(8) Banking Arrangements (B/A)

a) The Government of the recipient country or its designated authority should open an account under the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). JICA will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.

b) The payments will be made when payment requests are presented by the Bank to JICA under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.

(9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment



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commissions paid to the Bank.

(10) Social and Environmental Considerations

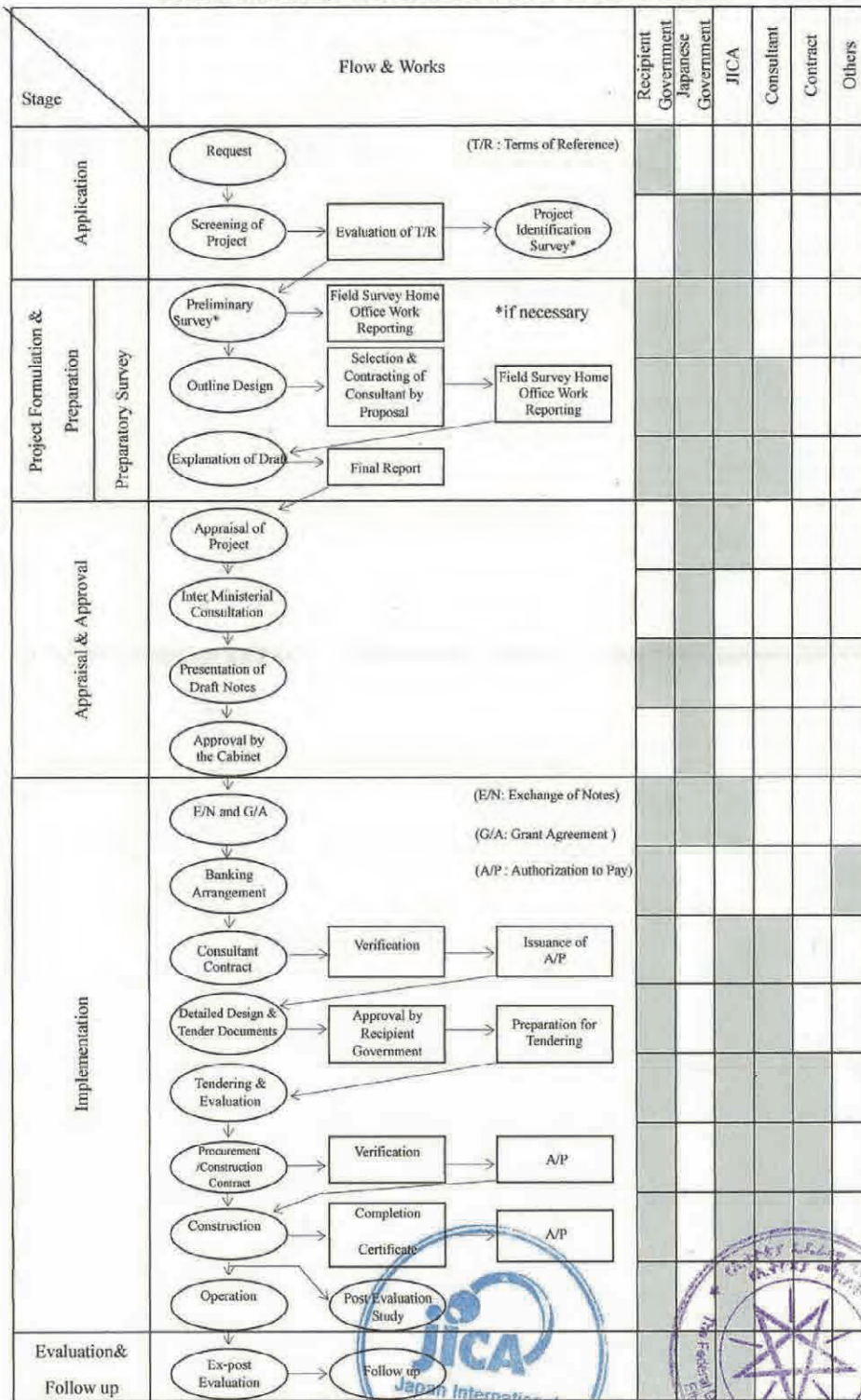
A recipient country must carefully consider social and environmental impacts by the Project and must comply with the environmental regulations of the recipient country and JICA socio-environmental guidelines.



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FLOW CHART OF JAPAN'S GRANT AID PROCEDURES



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Major Undertakings to be taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To ensure prompt customs clearance of the products and to assist internal transportation of the products in the recipient country		
	1) Marine (Air) transportation of the Products from Japan to the recipient country	●	
	2) Internal transportation from the port of disembarkation to the project site	(●)	(●)
2	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the products and the services be exempted		●
3	To accord Japanese physical persons and / or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
4	To ensure that the Equipments be maintained and used properly and effectively for the implementation of the Project		●
5	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project		●
6	To bear the following commissions paid to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
7	To give due environmental and social consideration in the implementation of the Project.		●

(B/A : Banking Arrangement, A/P : Authorization to pay)



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(12/12)

(2) The third field survey in November 2014

Minutes of Discussions
on
the Preparatory Survey
for
the Project for Improvement of Axle Load Control on Trunk Road
in
the Federal Democratic Republic of Ethiopia
(Explanation of the Draft Outline Design Report)

On the basis of the previous preparatory surveys in the Federal Democratic Republic of Ethiopia (hereinafter referred to as “Ethiopia”) from November to December, 2013 and following technical examination in Japan, Japan International Cooperation Agency (hereinafter referred to as “JICA”) prepared a Draft Final Report (hereinafter referred to as “the Report”) on the Project for Improvement of Axle Load Control on Trunk Road (hereinafter referred to as “the Project”).

The Preparatory Survey Team (hereinafter referred to as “the Team”) visiting Ethiopia from Nov. 23rd, 2014 to Nov. 29th, 2014, headed by Mr. Yoshihiro KAKISHITA, Senior Advisor to the Director General, Infrastructure and Peacebuilding Department, JICA, explained to and consulted with the Ethiopian Roads Authority (hereinafter referred to as “ERA”) and the concerned officials of the Government of Ethiopia (hereinafter referred to as “the GOE”) on the contents of the Report.

As a result of discussions, both sides confirmed the main items described in the attachment.

Addis Ababa, November 27, 2014

垣下 禎裕

Yoshihiro KAKISHITA

Leader

Preparatory Survey Team

Japan International Cooperation Agency

Japan



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Mr. Sisay Bekele

Acting Director General

Ethiopian Roads Authority

Federal Democratic Republic of Ethiopia



(1/21)

ATTACHMENT

1. Components of the Draft Outline Design Report

The Ethiopia side agreed and accepted the contents of the Report explained by the Team.

2. Cost Estimation for the Project

- 2.1. The Team explained to the Ethiopia side the estimate of the Project Cost described in Annex-1; while the final Project Cost to be described in the Exchange of Notes (hereinafter referred to as "E/N") would be appraised by the Government of Japan (hereinafter referred to as "GOJ").
- 2.2. Both sides further confirmed that the Project Cost Estimation in Annex-1, and details of the construction works in the Report should never be duplicated and/or disclosed to any third parties until all the contracts for the Project are concluded.
- 2.3. The Team explained and the Ethiopia side agreed that the cost for land acquisition is also subject to change but in principle it will be compensated at full replacement cost according to the JICA Guidelines for Environmental and Social Considerations (hereinafter referred to as "JICA Guidelines").

3. Undertakings by the Ethiopia Side

- 3.1. The Ethiopia side promised to undertake the following Major Undertakings to be Taken by GOE for the Project at full responsibility and its own expenses based on the contents of the Report.

(1) To construct the access road, building offices and land grading for new weigh stations. The plan for access road construction should be made up by concluding E/N and construction itself should be completed by install stage of the truck scales.

(2) To acquire lots of land necessary for the implementation of the Project and to clear the sites.

(3) To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the products and the services be exempted / be borne by the Authority without using the Grant.

(4) To accord Japanese physical persons and / or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(5) To ensure that the Equipments be maintained and used properly and effectively for the

implementation of the Project.

(6) To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project.

(7) To bear the following commissions paid to the Japanese bank for banking services based upon the Banking Arrangement.

(a) Advising commission of Authorization to pay (A/P)

(b) Payment commission

(8) To give due environmental and social consideration in the implementation of the Project.

3.2. The Ethiopia side confirmed that the customs duties, internal taxes and other fiscal levies, if imposed in Ethiopia, will be covered and settled on their claim by ERA for smooth implementation of the Project. At same time, the Ethiopian side explained that the budget were secured for those.

4. Environment and Social Considerations

4.1. Both sides confirmed that information on environmental and social considerations including major impacts and relevant mitigation measures is summarized in the Environmental Checklist attached as Annex-2. ERA confirmed that they will inform JICA of any major changes, which may affect environmental and social considerations, by revising the Checklist in a timely manner.

4.2. Both sides confirmed continuous environmental monitoring will be conducted by ERA in accordance with the Environmental Checklist and Monitoring Form attached as Annex-2 and Annex-3.

4.3. ERA confirmed that the results of environmental monitoring will be provided to JICA by filling in Environmental Monitoring Form attached as Annex-3 on a quarterly basis until the completion of the Project, provided that there is no outstanding issue regarding the environmental and social considerations during implementation of the Project. In case JICA finds that there is necessity for improvement in a situation with respect to environmental and social considerations after the agreed monitoring period, JICA can request to extend the period of monitoring and reporting until JICA confirms the issues have been properly addressed.

4.4. Both sides confirmed that the Resettlement Action Plans (RAP) for Combolcha and Dengego are finalized by 1st week of December, 2014. After these RAPs are finalized, internal monitoring proposed in the RAP will be conducted by ERA. ERA agreed that progress of land acquisition and implementation of RAP will be monitored until land acquisition and resettlement activities including livelihood restoration program are completed. ERA will report the monitoring results to JICA on a quarterly basis by filling in the Annex-3.



In case there is a remaining issue that needs to be addressed (e.g. insufficient restoration of livelihood of displaced PAPs), JICA may request to extend the period of monitoring and reporting until JICA confirms the issues have been properly addressed and solved in accordance with the agreement between ERA and JICA.

- 4.5. ERA agreed JICA's disclosure of provided monitoring results in the Environmental Monitoring Form attached as Annex-3 on JICA's website.

5. Japan's Grant Aid Scheme

The Ethiopia side fully understood and reconfirmed the scheme of the Japan's Grant Aid and the necessary measures to be undertaken by the Ethiopia side, which was explained by the Team and agreed as the Minutes of Discussion signed on 19th November, 2013.

6. Schedule of the Study and the Project

- 6.1. JICA will complete the Final Report of the Preparatory Survey both in Japanese and English, in accordance with the confirmed items, and send the English version to the Ethiopia side around March, 2015.
- 6.2. The Team explained to the Ethiopia side the Project would be implemented following the schedule on Annex-4.
- 6.3. The above schedule is tentative and subject to change. Expressly, there is some possibility that the time for signing of E/N and Grant Agreement (G/A) will be delay due to the matter of budget on Japanese side.

7. Disclosure of Information

Both Sides confirmed that the study results excluding the Project cost estimation and details of the construction works will be disclosed to the public after completion of the Preparatory Survey. All the study results including the Project cost and details of the construction works will be disclosed to the public AFTER all the contracts for the Project are concluded.

Annex-1: Project Cost Estimation

Annex-2: Environmental Checklist

Annex-3: Environmental Monitoring Form

Annex-4: Tentative Project Implementation Schedule



(4/21)

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Project Cost Estimation

The total project costs necessary for the Project are estimated at Million yen.
This cost estimate is provisional and would be further examined by the Government of Japan for approval of the Grant.

(1) Cost Borne by the Government of Japan

Table- 1 Rough Estimate of Project Cost

Item (14-Truck scale including installation)	Rough Estimated Cost (million yen)
Machinery cost	
Administrative cost	
Total	

Note that the estimated project cost does not necessarily suggest the maximum amount of grant under the exchange of notes (E/N)

(2) Cost Borne by the Ethiopian Side

Table- 2 Costs borne by the Ethiopian side

Item	Amount to be borne (1,000 Birr)	Conversion to JPY (million yen)
(1) Land preparation		
(2) Tax		
(3) Bank commission		
Total		

 2

(3) Conditions of cost estimation

- Estimation time: December 2013
- Exchange rate: US\$1.00=99.99 Yen, 1 Birr=5.30 Yen
- Construction period: 11 months
- Others: The Project will be implemented according to the Guideline for Grant Aid Cooperation issued by the Government of Japan. The above estimated project cost will be revised by the government prior to E/N.

(4) Operation and Maintenance Cost

Table- 3 Major maintenance items and costs

Item	Rough Estimated Cost (thousand birr)	Rough Estimated Cost (thousand yen)
Staffing (3 new station) per year	403.2	2,136
Machinery (14 station) per year	18	94
Total	421.2	2,230



Environmental Checklist for Combolcha Weighbridge

Category	Sub Category	Main Items to be Checked	Yes: Y No: N	Description of Environmental and Social Considerations (Reasons, Mitigation Measures)
1. Permission and Explanation	1.1 EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process?	(a) Y	(a) The Initial Environmental Impact Assessment (IEEA) covering both environmental and social considerations) was submitted to the Team Leader, Environmental and Social Management Team (ESMT), ERA on June 6, 2014.
		(b) Have EIA reports been approved by authorities of the host country's government?	(b) N	(b) The IEEA is under review of concerned sections/department of ERA.
		(c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied?	(c) N	(c) The IEEA will be approved after two weeks of the submission.
		(d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(d) N	(d) There is no other required permission other than the IEEA on the Kombolcha project.
	1.2 Explanation to the Local stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders?	(a) Y	(a) The ESMT undertook public consultation (29/Jan/2014) and a series of Focus Group Discussions (29-30/Jan/2014) with the community, and meeting with local administrations (29/Jan/2014) to collect issues and concerns of the community towards the Project.
		(b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(b) Y	(b) The concerns were clarified and incorporated in the Project plan.
	1.3 Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Y	(a) Alternative alignments had been examined since December 2013 continuously. The shape of the premises of the weigh bridge statin, as currently proposed, is a result of such examination which considered the minimization of social and environmental impacts and realization of the City Master Plan at the same time.
	2.1 Resettlement	(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement?	(a) Y	(a) About 97 parsons will be affected by the Project. Efforts were made to minimize the number of the Project Affected Persons (PAPs) which resulted in reduce size of the premises.
(b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement?		(b) Y	(b) Refer to 1.2(a). All the PAPs agreed to move to relocation site(s) if the enough compensation made.	

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2

Category	Sub Category	Main Items to be Checked	Yes: Y No: N	Description of Environmental and Social Considerations (Reasons, Mitigation Measures)
		(c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement?	(c) Y	(c) The abbreviated Resettlement Action Plan (Abbr. RAP) has been developed.
		(d) Are the compensations going to be paid prior to the resettlement?	(d) Y	(d) ERA will arrange with local banks to facilitate prompt payment of the compensation to each PAP.
		(e) Are the compensation policies prepared in document?	(e) Y	(e) Refer to (c)
		(f) Does the abbreviated RAP pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples?	(f) Y	(f) The Abbr. RAP states that ERA will provide special support to vulnerable people among the PAPs: widows, elders, handicapped for example.
		(g) Are agreements with the affected people obtained prior to resettlement?	(g) Y	(g) Refer to (b). All the PAPs has agreed the relocation.
		(h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan?	(h) N	(h) ERA will set up the Reallocation Implementation Committee (RIC) to evaluate the compensation amount to each PAPs, to facilitate the smooth implementation of the relocation program. The RIC will consist of representatives coming from the PAPs, local community leaders, and local administrations (Woreda and City).
		(i) Are any plans developed to monitor the impacts of resettlement?	(i) N	(i) Resettlement monitoring plan is under preparation by the ESMT. The RIC will be a monitoring body of the resettlement process at the site. The scope of monitoring shall include implementation schedule, assistance package, community participation, and grievance resolution. The ESMT will undertake evaluation after completion of the Project to see impacts of the Project.
		(j) Is the grievance redress mechanism established?	(j) N	(j) The grievance redress mechanism will be established along with formation of the RIC. The grievance mechanism will determines qualified beneficiaries for relocation, arbitrate in matters of claims and disputes and safeguard of the affected families.
	2.2 Living and Livelihood	(a) Where weighbridge station is newly installed, is there a possibility that the Project will affect the existing means of transportation and the associated workers? Is there a possibility that the project will cause significant impacts: extensive alteration of existing land uses, changes in means of livelihood, unemployment	(a) N	(a) The Project relocate the existing weighbridge; thus will not affect the existing means of transportation such as tri-cycles. The Project will not cause any significant changes in means of livelihood and unemployment.

3

Category	Sub Category	Main Items to be Checked	Yes: Y No: N	Description of Environmental and Social Considerations (Reasons, Mitigation Measures)
		for example? Are adequate measures considered for preventing these impacts?		
		(b) Is there any possibility that the Project will adversely affect the living conditions of inhabitants other than the affected inhabitants? Are adequate measures considered to reduce the impacts, if necessary?	(b) N	(b) The new weighbridge station will not cause any significant adversely impacts on the living conditions of other inhabitants. The area the new site situated has been designated as an industrial zone by the City office. The City will relocate all the residents in the area to implement the master plan.
		(c) Is there any possibility that diseases, including infectious diseases, such as HIV will be brought due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary?	(c) N	(c) Construction workers will be locally employed in accordance with ERA's requirement to contractors, and no influx of workers from other areas is expected. Besides, ERA will carry out prevention measures.
		(d) Is there any possibility that the project will adversely affect road traffic in the surrounding areas (e.g., by causing increases in traffic congestion and traffic accidents)?	(d) N	(d) The new weighbridge station will not affect road traffic adversely in the surrounding areas.
		(e) Is there any possibility that weighbridge will impede the movement of inhabitants?	(e) N	(e) The new weighbridge stations will be located in the right of the ways as the current weighbridge dose; thus the movement of inhabitants is not changed.
		(f) Is there any possibility that structures associated with railways (such as bridges) will cause a sun shading and radio interference?	(f) N	(f) No significant impacts are expected.
	2.3 Heritage	(a) Is there a possibility that the project will damage the local archaeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?	(a) N	(a) Since there is no archaeological, historical, cultural, and religious heritage in and around the new site.
	2.4 Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	(a) N	(a) The new site is located in the industry zone designated in the City Master Plan.
	2.5 Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples?	(a) N	(a) Not Applicable
		(b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?	(b) N	(b) Not Applicable
	2.6 Working Conditions	(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project?	(a) N	(a) ERA requires its contractors to follow the laws and ordinances associated with the working conditions of the country.

Category	Sub Category	Main Items to be Checked	Yes: Y No: N	Description of Environmental and Social Considerations (Reasons, Mitigation Measures)
		(b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials?	(b) Y	(b), (c) and (d) ERA evaluate applied contractors in terms of type, quality and quantity of equipment, and preparation of safety measures so that only those meet ERA's requirement will be considered for rewarding the bid.
		(c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.?	(c) Y	
		(d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(d) Y	
3. Pollution Control	3.1 Water Quality	(a) Is there a possibility that soil runoff from the bare lands resulting from earthmoving activities, such as cutting and filling will cause water quality degradation in downstream water areas?	(a) N	(a) It is foreseen to be minimal. However, waste created by the construction will be managed according to the contract between ERA and the contractor.
		(b) Do effluents from the project facilities, such as stations, comply with the country's effluent standards and ambient water quality standards? Is there a possibility that the effluents will cause areas not to comply with the country's ambient water quality standards?	(b) N	(b) The design of physical structures will conform to the Philippine building and environmental standards and regulations. No untreated effluents will be discharged from the facilities to water bodies.
	3.2 Wastes	(a) Are wastes generated from the project facilities, such as stations and depot, properly treated and disposed of in accordance with the country's regulations?	(a) Y	(a) The Project needs take surface of the soil as a required procedure for any construction work. Those soils are bring to the site set out in the contract between ERA and the contractor.
	3.3 Noise and Vibration	(a) Do noise and vibrations from the vehicle traffic comply with the country's standards?	(a) Y	(a) Kombolcha weighbridge has been operating by ERA under its regulation not to affect the neighboring area.
	3.4 Subsidence	(a) In the case of extraction of a large volume of groundwater, is there a possibility that the extraction of groundwater will cause subsidence (especially in the case of Undergrounds/Subways)?	(a) N	(a) Not Applicable
4. Natural Environment	4.1 Protected Areas	(a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) N	(a) Not Applicable. There is no such protected area in and around the new site, as well as the current site.
	4.2 Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)?	(a) N	(a), (b), (c), (e), and (f) Not Applicable. The new site locates in an industrial zone.

Category	Sub Category	Main Items to be Checked	Yes: Y No: N	Description of Environmental and Social Considerations (Reasons, Mitigation Measures)
		(b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions?	(b) N	
		(c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?	(c) N	
		(d) Are adequate protection measures taken to prevent impacts, such as disruption of migration routes, habitat fragmentation, and traffic accident of wildlife and livestock?	(d) Y	
		(e) Is there a possibility that installation of weighbridge will have impacts, such as the destruction of forest, poaching, desertification, reduction in wetland areas, and disturbance of ecosystems due to the introduction of exotic (non-native invasive) species and pests? Are adequate measures for preventing such impacts considered?	(e) N	(e) Native plant species will be used for re-vegetation.
		(f) In cases the project site is located at undeveloped areas, is there a possibility that the new development will result in extensive loss of natural environments?	(f) N	
	4.3 Hydrology	(a) Is there a possibility that alteration of topographic features and installation of structures, such as tunnels will adversely affect surface water and groundwater flows?	(a) N	(a) Not Applicable.
4.4 Topography and Geology	(a) Is there a soft ground on the route that may cause slope failures or landslides? Are adequate measures considered preventing slope failures or landslides, where needed?	(a) N	(a) and (b) The soil is enough solid for construction of factories, and there is no large-scale filling and cutting work. During the Detailed Design stage scope of the land preparation will be confirmed.	
	(b) Is there a possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered preventing slope failures or landslides?	(b) N		
	(c) Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff?	(c) N	(c) Contractor should present location and management of the borrow pit and disposal site in their bid document for perusal of ERA. Only those meet the ERA requirement, which comply with the National Environmental Law and other relevant laws and regulations, will be considers for further procedures.	
5 Others	5.1 Impacts during Construction	(a) Are adequate measures considered reducing impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?	(a) Y	(a) and (d) It is ERA's requirement to its contractors to take adequate measures for dust and noise reduction, waste management, traffic safety, and other recognized issues during the construction.

3

Category	Sub Category	Main Items to be Checked.	Yes: Y No: N	Description of Environmental and Social Considerations (Reasons, Mitigation Measures)
		(b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered reducing impacts?	(b) N	(b) and (c) Not applicable. Refer to 4.2. (a) to (f)
		(c) If construction activities adversely affect the social environment, are adequate measures considered reducing impacts?	(c) N	
		(d) If the construction activities might cause traffic congestion, are adequate measures considered reducing such impacts?	(d) Y	See 5.1. (a)
	5.2 Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?	(a) Y, N	(a), (b), (c) and (d) Monitoring Program will be established as stipulated in the Environmental and Social Management Manual (ERA, 2008). RIC, a multi-partite valuation and monitoring team will be formed immediately after the approval of the IEIA. The main aim of the RIC is to monitor the resettlement and construction processes if the contractor complies with applicable laws, rules, and regulations. The Right of Way team of ERA, in close communication with the ESMT, will closely assist the RIC.
		(b) What are the items, methods and frequencies of the monitoring program?	(b) Y	
		(c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?	(c) Y	
		(d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(d) Y	
6 Note	6.1 Reference to JICA Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Forestry Projects checklist should also be checked (e.g., projects including large areas of deforestation).	(a) N	(a) and (b) Although the contents of the Project is not applicable to the Forestry and the Power Transmission and Distribution Lines, these guidelines were referred.
		(b) Where necessary, pertinent items described in the Power Transmission and Distribution Lines checklist should also be checked (e.g., projects including installation of power transmission lines and/or electric distribution facilities).	(b) N	
	6.2 Note on Using Environmental Checklist	(a) If necessary, the impacts to trans boundary or global issues should be confirmed, if necessary (e.g., the project includes factors that may cause problems, such as trans boundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a) N	(a) Not applicable.

(12/21)

Environmental Checklist for Dengego Weighbridge

Category	Sub Category	Main Items to be Checked	Yes: Y No: N	Description of Environmental and Social Considerations (Reasons, Mitigation Measures)
1. Permission and Explanation	1.1 EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process?	(a) Y	(a) The Initial Environmental Impact Assessment (IEEA) covering both environmental and social considerations) was submitted to the Team Leader, Environmental and Social Management Team (ESMT), ERA on June 6, 2014.
		(b) Have EIA reports been approved by authorities of the host country's government?	(b) N	(b) The IEEA is under review of concerned sections/department of ERA.
		(c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied?	(c) N	(c) The IEEA will be approved after two weeks of the submission.
		(d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(d) N	(d) There is no other required permission other than the IEEA on the Dengego project.
	1.2 Explanation to the Local stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders?	(a) Y	(a) The ESMT undertook public consultation (7/Feb/2014) and a series of Focus Group Discussions (8/Jan/2014) with the community, and meeting with local administrations (7/Feb/2014) to collect issues and concerns of the community towards the Project.
		(b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(b) Y	(b) Their concerns were clarified and view point were incorporated in the Project plan.
	1.3 Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Y	(a) Alternative alignments had been examined since December 2013 continuously. The shape of the premises of the weigh bridge station, as currently proposed, is a result of such examination which considered the minimization of social and environmental impacts while securing enough size of the land.
	2.1 Resettlement	(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement?	(a) Y	(a) About 143 persons will be affected by the Project. Efforts were made to minimize the number of the Project Affected Persons (PAPs) and to avoid relocation of religious building.
		(b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement?	(b) Y	(b) Refer to 1.2(a). All the PAPs agreed to move to relocation site(s) if enough compensation made.

2

Category	Sub Category	Main Items to be Checked	Yes: Y No: N	Description of Environmental and Social Considerations (Reasons, Mitigation Measures)
		(c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement?	(c) Y	(c) The abbreviated Resettlement Action Plan (Abbr. RAP) has been developed.
		(d) Are the compensations going to be paid prior to the resettlement?	(d) Y	(d) ERA will arrange with local banks to facilitate prompt payment of the compensation to each PAP.
		(e) Are the compensation policies prepared in document?	(e) Y	(e) Refer to (c)
		(f) Does the abbreviated RAP pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples?	(f) Y	(f) The Abbr. RAP states that ERA will provide special support to vulnerable people among the PAPs: widows, elders, and handicapped for example.
		(g) Are agreements with the affected people obtained prior to resettlement?	(g) Y	(g) Refer to (b). All the PAPs has agreed the relocation.
		(h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan?	(h) N	(h) ERA will set up the Reallocation Implementation Committee (RIC) to evaluate the compensation amount to each PAPs, to facilitate the smooth implementation of the relocation program. The RIC will consist of representatives coming from the PAPs, local community leaders, and local administrations (Woreda and City).
		(i) Are any plans developed to monitor the impacts of resettlement?	(i) N	(i) Resettlement monitoring plan is under preparation by the ESMT. The RIC will be a monitoring body of the resettlement process at the site. The scope of monitoring shall include implementation schedule, assistance package, community participation, and grievance resolution. The ESMT will undertake evaluation after completion of the Project to see impacts of the Project.
		(j) Is the grievance redress mechanism established?	(j) N	(j) The grievance redress mechanism will be established along with formation of the RIC. The grievance mechanism will determines qualified beneficiaries for relocation, arbitrate in matters of claims and disputes and safeguard of the affected families.
	2.2 Living and Livelihood	(a) Where weighbridge station is newly installed, is there a possibility that the Project will affect the existing means of transportation and the associated workers? Is there a possibility that the project will cause significant impacts: extensive alteration of existing land uses, changes in means of livelihood, unemployment	(a) N	(a) The Project relocate the existing weighbridge; thus will not affect the existing means of transportation such as tri-cycles. The Project will not cause any significant changes in means of livelihood and unemployment. Relocation site is next to right of way, and is located within two to three minute walk from the existing place. Shops will be able to maintain their

Category	Sub Category	Main Items to be Checked	Yes: Y No: N	Description of Environmental and Social Considerations (Reasons, Mitigation Measures)
		for example? Are adequate measures considered for preventing these impacts?		business. Some farmers come to sell their products around the shops. The relocation site has enough space for them as well.
		(b) Is there any possibility that the Project will adversely affect the living conditions of inhabitants other than the affected inhabitants? Are adequate measures considered to reduce the impacts, if necessary?	(b) N	(b) The new weighbridge station will not cause any significant adversely impacts on the living conditions of other inhabitants as the bridge has been existing. The area the new site situated has been designated as an industrial zone by the City office. The City will relocate all the residents in the area to implement the master plan.
		(c) Is there any possibility that diseases, including infectious diseases, such as HIV will be brought due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary?	(c) N	(c) Construction workers will be locally employed in accordance with ERA's requirement to contractors, and no influx of workers from other areas is expected. Besides, ERA will carry out prevention measures.
		(d) Is there any possibility that the project will adversely affect road traffic in the surrounding areas (e.g., by causing increases in traffic congestion and traffic accidents)?	(d) N	(d) The new weighbridge station will not affect road traffic adversely in the surrounding areas.
		(e) Is there any possibility that weighbridge will impede the movement of inhabitants?	(c) N	(e) The new weighbridge stations will be located in the right of the ways as the current weighbridge dose; thus the movement of inhabitants is not changed.
		(f) Is there any possibility that structures associated with railways (such as bridges) will cause a sun shading and radio interference?	(f) N	(f) No significant impacts are expected.
	2.3 Heritage	(a) Is there a possibility that the project will damage the local archaeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?	(a) N	(a) Since there is no archaeological, historical, cultural, and religious heritage in and around the new site.
	2.4 Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	(a) N	(a) The new site is located in the industry zone designated in the City Master Plan.
	2.5 Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples?	(a) N	(a) Not Applicable
		(b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?	(b) N	(b) Not Applicable
	2.6 Working Conditions	(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project?	(a) N	(a) ERA requires its contractors to follow the laws and ordinances associated with the working conditions of the country.

2

Category	Sub Category	Main Items to be Checked	Yes: Y No: N	Description of Environmental and Social Considerations (Reasons, Mitigation Measures)
		(b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials?	(b) Y	(b), (c) and (d) ERA evaluate applied contractors in terms of type, quality and quantity of equipment, and preparation of safety measures so that only those meet ERA's requirement will be considered for rewarding the bid.
		(c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.?	(c) Y	
		(d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(d) Y	
3. Pollution Control	3.1 Water Quality	(a) Is there a possibility that soil runoff from the bare lands resulting from earthmoving activities, such as cutting and filling will cause water quality degradation in downstream water areas?	(a) N	(a) It is foreseen to be minimal. However, waste created by the construction will be managed according to the contract between ERA and the contractor.
		(b) Do effluents from the project facilities, such as stations, comply with the country's effluent standards and ambient water quality standards? Is there a possibility that the effluents will cause areas not to comply with the country's ambient water quality standards?	(b) N	(b) The design of physical structures will conform to the Philippine building and environmental standards and regulations. No untreated effluents will be discharged from the facilities to water bodies.
	3.2 Wastes	(a) Are wastes generated from the project facilities, such as stations and depot, properly treated and disposed of in accordance with the country's regulations?	(a) Y	(a) The Project needs take surface of the soil as a required procedure for any construction work. Those soils are bring to the site set out in the contract between ERA and the contractor.
	3.3 Noise and Vibration	(a) Do noise and vibrations from the vehicle traffic comply with the country's standards?	(a) Y	(a) Kombolcha weighbridge has been operating by ERA under its regulation not to affect the neighboring area.
	3.4 Subsidence	(a) In the case of extraction of a large volume of groundwater, is there a possibility that the extraction of groundwater will cause subsidence (especially in the case of Undergrounds/Subways)?	(a) N	(a) Not Applicable
4. Natural Environment	4.1 Protected Areas	(a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) N	(a) Not Applicable. There is no such protected area in and around the new site, as well as the current site.
	4.2 Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)?	(a) N	(a), (b), (c), (e), and (f) Not Applicable. The new site locates in an industrial zone.

Category	Sub Category	Main Items to be Checked	Yes: Y No: N	Description of Environmental and Social Considerations (Reasons, Mitigation Measures)
		(b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions?	(b) N	
		(c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?	(c) N	
		(d) Are adequate protection measures taken to prevent impacts, such as disruption of migration routes, habitat fragmentation, and traffic accident of wildlife and livestock?	(d) Y	
		(e) Is there a possibility that installation of weighbridge will have impacts, such as the destruction of forest, poaching, desertification, reduction in wetland areas, and disturbance of ecosystems due to the introduction of exotic (non-native invasive) species and pests? Are adequate measures for preventing such impacts considered?	(e) N	(e) Native plant species will be used for re-vegetation.
		(f) In cases the project site is located at undeveloped areas, is there a possibility that the new development will result in extensive loss of natural environments?	(f) N	
	4.3 Hydrology	(a) Is there a possibility that alteration of topographic features and installation of structures, such as tunnels will adversely affect surface water and groundwater flows?	(a) N	(a) Not Applicable.
	4.4 Topography and Geology	(a) Is there a soft ground on the route that may cause slope failures or landslides? Are adequate measures considered preventing slope failures or landslides, where needed?	(a) N	(a) and (b) The soil is enough solid for construction of factories, and there is no large-scale filling and cutting work. During the Detailed Design stage scope of the land preparation will be confirmed.
(b) Is there a possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered preventing slope failures or landslides?		(b) N		
(c) Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff?		(c) N	(c) Contractor should present location and management of the borrow pit and disposal site in their bid document for perusal of ERA. Only those meet the ERA requirement, which comply with the National Environmental Law and other relevant laws and regulations, will be considered for further procedures.	
5 Others	5.1 Impacts during Construction	(a) Are adequate measures considered reducing impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?	(a) Y	(a) and (d) It is ERA's requirement to its contractors to take adequate measures for dust and noise reduction, waste management, traffic safety, and other recognized issues during the construction.

Category	Sub Category	Main Items to be Checked	Yes: Y No: N	Description of Environmental and Social Considerations (Reasons, Mitigation Measures)
		(b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered reducing impacts?	(b) N	(b) and (c) Not applicable. Refer to 4.2. (a) to (f)
		(c) If construction activities adversely affect the social environment, are adequate measures considered reducing impacts?	(c) N	
		(d) If the construction activities might cause traffic congestion, are adequate measures considered reducing such impacts?	(d) Y	See 5.1. (a)
	5.2 Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?	(a) Y, N	(a), (b), (c) and (d) Monitoring Program will be established as stipulated in the Environmental and Social Management Manual (ERA, 2008). RIC, a multi-partite valuation and monitoring team will be formed immediately after the approval of the IELA. The main aim of the RIC is to monitor the resettlement and construction processes if the contractor complies with applicable laws, rules, and regulations. The Right of Way team of ERA, in close communication with the FSMT, will closely assist the RIC.
		(b) What are the items, methods and frequencies of the monitoring program?	(b) Y	
		(c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?	(c) Y	
		(d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(d) Y	
6 Note	6.1 Reference to JICA Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Forestry Projects checklist should also be checked (e.g., projects including large areas of deforestation).	(a) N	(a) and (b) Although the contents of the Project is not applicable to the Forestry and the Power Transmission and Distribution Lines, these guidelines were referred.
		(b) Where necessary, pertinent items described in the Power Transmission and Distribution Lines checklist should also be checked (e.g., projects including installation of power transmission lines and/or electric distribution facilities).	(b) N	
	6.2 Note on Using Environmental Checklist	(a) If necessary, the impacts to trans boundary or global issues should be confirmed, if necessary (e.g., the project includes factors that may cause problems, such as trans boundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a) N	(a) Not applicable.

2

(1) Monitoring Items during the Construction Phase

The latest result of below monitoring items shall be submitted to JICA or its designated entity as part of Quarterly Progress Report throughout the weighbridge construction phase.

1. Comments from the Public, and Response of and Actions taken(to be taken) by ERA

Monitoring Item	Monitoring Results during Report Period
Number and contents of formal comments made by the public	
Number and contents of responses from ERA and/or Government agencies	

2. Pollution

Item	Unit	Measured Value (Mean)	Measured Value(Max)	Country's Standards	Standard for Contract	Referred International Contract	Measurement Point	Frequency*
2.1 Air Quality (Ambient Air Quality)								
Dust								
2.3 Noise								
Noise Level								

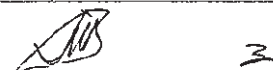
* Considering estimated timeframe of the construction work (three to four months) the Frequency will be whichever suitable between (i) quarterly basis or (ii) what set out in the contract.

3. Social Environment

Monitoring Item	Monitoring Results during the Report Period	Preliminary Arrangement and Measures to be Taken	Frequency
3.1 HIV and other STD		Awareness creation of workers	At the commencement of the construction work
		Distribution of condoms	Daily during the construction
3.2 Working Hours		Pre-agreed time (8:00 - 17:00)	Daily during the construction

4. Traffic Safety**4.1 Safety Measures**

Monitoring Item	Monitoring Results during the Report Period	Measures to be Taken	Frequency
Condition of Traffic Signs			Daily during the construction



(2) Monitoring Items for the First two years of Operation Phase

The latest result of below monitoring items shall be submitted to JICA on a biannual basis for the first two years operation phase.

1. Comments from the Public, and Response of and Actions taken(to be taken) by ERA

Monitoring Item	Monitoring results during reporting period	Frequency
Number and contents of formal comments made by the public		upon receipt of comments/complaints
Number and contents of formal responses from ERA and/or government agencies		

2. Social Environment

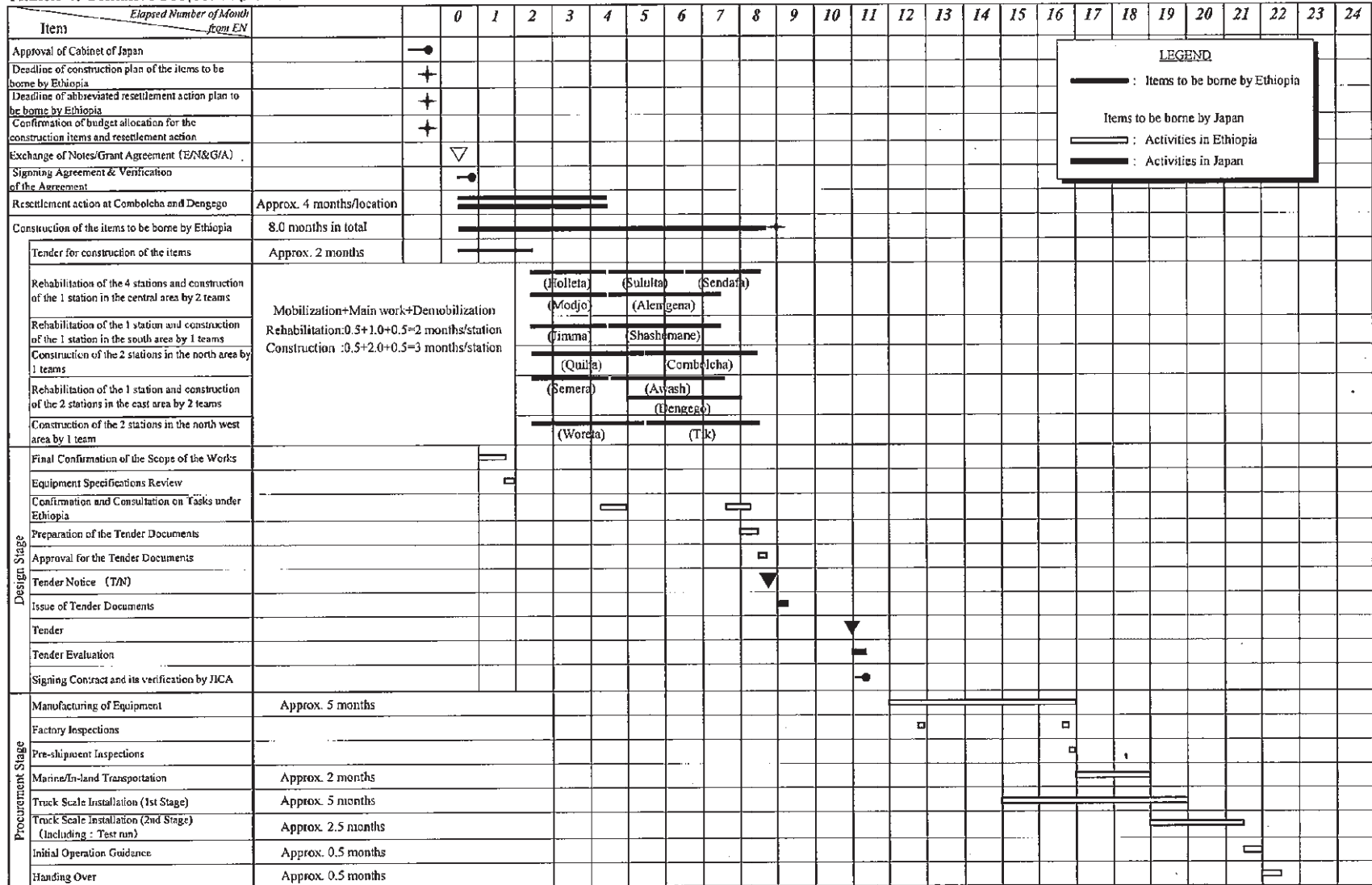
Monitoring Item	Monitoring results during reporting period	Preliminary Arrangement and Measures to be Taken	Frequency
HIV/AIDS and other STDs		Distribution of condoms	Annually

3. Traffic Safety

Monitoring Item	Monitoring results during reporting period	Measures to be taken	Frequency
Condition of traffic signals & weighbridge facilities			Maintenance in every six month

3

Annex-4: Tentative Project Implementation Schedule



LEGEND

- ▬ : Items to be borne by Ethiopia
- ▬ : Items to be borne by Japan
- ▬ : Activities in Ethiopia
- ▬ : Activities in Japan

38

(21/21)

SB I

5. List of Collected Documents

Project Name: The Preparatory Survey on the Project for Improvement of Axle Load Control on Trunk Roads in the Federal Republic of Ethiopia

No.	Name	Type	Original/ Copy	Publisher	Year of Publication
1	Inception Final of Consultancy Service for the Design and Implementation of Modern Axle Load Control System	Book	Copy	ERA	2013
2	Modernizations and Transportation Initiative	Book	Copy	MOT	2013
3	Final Report of National Transport Master Plan Study Appendix 1.7	Book	Copy	Ethiopia (Supported by EU)	2008
4	Assessment of 15 Years Performance of Road Sector Development Program	Book	Copy	ERA	2013
5	Draft Road Safety Audit Manual	Book	Original	ERA	2004

6. Other Information

(1) Site Survey Results

The survey team conducted site survey on 19 candidate sites as follows. New constructing sites are from 1) to 3), Updating sites are from 4) to 14) and rest of sites from 15) to 19) is out of the project.

- 1) Quiha(New)
- 2) Tik, two (2) locations (New)
- 3) Woreta (New)
- 4) Combolcha (Update)
- 5) Semera (Update)
- 6) Dengego (Update)
- 7) Awash (Update)
- 8) Modjo (Update)
- 9) Shashemane (Relocate)
- 10) Jimma (Update)
- 11) Alemgena (Relocate)
- 12) Holleta (Update)
- 13) Sululta (Update)
- 14) Sendafa (Update)
- 15) Jigjiga (Out of the Project)
- 16) Yabello (Out of the Project)
- 17) Nekemte (Out of the Project)
- 18) Assosa (Out of the Project)
- 19) Amba Geyorgis (Out of the Project)

- 1 Weighbridge Station: Quiha Latitude: 13°27'48.50"N Longitude: 39°33'22.71"E
Road A2: Weldiya (AA) <-> Adigrat (Eritrea) Distance from AA: 784km
- 2 Date of Visit: 8 Dec, 2013
- 3 Inspected by: Yoshiro KUNIMASA
ERA Headquarter: Yosef Tamiru
ERA District (Mekele): Hailenariom Testoy
- 4 Site Map:



Bridge



Boundary of Mekele University



Site view



Site view



Commemorative Tree Planting



Culvert

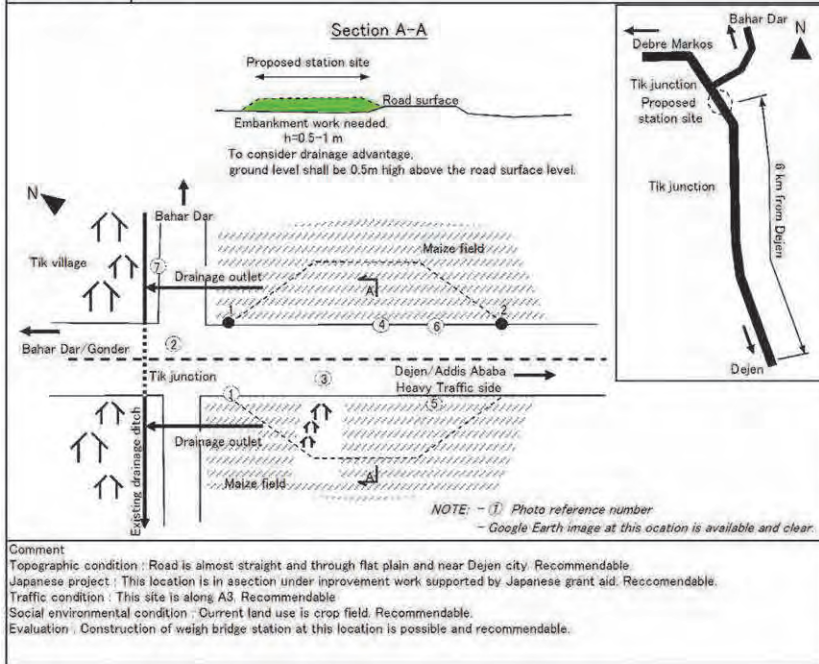
5 Traffic Volume (2011): All Vehicle: 1,040 veh/day Heavy Truck& TT: 316 veh/day Truck Ratio: 30.4%

Major OD (Dec 2013)	Origin	Destination	Total Vehicle No. per day (12 hours)
1	Mekelle	Addis Ababa	18
2	Mekelle	Dese	18
3	Hewan	Mekelle	12
4	Djibouti	Mekelle	7
5	Addis Ababa	Mekelle	4
6	Mehoni	Mekelle	4
7	Mekelle	Adigudem	4
8	Hewan	Adigudem	3

- 7 Availability of water: Available
- 8 Availability of electricity: Available
- 9 Land use: Farmland
- 10 Social environmental issue: Commemorate trees are planted near the candidate site. It is better to avoid the trees to avoid any political conflicts.
- 11 Drainage condition: Water can flow into a river.
- 12 Drainage outlet: A river flows near the candidate site.
- 13 Comments: Between a bridge and a culvert is a suitable location in the view of land use, social environment, drainage condition and its flatness. Also, the sight distance is enough for safety traffic. Both road sides are suitable for new truck scale station. In the view of traffic, bound to Mekele is preferable. Since the roadside is lower than the road, the site shall be mounted by soil for water treatment.

SITE SURVEY SHEET FOR NEW WEIGH BRIDGE STATION

Date of visit / weather	30-Nov-13 FINE	Inspected by	ERA District Mr. Gashaw, ERA Debre Markos Road network management Directorate
Name of new station	Bure 3 (New, Tik junction) Both sides of the road are available.	Inspected by	ERA HQ Miss Sara, ERA HQ Road asset management, Junior
Trunk road	A3-4	Inspected by	Consultant Takuji KONO, KEI Chief consultant
Name of province	Amhara region, Debre Markos district	Inspected by	Other attendant None
Local name of place	Tik junction	Coordinates 1	E: 38.128613° S: 10.233365°
Remarkable land mark if visible	Tik junction	Coordinates 2	E: 38.130238° S: 10.230952°
Distance from the nearest city/village (km)	6km from Dejen (105 km far from the original proposed site to AA side).		
Name of city/village	Tik village		
Traffic condition	Refer to the traffic count survey results at A3-4 section. The road from this junction to Bahar Dar is upgrading (paving) in 2013. This section between Debre Markos and Dejen is upgrading under Japanese grant aid and completion year in 2015.		
Availability of water	Not available		
Availability of electricity	Available		
Land use	Maize field		
Social environmental issue, if any	No habitant in the both sides space but 3 warehouses exists in the right side space to AA direction.		
Drainage condition			
Drainage outlet			



Comment
 Topographic condition : Road is almost straight and through flat plain and near Dejen city. Recommendable.
 Japanese project : This location is in a section under improvement work supported by Japanese grant aid. Recommendable.
 Traffic condition : This site is along A3. Recommendable.
 Social environmental condition : Current land use is crop field. Recommendable.
 Evaluation : Construction of weigh bridge station at this location is possible and recommendable.

PHOTO Bure 3 (New, Tik junction)



2) TIK (New)

SITE SURVEY SHEET FOR NEW WEIGH BRIDGE STATION

Date of visit / weather	28-Nov-13 FINE	Inspected by	ERA District Mr. Abraham. ERA Gonder branch Acting director
Name of new station	Woreta (New)	Inspected by	ERA HQ Miss Sara. ERA HQ Road asset management, Junior
Trunk road	A3-9	Inspected by	Consultant Takujji KONO, KEL Chief consultant
Name of province	Amhara region, Gonder district	Inspected by	Other attendant None
Local name of place	Woreta junction	Coordinates 1	E 37.711735° S 11.946125°
Remarkable land mark if visible	200m from Woreta junction	Coordinates 2	E 37.710738° S 11.948632°
Distance from the nearest city/village (km)	3km from Woreta town	Woreta junction	E 37.710156° S 11.950302°
Name of city/village	Woreta / Bahar dar		
Traffic condition	Refer to the traffic count at A3-9 section. Section between Woreta and Weldiya is 300 km long and was paved in.		
Availability of water	No pipe water. this location is 8-9km from the river.		
Availability of electricity	Avallabla		
Land use	Rice field		
social environmental issue, if any.	None		
Drainage condition	No problem		
Drainage outlet	Drainage outlet is available to the rice side field along the space.		

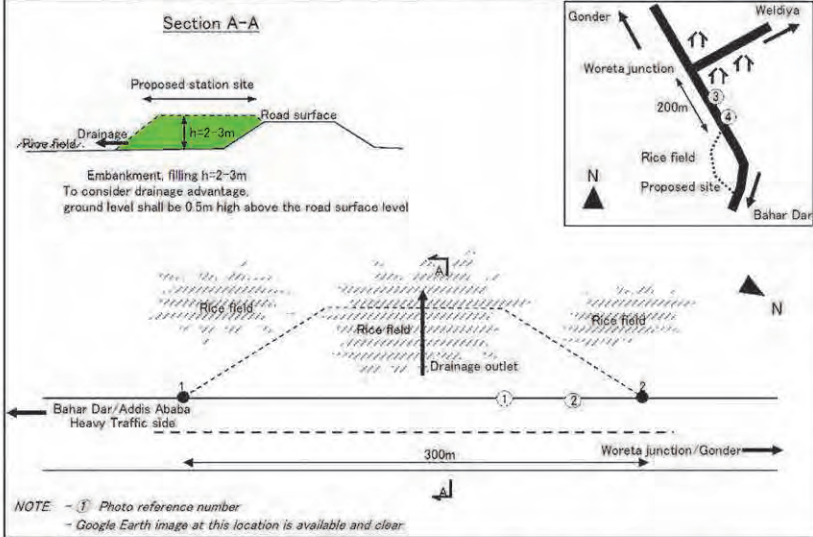


PHOTO Woreta (New)



3) Woreta (New)

Comment

Topographic condition : Road alignment is a straight shape and road surface incline is flat, Proposed space for weighbridge station is locating in flat terrain, Embankment work is required for land grading, Recommendable.

Traffic condition : This location is along A3 road and near Woreta Junction from Woidiya on A2. 2 directions are able to capture here. Recommendable

Social environmental condition : Current land use is rice field and no habitant lives in the proposed space. Recommendable.

Evaluation : This site is recommendable for the new weighbridge station from the view of topographic, traffic and sosial environmental issue

- 1 Weighbridge Station: Kombolcha (existing) Latitude: 11° 05'21.25"N Longitude: 39°43'06.52"E
Road A2: A.A <-> Quiha (Eritria) Distance from AA: 376km
- 2 Date of Visit: 8 Dec, 2013
- 3 Inspected by: Hideaki BABA
ERA Headquarter: Mr. Gaza
ERA District: Mr. Nugusu Head, combolcha, Mr. Biruk Tekle, Engineer RNMD
- 4 Site Map:



- 5 Traffic Volume (2011): All Vehicle: 274 veh/day, Heavy Truck& TT: 274 veh/day, Truck Ratio: 17.6%
- 6 Checked Trucks (2012): 2,346 veh/year, 6 veh/day (Conversion)
- 7 Over Loaded Trucks (201): 128 veh/year, 0 veh/day (Conversion)
- 8 Major OD:

Origin	Destination	Total Vehicle No. per Month	Total Ton
1 AA	Dessie	63	2,038
2 Kombolcha	Dessie	37	868
3 Kombolcha	Djibouti	30	1,175
4 AA	Mekelle	18	407
5 Kombolcha	Lalibela	13	450
- 9 Availability of water: Water is available
- 10 Availability of electricity: Electricity is available
- 11 Land use: ERA own land (however 48m of Quiha side belongs to Hotel)
- 12 Social environmental issue: No housing
- 13 Drainage condition: Flat area. Since drainage pipe is set 30cm below GL, drainage pump is required in rainy season
- 14 Drainage outlet: As shown in the above figure



Access road of east side



Outlet of Access road (Quiha side, Hotel is observed)



Measurement room



Since drainage pipe is set 30cm below GL (too shallow), drainage pump is used in rainy season (Scale linkage is set 70cm below GL)

- 1 Weighbridge Station: Semera
Road A1: Awash (AA) <-> Djibouti Latitude: 11° 81'25.99"N Longitude: 41°02'89.80"E
Distance from AA: 589km
- 2 Date of Visit: 7 Dec, 2013
- 3 Inspected by: Hideaki BABA
ERA Headquarter
Mr. Gazai
ERA District
Mr. Biruk Tekle, Engineer
- 4 Site Map:



- 5 Traffic Volume (2011): All Vehicle: 1,165 veh/day Heavy Truck & TT: 908 veh/day Truck Ratio: 77.9%
- 6 Major OD (Dec 2013):

Origin	Destination	Total Vehicle No. per day (12 hours)
1 Djibouti	Addis Ababa	38
2 Addis Ababa	Djibouti	17
3 Djibouti	Mekelle	5
4 Djibouti	Shashemene	5
5 Kōmbolcha	Djibouti	4
6 Djibouti	Adama	3

 - 7 Availability of water: Water is available from Semera City (3.6km)
 - 8 Availability of electricity: Cable is set alongside the main road
 - 9 Land use: ERA's own land
 - 10 Social environmental issue: No housing
 - 11 Drainage condition: Flat area, needs line ditch 300m
 - 12 Drainage outlet: East side
 - 13 Comments: Site is under construction. The construction is done by road fund.
Access roads have not been paved yet.



Proposed area (right side)



Access road is completed



A pit for an axle load scale is under construction (4m x 37m). The scale shall be one axle load scale. Foundation for Control Room and Office are completed



- 1 Weighbridge Station: Dengeso Latitude: 9°27'23.94"N Longitude: 41°55'10.56"E
Road A10 Awash (AA) <-> Harar (Jig) Distance from AA: 507km
Dengeso <-> Dire Dawa Distance from Dire Dawa: 21km
- 2 Date of Visit: 27 Nov, 2013
- 3 Inspected by: Hideaki BABA, Yoshiro KUNIMASA
ERA Headquarter: Amede Muhye
ERA District: -
- 4 Site Map:



- 5 Traffic Volume (2011)

Dengeso <-> Dire Dawa	All Vehicle: 1,809	veh/day	Heavy Truck & TT: 191	veh/day	Truck Ratio: 10.6%
Dengeso <-> Harar	All Vehicle: 1,846	veh/day	Heavy Truck & TT: 165	veh/day	Truck Ratio: 8.9%
Dengeso <-> Awash	All Vehicle: 1,827	veh/day	Heavy Truck & TT: 178	veh/day	Truck Ratio: 9.7%
- 6 Checked Trucks (2012): 8,899 veh/year 24 veh/day (Conversion)
- 7 Over Loaded Trucks (201): 465 veh/year 1 veh/day (Conversion)
- 8 Major OD:

Origin	Destination	Total Vehicle No. per Month	Total Ton
1 Dire Dawa	Awash	366	10,220
2 Dire Dawa	Haramaya	105	2,886
3 Djibouti	Jijiga	45	2,100
4 Dire Dawa	Jijiga	38	1,179
5 Dire Dawa	Harar	36	860

- 9 Information of Existing Truck Scale:
 - Maker of Truck Scale: Ultra Scale (Australia) / Avery (England)
 - Truck Scale Size: 20m x 3.0m
 - Operational Year: 27 years (4 years)
 - Control Station: 45m x 45m, Mortar
- 10 Emergency Power Back-up: No
- 11 Drainage: Outlet from the truck scale pit, however, an illegal house blocks drainage path. Hence, in the rainy season, staffs should bucket water from the pit once every two days.
- 12 Failure frequency: Once a year
- 13 Comments:

There are several illegal occupants within the truck station site, even one of the houses blocks drainage path. In adjacent, private houses with stores exist. It is difficult to install new truck scale within present truck station site due to shortage of the land and constraint of road geometric alignment access from/ to Awash direction. It is required to find an another location, otherwise it is required to resettle illegal residents and adjacent resident in order to install the new truck scale. In case installing the new truck scale in the present truck station site, drainage shall be also improved.



Weighbridge station



Weighbridge and control house



Truck scale



Water filled in the pit



Encroached illegal residents



Encroached illegal residents



Off loading site

- 1 Weighbridge Station: Awash
 Road A1: AA <-> Mile (Djibouti) Latitude: 9° 2'11.08"N Longitude: 40°12'4.17"E
 Road A10: AA <-> Dire Dawa Distance from AA: 228km
- 2 Date of Visit: 24 Nov, 2013
- 3 Inspected by: Yoshihiro KAKISHITA, Daiki ISE, Takuji KONO, Hideaki BABA, Takakazu TAMAKI, Yoshiro KUNIMASA
 ERA Headquarter
 ERA District
 Yosef Tamiru
- 4 Site Map:



- 5 Traffic Volume (2011):
 Awash <-> Mile All Vehicle: 1,336 veh/day Heavy Truck & TT: 1,018 veh/day Truck Ratio: 76.2%
 Awash <-> Mieso All Vehicle: 949 veh/day Heavy Truck & TT: 281 veh/day Truck Ratio: 29.6%
- 6 Checked Trucks (2012): 35,459 veh/year 97 veh/day (Conversion)
- 7 Over Loaded Trucks (2012): 3,220 veh/year 9 veh/day (Conversion)
- 8 Major OD (Oct 2013)
- | Origin | Destination | Total Vehicle No. per Month | Total Ton |
|-------------|-------------|-----------------------------|-----------|
| 1 Djibouti | AA | 1,049 | 41,368 |
| 2 Djibouti | Modjo | 360 | 13,880 |
| 3 Djibouti | Nazerete | 289 | 11,463 |
| 4 Dire Dawa | AA | 262 | 1,013 |
| 5 Nazerete | Djibouti | 190 | 603 |
- 9 Information of Existing Truck Scale:
 Maker of Truck Scale: Master K (Australia) / TESTUT AEQUITAS (French)
 Truck Scale Size: 2.0m x 3.0m
 Operational Year: 37 years (1976)
 Control Station: 4.5m x 4.5m, Mortar
- 10 Emergency Power Back-up: Exist
- 11 Drainage: Outlet from the truck scale pit
 During the rainy season, three months a year, pump is used for drainage.
- 12 Failure frequency: Three times a year
- 13 Comments: Since a truck queue from Djibouti makes ruttings on the road, it is recommended to relocate the truck scale to an empty land at the west of existing site. The recommended land belongs to ERA and is used for temporary parking only. There are some huts but space is enough to be a truck scale station without their relocation.



Truck scale and control house



Inside of the pit is dry



Pump



End of queue from North (Djibouti)



Rutting



Empty land of ERA, next to the existing weighbridge station



Huts in empty land. No need to relocate them for the new truck station

- 1 Weighbridge Station: Modjo Latitude: 8°35'17.90"N Longitude: 39° 7'20.23"E
Road A1: AA <-> Adama (Nazaret) Distance from AA: 71km
- 2 Date of Visit: 24 Nov, 2013
- 3 Inspected by: Yoshihiro KAKIYASHITA, Daki ISE, Takuji KONO, Hideaki BABA, Takakazu TAMAKI, Yoshiro KUNIMASA
ERA Headquarter: Yosef Tamiru
ERA District: -
- 4 Site Map:



- 5 Traffic Volume (2011): All Vehicle: 20,751 veh/day Heavy Truck& TT: 6,062 veh/day Truck Ratio: 29.2%
- 6 Checked Trucks (2012): 58,609 veh/year 161 veh/day (Conversion)
- 7 Over Loaded Trucks (2012): 4,490 veh/year 12 veh/day (Conversion)
- 8 Major OD (Oct 2013)

Origin	Destination	Total Vehicle No. per Month	Total Ton
1 Alemtena	AA	1,120	16,800
2 Koka	AA	1,100	16,500
3 Langano	AA	763	11,445
4 Meki	AA	761	11,415
5 Nazrete	AA	299	5,710

- 9 Information of Existing Truck Scale:
 - Maker of Truck Scale: Master K (Australia) / TESTUT AEQUITAS (French)
 - Truck Scale Size: 2.0m x 3.0m
 - Operational Year: 38 years (1975)
 - Control Station: 4.5m x 4.5m, Mortar
- 10 Emergency Power Back-up: No
- 11 Drainage:
 - Outlet from the truck scale pit
 - Periodically drainages are cleaned up. Hence, the bottom of the pit keeps dry, truck scale and supporting pillars as well.
- 12 Failure frequency: Three times a year
- 13 Comments:
 - This station checks the highest number of trucks, 161 vehicles per day. According to station master, truck queue extend to the road and obstruct traffic flow at the peak hours.
 - A dry port existing near the station increases a number of trailers and trucks carrying containers passing through the station.
 - However, a new expressway between Addis Ababa and Adama is under construction. It is expected to shift heavy vehicles from A1 to the expressway, thus the number of the heavy vehicles passing through the station will decrease.



Access road fromto Adama



Approach road with parking trucks



A truck weighing on the truck scale



Access road fromto Addis Ababa



The mark of weighbridge



Approach road



Off loading site



Office

- 1 Weighbridge Station: Shashemene Latitude: 7°12'29.17"N Longitude: 38°36'23.12"E
Road A7: AA <-> Awasa (Kenya) Distance from AA: 250km
- 2 Date of Visit:
- 3 Inspected by: Yoshiro KUNIMASA
ERA Headquarter: Amede Mulye
ERA District: Muliskan Zergaw / Getachew Assefa (Capten of the station)
- 4 Site Map:



- 5 Traffic Volume (2011): All Vehicle: 321 veh/day Heavy Truck& TT: 151 veh/day Truck Ratio: 18.4%
- 6 Checked Trucks (2012): 6,859 veh/year 19 veh/day (Conversion)
- 7 Over Loaded Trucks (2012): 269 veh/year 1 veh/day (Conversion)
- 8 Major OD (Oct 2013):

Origin	Destination	Total Vehicle No. per Month	Total Ton
1 Hugel	Wolayita	58	2,320
2 Mekele	Wolayita	53	2,120
3 Nazette	Dilla	51	120
4 Djibouti	Wolayita	48	1,920
5 AA	Awasa	39	1,013
- 9 Information of Existing Truck Scale:
Maker of Truck Scale: Ultra Scale (Australia) / Avery (England)
Truck Scale Size: 2.0m x 3.0m
Operational Year: 28 years (1985)
Control Station: 4.5m x 4.5m, Mortar
- 10 Emergency Power Back-up: No
- 11 Drainage: Outlet from the truck scale pit to dry well. It is required to bucket up water from the dry well twice a year.
- 12 Failure frequency: Once a year
- 13 Comments: Since the new road constructed passing by the shashemene city, the number of truck passing through the station has been decreasing.
ERA is planning to relocate this station to the new location along the new road.



Weighbridge and approach road.



Old weighing machine (back) and present monitor (front)

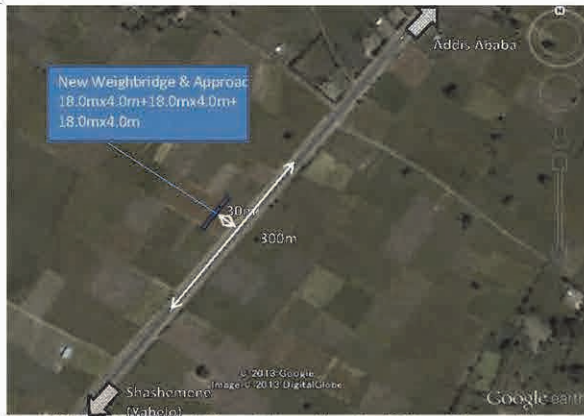


Dry well



Access Road

- 1. Weighbridge Station: Shashemene Latitude: 7°13'46.91"N Longitude: 38°37'54.57"E
Road A8: AA <-> Shashemen (Yabelo) Distance from AA: 250km
- 2. Date of Visit: 30 Nov, 2013
- 3. Inspected by: Yoshiro KUNIMASA
ERA Headquarter: Amede Muhye
ERA District: Mulisken Zergaw
- 4. Site Map:



5. Traffic Volume (2011)	All Vehicle	2,436	veh/day	Heavy Truck & TT:	397	veh/day	Truck Ratio:	16.3%
6. Major OD (Dec 2013)	Origin	Destination		Total Vehicle No. per Month			Total Ton	
	1							
	2							
	3							
	4							
	5							

- 7. Availability of water: Water is available carrying from the city by water tank truck.
- 8. Availability of electricity: Electricity cable is passing by the road.
- 9. Land use: Farm land. ERA started negotiation with the land user.
- 10. Social environmental issue: Farm land shall be compensated by ERA.
- 11. Drainage condition: Road is embankment and higher than surrounding farm lands. Thus, the new truck station shall be raised the ground level and water shall be flown out to the farm lands.
- 12. Drainage outlet:
- 13. Comments: Relocation to the new site along the trunk road is on going. The new location is farm land which is used by private entity and its land acquisition process is in progress.



Candidate site (Farm land), view toward Addis Ababa



Candidate site (Farm land), view toward Shashemene



Candidate site (Farm land)



Candidate site (Farm land)

- 1 Weighbridge Station: Jimma Latitude: 7° 40'11.16"N Longitude: 36°51'29.07"E
Road A5: A.A <-> Gambela Distance from AA: 352km
- 2 Date of Visit: 3 Dec., 2013
- 3 Inspected by: Hideaki BABA
ERA Headquarter: Mr. Gazai
ERA District: Mr. Bogale Sheferaw, Head, Jimma, Mr. Ayele Bogale, Head Jimma measurement house
- 4 Site Map:



5 Traffic Volume (2011): All Vehicle: 544 veh/day Heavy Truck& TT: 147 veh/day Truck Ratio: 27.0%

6 Checked Trucks (2012): 3,884 veh/year 11 veh/day (Conversion)

7 Over-Loaded Trucks (2012): 238 veh/year 1 veh/day (Conversion)

8 Major OD (Oct 2013)

	Origin	Destination	Total Vehicle No. per Month	Total Ton
1	AA	Jimma	81	2,172
2	Mizan	AA	25	905
3	Bedelle	AA	24	843
4	Nezaret	Jimma	22	335
5	AA	Gambella	18	673

- 9 Availability of water: Water is available
- 10 Availability of electricity: Cable is set
- 11 Land use: ERA's own land
- 12 Social environmental issue: Truck Scale
- 13 Drainage condition: Filled area, 7m length drainage pipe is set
- 14 Drainage outlet: Oposite side of road
- 15 Comments:



West end of the Measurement area



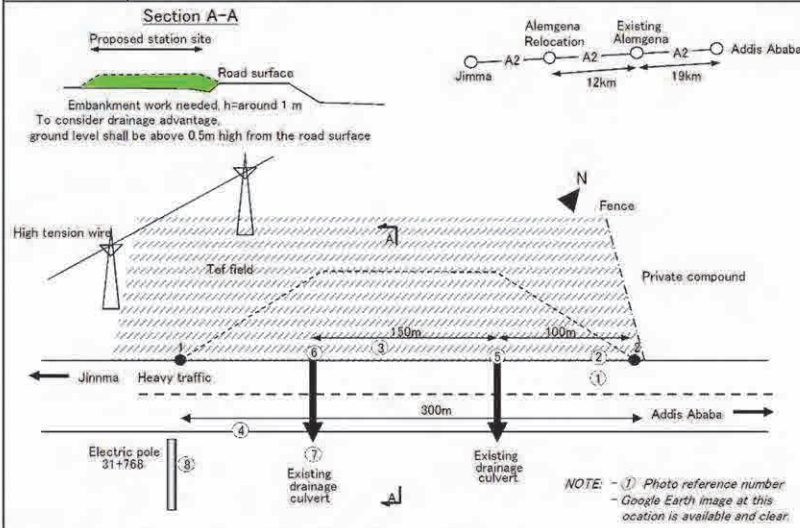
East end of the Measurement area



Existing Truck Scale

SITE SURVEY SHEET FOR NEW WEIGH BRIDGE STATION

Date of visit/ weather	6-Dec-13 FINE	Inspected by	ERA Mt. Shiferawi Abebe Alemgena weighbridge station, supervisor
Name of new station	Alemgena relocation	Inspected by	ERA HQ Mt. Sisay Abebe, Senior Assistant Engineer.
Trunk road	A2(Jimma road)	Inspected by	Consultant Takuji KONNO, KEI, Chief consultant
Name of province	Oromiya Region, Alemgena District	Inspected by	Other attendant Mr. Jin. JIGA Ethiopia office. Resident representative
Local name of place	Sabete	Coordinates 1	E 38.560650° S 8.883332°
Remarkable land mark if visible	None	Coordinates 2	No survey
Distance from the nearest city/village (km)	5 km from Sabeta town	Coordinates 3	E 38.563145° S 8.884737°
Name of city/village	Sabeta	Coordinates 4	No survey
Traffic condition	This road connects Addis Ababa and Jimma. Direction from AA to Jimma is heavy traffic. Traffic survey results available		
Availability of water	Available		
Availability of electricity	Available		
Land use	Teff field		
environmental issue.	None		
Drainage condition	To follow the existing drainage system. To drain to the other side of the road.		
Drainage outlet	To utilize the existing drainage culvert.		



Comment:
 Topographic condition : Road is almost straight and through flat plain. Recommendable.
 Traffic condition : This site is along A2 and locating on the heavy traffic side. Recommendable
 Social environmental condition : Current land use is crop field. Recommendable.
 Evaluation : Construction of weigh bridge station at this location is possible and recommendable.

PHOTO Alemgena relocation



11) Alemgena (Relocate)

- 1 Weighbridge Station: Hollera Road AA: AA <-> Addis Alem Latitude: 9°4'22.39"N Longitude: 38°30'1.08"E Distance from AA: 24km
- 2 Date of Visit: 18 Nov. 2013
- 3 Inspected by: Yoshihiro KAKUSHITA, Daiki ISE, Takuji KONO, Hideaki BABA, Takakazu TAMAKI, Yoshiro KUNIMASA
ERA Headquarter: Yosef Tamiru
- 4 Site Map:



5 Traffic Volume (2011): All Vehicle: 1,600 veh/day Heavy Truck& TT: 387 veh/day Truck Ratio: 24.2%

6 Checked Trucks (2012): 32,143 veh/year 88 veh/day (Conversion)

7 Over Loaded Trucks (201): 1,253 veh/year 3 veh/day (Conversion)

8 Major OD: (Oct 2013)	Origin	Destination	Total Vehicle No. per Month	Total Ton
1	Muger	AA	577	15,893
2	AA	Nekemte	178	1,518
3	Debrae Zeit	Muger	164	1,878
4	Hollera	AA	150	1,553
5	Juldo	AA	137	1,748

9 Information of Existing Truck Scale:
 Maker of Truck Scale: Ultra Scale (Australia)
 Truck Scale Size: 20m x 3.0m
 Operational Year: 29 years (1984)
 Control Station: 4.5m x 4.5m, Mortar

10 Emergency Power Back-up: Exist

11 Drainage: Outlet from the truck scale pit. Periodically drainages are cleaned up. Hence, the bottom of the pit keeps dry, truck scale and supporting pillars as well.

12 Failure frequency: Twice a year

13 Comments: A cement factory locates near the station. The station site has enough space for the new truck scale. Drainage is well maintained.



Track scale



Weighing truck



Monitor of weight display



Load cell is stored inside of the control house



Weighbridge system



Ultra scale



Inside of the pit is kept dry



Outlet of the drainage

- 1 Weighbridge Station: Sululta Latitude: 9° 6'46.47"N Longitude: 38°43'15.74"E
Road A3: AA <-> Debre Markos Distance from AA: 11km
- 2 Date of Visit: 17 Nov, 2013
- 3 Inspected by: Yoshihiro KAKISHITA, Daki ISE, Takuji KONO, Hideaki BABA, Takakazu TAMAKI, Yoshiro KUNIMASA
ERA Headquarter
ERA District
Yosef Tamiru
- 4 Site Map:



- 5 Traffic Volume (2011): All Vehicle: 2,447 veh/day Heavy Truck&TT: 590 veh/day Truck Ratio: 24.1%
- 6 Checked Trucks (2012): 16,450 veh/year 45 veh/day (Conversion)
- 7 Over Loaded Trucks (2012): 1,521 veh/year 4 veh/day (Conversion)

8 Major OD (Oct 2013)	Origin	Destination	Total Vehicle No. per Month	Total Ton
1	Derba	AA	569	13,207
2	Sululta	AA	117	1,754
3	AA	Gonder	88	2,839
4	Debrazeith	Delba	82	2,848
5	AA	Bahirdar	73	2,136

- 9 Information of Existing Truck Scale:
Maker of Truck Scale: TESTUT AEQUITAS (French)
Truck Scale Size: 2.0m x 3.0m
Operational Year: 31 years
Control Station: 4.5m x 4.5m, Mortar

- 10 Emergency Power Back-up: No

- 11 Drainage: Outlet from the truck scale pit
Periodically drainages are cleaned up. Hence, the bottom of the pit keeps dry, truck scale and supporting pillars as well.

- 12 Failure frequency: Twice a year

- 13 Comments: The station site has enough space for the new truck scale. However, access roads are required to be modified due to extension of approach road to the truck scale.
Drainage is well maintained.



Truck scale and control house



Approach to truck scale



Truck scale (Aequitas)



Monitor of truck scale (Master-K)



Off loading site



Reloading commodities due to over overloading



Well point and mud removed from ditch



Drainage

- 1 Weighbridge Station: Sendafa Latitude: 9° 6'4.95"N Longitude: 38°58'29.05"E
 Road A2: AA <-> Debre Barhan Distance from AA: 30km
- 2 Date of Visit:
- 3 Inspected by: Yoshihiro KAKISHITA, Daiki ISE, Takuji KONO, Hideaki BABA, Takakazu TAMAKI, Yoshiro KUNIMASA
 ERA Headquarter: Yosef Tamiru
- 4 Site Map:



Facilities and documents at control house



Gravel filled concrete box

- 5 Traffic Volume (2011): All Vehicle: 1,547 veh/day Heavy Truck&TT: 256 veh/day Truck Ratio: 16.5%
- 6 Checked Trucks (2012): veh/year veh/day (Conversion)
- 7 Over Loaded Trucks (201): veh/year veh/day (Conversion)
- 8 Major OD:

	Origin	Destination	Total Vehicle No. per Month	Total Ton
1	Not available			
2	Not available			
3	Not available			
4	Not available			
5	Not available			
- 9 Information of Existing Truck Scale:
 - Maker of Truck Scale: Sifang Scale (China)
 - Truck Scale Size: 0.8 x 3.0m
 - Operational Year: 1 month (2013)
 - Control Station: 4.5m x 4.5m, Mortar
- 10 Emergency Power Back-up: No
- 11 Drainage: Outlet can not be observed.
- 12 Failure frequency: Nothing in 2012
- 13 Comments: This station was a candidate of new truck station, however, as a part of road improvement project funded by road fund, new truck station has been installed. This new truck station has just started operation for one month. Space is enough for installing new truck scale. Drainage shall be investigated and improved if necessary.

15) Jigjiga (Out of the Project)

- 1 Weighbridge Station: Jigjiga Road A10 Jigjiga <-> Jigjiga Airport Latitude: 9°20'30.23"N Longitude: 42°50'52.08"E
- 2 Date of Visit: 26 Nov, 2013 Distance from AA: 628km
- 3 Inspected by: Hideaki BABA, Yoshiro KUNIMASA Distance from Jigjiga Intersection: 3km
- ERA Headquarter: Amede Muhye
- ERA District: Nedew Nigusie
- 4 Site Map:



5 Traffic Volume (2011): All Vehicle: 819 veh/day Heavy Truck&TT: 165 veh/day Truck Ratio: 20.1%

6 Major OD (Dec 2013)

Origin	Destination	Total Vehicle No. per day (12 hours)
1 Jigjiga	Fafan	11
2 Fafan	Jigjiga	10
3 Addis Ababa	Jigjiga	8
4 Djibouti	Jigjiga	7
5 Bambus	Jigjiga	6
6 Wuchale	Addis Ababa	6
7 Jigjiga	Bambus	6
8 Dire Dawa	Jigjiga	4

- 7 Availability of water: Water is available carrying from the city by water tank truck.
- 8 Availability of electricity: Electricity cable is passing by the road.
- 9 Land use: Nobody use the land. Land is under Jigjiga City.
- 10 Social environmental issue: Nothing
- 11 Drainage condition: The road is embankment. Rain water flows toe of the slope of embankment.
- 12 Drainage outlet: The candidate site locates at the middle of slope. The location is rather flat, however, slightly down toward Jigjiga town. Outlet shall be downward.

13 Comments
 There is an army camp from the intersection of Jigjiga and Somaliland (Degehabur). The candidate location is between the end of the army camp to water reservoir tank, about 3km. Within this area, mountainous side, south to the road, is suitable for the new weighbridge station. I here are trucks from somali land to southern part of Ethiopia, which carry mainly sugar and do not pass any existing weighbridge station. Considering this heavy traffic movement, north side to the road is suitable for the new weigh bridge station. On the contrary, topographic condition indicates suitable location as south to the road as it described above. Due to the small volume of traffic, south to the road is recommended as the candidate site.
 The location is between the airport and the city, thus, security is not an issue.
 Electric cable passes along the road, with about 30m-distance from the road.



Road toward Jigjiga Air Port



Candidate site from the road



Candidate site from the road



Water flow



Candidate site from the road



Candidate site from the road



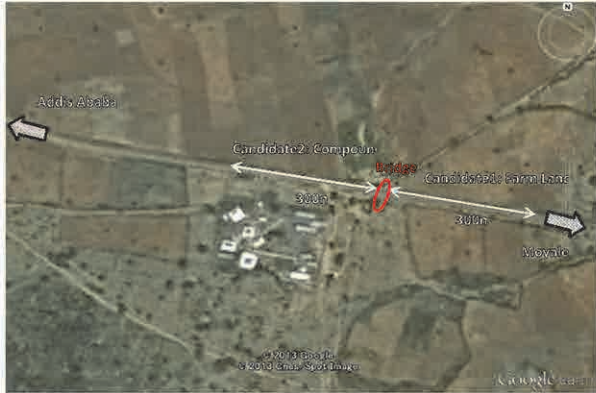
Candidate site



Army camp

16) Yabello (Out of the Project)

- 1 Weighbridge Station: Yabello Latitude: 4°52'44.83"N Longitude: 38°8'51.31"E
Road A8: Shashemene (AA) <-> Moyale (Kenya) Distance from AA: 579km
- 2 Date of Visit: 1 Dec, 2013
- 3 Inspected by: Yoshiro KUNIMASA
ERA Headquarter: Amede Muhye
ERA District: Muliken Zergaw
- 4 Site Map:



5 Traffic Volume (2011): All Vehicle 284 veh/day Heavy Truck&TT: 45 veh/day Truck Ratio: 15.8%

6 Major OD (Dec 2013)

Origin	Destination	Total Vehicle No. per day (12 hours)
1 Yabello	Gidera	5
2 Addis Ababa	Moyale	4
3 Shashemene	Moyale	4
4 Moyale	Addis Ababa	3
5 Yabello	Dubuluk	3
6 Mega	Shashemene	2
7 Yabello	Aroero	2
8 Yabello	Mega	2

- 7 Availability of water: Water is available carrying from the city by water tank truck
- 8 Availability of electricity: Electricity cable is passing by the road.
- 9 Land use: Candidate 1 is a farm land and candidate 2 is a compound for road construction.
- 10 Social environmental issue: Nothing
- 11 Drainage condition: There is a river near candidate sites. At the time of site visit, there is no water in the river.
- 12 Drainage outlet: The outlet shall flow into the river.
- 13 Comments: A compound for road construction is a property of ERA. The construction work will terminate by the time of starting the project of weigh bridge project, thus it is preferable to use the compound for the office of weigh bridge station and install truck scale between the compound and the road.
If it is difficult to use the compound, an alternative is candidate 2. The land is farm land and there is no social environment issue. In the view of topology, candidate 3 is an alternative. It is flatter than other candidates. However, the location is 2.5 km west to other candidates and due to commuting, other candidates are recommended.



Candidate site 1



Candidate site 1



Access road to compound of road construction company



Compound of road construction company (ERA's property)



Small bridge near the candidate site



Water flow should be treated



Candidate field beside the road



Candidate field (farm land)

- 1 Weighbridge Station: Nekemte Latitude: 9° 03'58.62"N Longitude: 36°36'14.12"E
 Road A4: A.A <-> Assosa Distance from AA:
- 2 Date of Visit: 30 Nov, 2013
- 3 Inspected by: Hideaki BABA
 ERA Headquarter: Mr. Gazal
 ERA District: Mr. Chala, Head, Nekemte, Mr. Negaro, Engineer, Nekemte RNMD
- 4 Site Map:



Proposed site (Northern end)



Proposed site (Southern end)



Proposed site (50m inside from the road)



Proposed site (Right side)

- 5 Traffic Volume (2011): All Vehicle: 711 veh/day Heavy Truck& TT: 289 veh/day Truck Ratio: 40.6%
- 6 Major OD:

	Origin	Destination	Total Vehicle No. per day (12 hours)
1	Nekemte	Addis Ababa	14
2	Asossa	Addis Ababa	7
3	Addis Ababa	Nekemte	6
4	Arjo	Addis Ababa	6
5	Mendi	Addis Ababa	5
6	Addis Ababa	Gimbi	4
7	Gambella	Fincha	4
8	Gimbi	Addis Ababa	3
9	Gutin	Addis Ababa	3
- 7 Availability of water: Water is available from the well (10km, Nekemte City)
- 8 Availability of electricity: Cable is set alongside the road
- 9 Land use: Farmland
- 10 Social environmental issue: Nothing
- 11 Drainage condition: Hill top area, Land is higher than the road by 1m
- 12 Drainage outlet: South direction
- 13 Comments: ERA decided to cancel this site for the project, but install existing one axle load scale by their own fund.

- 1 Weighbridge Station: Assosa Latitude: 10° 5'19.51"N Longitude: 34°34'0.37"E
Road A4: Nekemte (AA) <-> Kurmuck (South Sudan) Distance from AA: 679km
- 2 Date of Visit: 5 and 6 Dec, 2013.
- 3 Inspected by: Yoshiro KUNIMASA
ERA Headquarter: Danait Andom
ERA District (Nekemte): Negro Belay, Gemecis Teina
- 4 Site Map:



5 Traffic Volume (2011): All Vehicle: 166 veh/day Heavy Truck & TT: 14 veh/day Truck Ratio: 8.4%

Major OD (Dec 2013)	Origin	Destination	Total Vehicle No. per day (12 hours)
1	Addis Ababa	Asossa	3
2	Assosa	Addis Ababa	3
3	Asrarat	Asossa	3
4	Assosa	Asrarati	2
5	Assosa	Dalati	2

- 7 Availability of water: Water is available carrying from town by water tank truck.
- 8 Availability of electricity: Electric cables run along the road.
- 9 Land use: Farm land
- 10 Social environmental issue: No resident
- 11 Drainage condition: Nothing
- 12 Drainage outlet: Candidate 1 is a crown of vertical curve and leveled as a frontage of compound. Just treat as a same manner of the compound.
Candidate 2 is a bottom of vertical curve. Surrounding is farm land and to be treated properly.
- 13 Comments: Candidate 1 is in front of the compound. The site is leveled and the compound can be utilised for office. The compound belongs to ERA and the construction is finishing, therefore it is recommended to utilise land and facilities. However, the west side of the compound is to be transferred to Assosa University. In this regard, some difficulties may occur in case this site is to be used as truck scale station. First priority can be set for candidate 1, in case it is difficult, candidate 2 will be the site.



Access road to the compound



Leveled land in front of the compound



Road and access road



Western part of compound is to be transferred to Assosa University



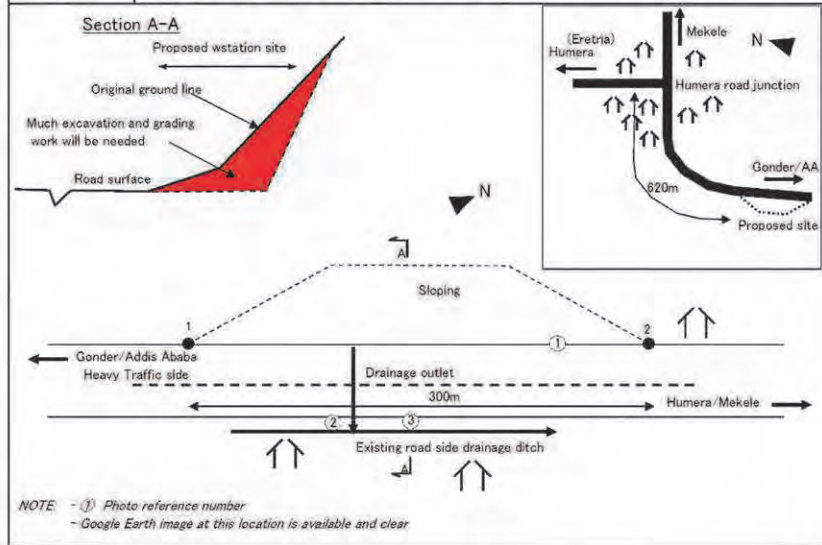
Candidate 2 is rather flat.



Surroundings of candidate 2 are farm land.

SITE SURVEY SHEET FOR NEW WEIGH BRIDGE STATION

Date of visit / weather	28-Nov-13 FINE	Inspected by	ERA District Mr. Abraham, ERA Gonder branch, Acting director
Name of new station	Amba Geyorgis (New)	Inspected by	ERA HQ Mis Sara, ERA HQ Road asset management, Junior
Trunk road	B-30-1	Inspected by	Consultant Takuji KONO, KEI, Chief consultant
Name of province	Amhara region, Gonder district	Inspected by	Other attendant None
Local name of place	Amhara region, Amba Geyorgis	Coordinates 1	E 37.471882° S 12.637459°
Remarkable land mark if visible	Humera road junction	Coordinates 2	E 37.472534° S 12.640288°
Distance from the nearest city/village (km)	5km from Gonder	Humera road junction	E 37.478106° S 12.643041°
Name of city/village	Gonder		
Traffic condition	This road connects Gonder and Melkele and Gonder to Humera at the Eritrea border. Major freight at this section is local agriculture product not international use because the border is closing. Current traffic is very few.		
Availability of water	Available		
Availability of electricity	Available		
Land use	None		
Social environmental issue.	None		
Drainage condition	Good		
Drainage outlet	Drainage outlet is available at the other side of the road due to the topographic condition.		



Comment
 Topographic condition : Road alignment is a straight shape but the road surface incline is not level at this section. And the road runs beside hillside then huge earth work will be expected to make a level space for the proposed weigh bridge. Unrecommendable.
 Traffic condition : Due to the road development around this area, traffic volume at this section will increase in near future so recommendable. But this location is far from A3 road originally requested so unrecommendable.
 Social environmental condition : No land use and no habitant in visible at this location. Not recommendable.
 Evaluation : This site is locating along B-30-1 not along A class road of ERA. Propesd New Amba Geyorgis woibridge station shall be excluded from the project

PHOTO Amba Geyorgis (New)



19) Amba Geyorgis (Out of the Project)

(2) Survey Results of Traffic Survey

(a) Traffic Count Survey

- Survey Sites: 9 locations of candidate new sites
- Survey Hours: 12 hours
- Survey Days: One weekday
- Vehicle Types: 8 vehicle types

Table 6-1 Summary of Traffic Count Survey

No	Station	Road Section	Cars	Land Rover	Small Bus	Large Bus	Small Trk	Medium Truck	Heavy Truck	Truck Trailer	Total
1	Bure	Bure - Bahirdar		42	41	45	41	13	26	8	216
		Bahirdar - Bure		47	41	44	39	8	25	10	214
2	Mekelle	Mechiaw- Mekelle	7	164	235	32	90	50	80	105	763
		Mekelle - Mechiaw	16	246	248	25	93	43	68	127	866
3	Jijiga	Harar - Jijiga	42	127	18	42	92	115	101	38	575
		Jijiga - Harar	72	102	28	65	112	68	129	15	591
4	Semera	Semara - Asseb	7	341	283	14	24	21	18	445	1153
		Asseb - Semera	10	269	218	10	19	17	25	595	1163
5	Yabello	Yabello - Mega		50	40	9	17	13		2	131
		Mega - Moyale		49	36	10	10	8		7	120
6	Nekemte	Bako - Nekemte	9	77	102	14	27	18	16	26	289
		Nekemte - Bako	4	83	97	9	19	4	13	20	249
7	Asosa	Nejo - Asosa	1	144	70	16	15	5	5	2	258
		Asosa - Nejo	2	119	45	8	14	4	4	2	198
8	Amba Giyorgis	Bahirdar - Gonder	31	106	195	12	67	56	64	77	608
		Gonder - Bahirdar	26	120	200	23	64	51	63	75	622
9	Woreta	Woreta - Woldiya	4	85	136	9	21	5	29	20	309
		Woldiya - Woreta	4	98	144	11	53	3	25	33	371

(b) OD Survey

A truck driver's OD survey was conducted and identified freight OD. Outline of OD survey is as follows:

- Survey Sites: 9 locations of candidate new sites
- Number of samples: Target number is set as a hundred (100) at each survey station, however, due to small traffic, Assosa and Yabello are less than the target number.

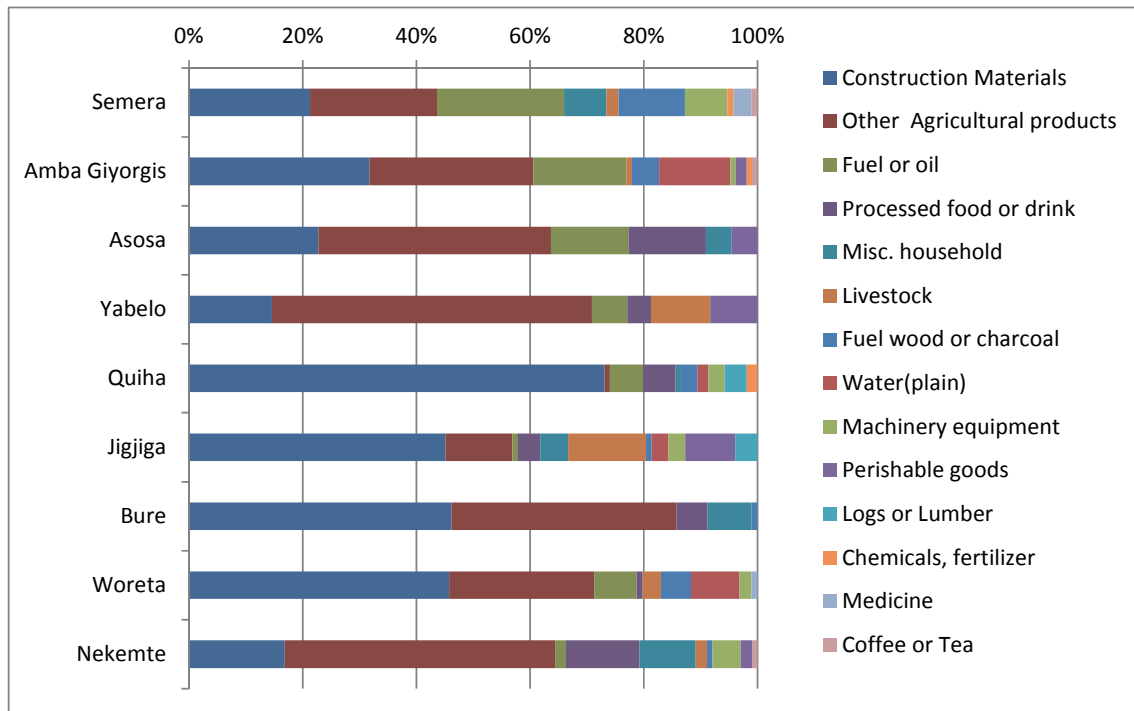
Table 6-2 Number of Survey Samples

Semera	Amba Giyorgis	Asosa	Yabelo	Quiha	Jijiga	Bure	Woreta	Nekemte
103	105	23	48	104	102	91	94	101

(c) Survey Results

① Commodities

“Construction Materials” is the largest number and “Other Agricultural Products” follows. At Quiha, “Construction Materials” is especially dominant. Whereas “Other Agricultural Products “is dominant at Yabello, Nekemte and Assosa. At Semera, Amba Gyorgis and Assosa, “Fuel or oil” is rather bigger than other candidates.

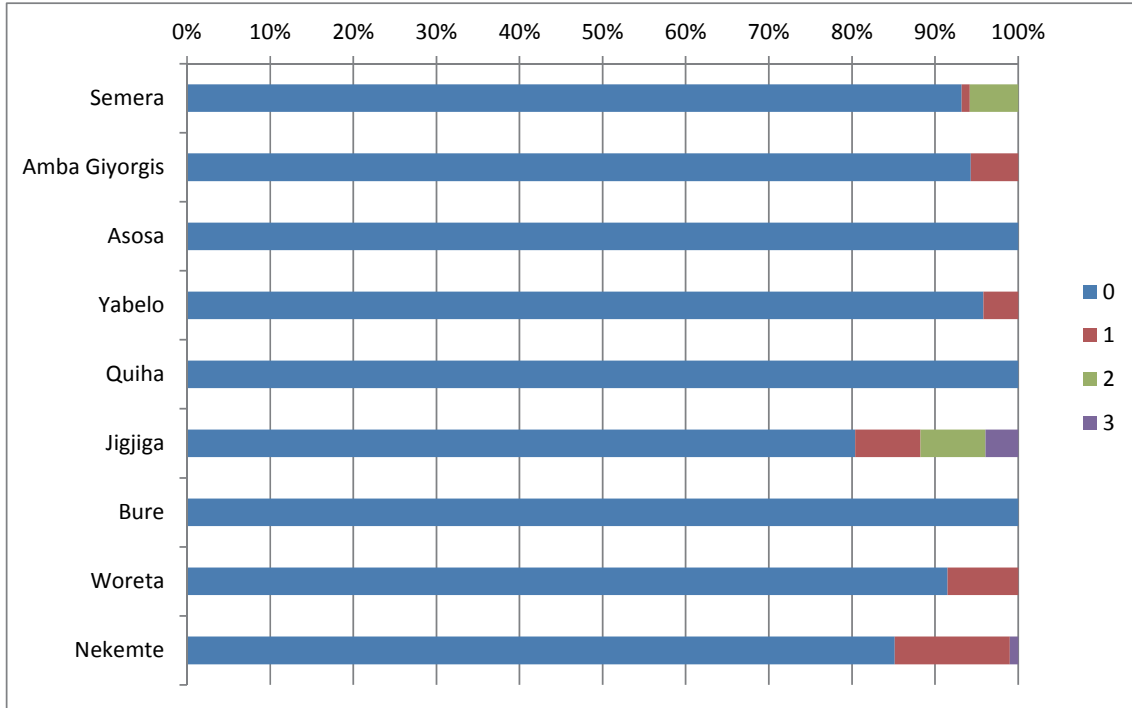


Source: Survey Team

Figure 6-1 Composition of Commodities

② Number of weighbridge stations passed by the truck

A result of the question how many weighbridge stations are passed by the truck revealed that eighty percent (80%) of trucks of each candidate station passed none of existing stations. It can be concluded that all new candidate stations will effectively increase the number of checking trucks.



Source: Survey Team

Figure 6-2 Composition of the Number of weighbridge stations passed by a truck

③ Average travel time

The longest average travel time of trucks is 26.7 hours at Quiha (Mekele), whereas the shortest one is 8.8 hours at Jigjiga.

Table 6-3 Average Travel Time

Stations	Average Travel Hours (Hours)
Semera	26.5
Amba Giyorgis	26.6
Asosa	18.3
Yabelo	13.6
Quiha	26.7
Jigjiga	8.8
Bure	13.8
Woreta	14.4
Nekemte	17.2

(3) Monitoring Formats for Environmental and Social Consideration

1) Draft of Monitoring Indicators Format for Monitoring of the Resettlement Process

Monitoring input	Output	Responsible Body
A. Financial Progress		
Amount disbursed for structure compensation	Compensation	- ROWT and ESMT from ERA, - Regional Finance and Economic Development Bureau
Amount disbursed for the acquisition of other assets	Compensation	
Amount disbursed for transitional assistance	Assistance	
Amount of shifting allowance (tenants included)	Assistance	
Fee paid to external evaluation agency	Monitoring	
Fee paid to NGO for HIV/AIDS	Project support cost	
B. Physical Progress		
Total land required	Acquisition	- ROWT and ESMT from ERA, - Regional Finance and Economic Development Bureau
Number of PAPs whose residential structures were acquired and demolished	Compensation	
Number of PAPs whose commercial structures were acquired and demolished.	Compensation	
Number of PAPs who received transitional allowance	Economic rehabilitation	
Number of PAPs who received shifting allowance	Relocation	
Number of PAPs who received shifting allowance	Relocation	
C. Participation of Stakeholders		
Number of meetings for dissemination of information on R&R	Awareness about the project	- ROWT and ESMT from ERA, - Regional Finance and Economic Development Bureau
Number of PAPs approaching the RIC, Local Government and got grievances Committees.	Grievances resolved/unresolved	
Selection of resettlement sites	Decision making by the PAPs	
Number of PAPs self-relocated	Decision making by the PAPs	
Number of women PAPs deciding the relocation site	Minimizing impact on women	
Number of women PAPs gainfully employed	Increased opportunity for women	
Number of PAPs moving the court	Implementation of the resettlement within the time frame	
Total area, number of structures, and PAPs saved from the negative impact during implementation	Minimizing negative social impacts	

2) Draft of Indicators Format for the ERA Evaluation

Type	Indicator	Examples of Variables	Responsible body
Impact indicator	Household Earning capacity	<ul style="list-style-type: none"> • Employment status of economically active member; • Landholding size, area cultivated and production volume by crop • Changes to income earning activates- pre-and post-project • Amount and balance in income and expenditure 	External Consultant
	Change to status of Women	<ul style="list-style-type: none"> • Participation in training programs • Use of credit facilities (if any) • Participation in road constructions • Participation in commercial enterprise 	External Consultant
	Change to status of Children	<ul style="list-style-type: none"> • School enrolment rates – males and females • School attendance rates-males and females 	External Consultant
Estimated cost (sum)		10,000 EBR	

3) Monitoring Items during the Construction Phase

The latest result of below monitoring items shall be submitted to JICA or its designated entity as part of Quarterly Progress Report throughout the weighbridge construction phase.

1. Comments from the Public, and Response of and Actions taken (to be taken) by ERA

Monitoring Item	Monitoring Results during Report Period
Number and contents of formal comments made by the public	
Number and contents of responses from ERA and/or Government agencies	

2. Pollution

Item	Unit	Measured Value (Mean)	Measured Value(Max)	Country's Standards	Standard for Contract	Referred International Contract	Measurement Point	Frequency*
2.1 Air Quality (Ambient Air Quality)								
Dust								
2.3 Noise								
Noise Level								

* Considering estimated timeframe of the construction work (three to four months) the Frequency will be whichever suitable between (i) quarterly basis and (ii) what set out in the contract.

3. Social Environment

Monitoring Item	Monitoring Results during the Report Period	Preliminary Arrangement and Measures to be Taken	Frequency
3.1 HIV and other STD		Awareness creation of workers	At the commencement of the construction work
		Distribution of condoms	Daily during the construction
3.2 Working Hours		Pre-agreed time (8:00 – 17:00)	Daily during the construction

4. Traffic Safety

4.1 Safety Measures

Monitoring Item	Monitoring Results during the Report Period	Measures to be Taken	Frequency
Condition of Traffic Signs			Daily during the construction

4) Monitoring Items for the First two years of Operation Phase

The latest result of below monitoring items shall be submitted to JICA on a biannual basis for the first two years operation phase.

1. Comments from the Public, and Response of and Actions taken (to be taken) by ERA

Monitoring Item	Monitoring Results during Reporting Period	Frequency
Number and contents of formal comments made by the public		upon receipt of comments/complaints
Number and contents of formal responses from ERA and/or government agencies		

2. Traffic Safety

Monitoring Item	Monitoring Results during Reporting Period	Preliminary Arrangement and Measures to be Taken	Frequency
HIV/AIDS and other STDs		Distribution of condoms	Annually

3. Traffic Safety

Monitoring Item	Monitoring Results during Reporting Period	Measures to be Taken	Frequency
Condition of traffic signals & weighbridge facilities			Maintenance in every six month