GRAVEL ROAD VALUE CHAIN





ECONOMY INFRASTRUCTURE

Sub Sector: road construction

road and building value chain

OBJECTIVE

Generally, the study was conducted to determine the present road construction practices In Ethiopia.

Specifically, this aims to:

- Identify the Value Chain (AS IS) in Ethiopia
- Compare the Value Chain (AS IS) to that of the benchmark.
- Identify the gaps and constraints in attaining high.
- Identify and recommend technologies that will improve road & increase construction growth.
- Promoting technologies through in the construction industry
- Improve the life style of the community

FACT & FIGURE

1 .SITE CLEARING TO REMOVE
TOP SOIL TO AN AVERAGE DEPTH DOZER EFFICIENCY 600M3/HR
20CM DEPTH.
2. TRENCH EXCAVATION BULL DOZER EFFICIENCY 800M3/HR
ORDINARY SOIL TO A DEPTH OF MINIMUM 15-20CM .
3..COMPACTION ROLLER COMPACTOR EFFICIENCY 800 BIRR

4 .SPREADING OR FILLING SPREADING OR FILLING FOR SUB GRADE AT LTEAST 70CM
THE SUB GRADE AVERAGE
DEPTH OF 30CM THEN COMPACTION
5 . SPREADING SUB BASE 5-10CM THEN COMPACTION. AT LEAST 30-40CM FOR SUB BASE

Gravel road value chain ASIS



Site investigation
Soil Test is not take properly

Geologicalanalises traditional

Raw materials
Low quality

Finishing work

Site clearing
Man power

Open for traffic
Be fore the construction work isfinished

Horizontal Setting Out

Vertical Setting out using **labor** based **method**

Location
Wooden pegs

Site clearing
Man power

Cut and fill
By labour

Checking formation level
By using profile board

Compaction
Hand rammer

Gravel materialspreading

Wheelbarow spade

Water spring
By hand

Camber slope checking
Camber board

Gravel road value chain (UK)(TOBE)



Site investigation
Soil Test take properly
using laundry form

geological analaysis
Laboratory method

Row materials
High quality

Finishing work

Site clearing
BY equipment
Motor grader

Open for traffic
After the construction work is finished

Horizontal Setting Out

Vertical Setting out using surveying instrument

Using special surveying instrument

Location
mar
King arrow

Site clearing
Motor grader

Cut and fill
Bull dozer

Checking formation level
Leveling instrument

Compaction
BY equipment

Gravel material spreading
motorgrader

Water spring
Water spring link

Camber slope checking
GPS

GRAVEL ROAD value chain (UK) GAP



Site investigation
Soil Test take properly

geologicaelAnalysis laboratory method

Row materials
Poor quality Boulder;
Borrow pit'
Grave lmaterials

Horizontal Setting Out

Vertical Setting out using surveying instrument

Using special surveying instrument

Location marking arrow

Site claring motor grader

Cut and fill
Bull dozer

Checking formation level
Leveling instrument

Compaction
By equipment

Gravel materialis spreading
Motor grader

Water spring
Water spring kiler

Camper slope checking

GPS

Finishing work

Site clearing
by equipment
Motor grader

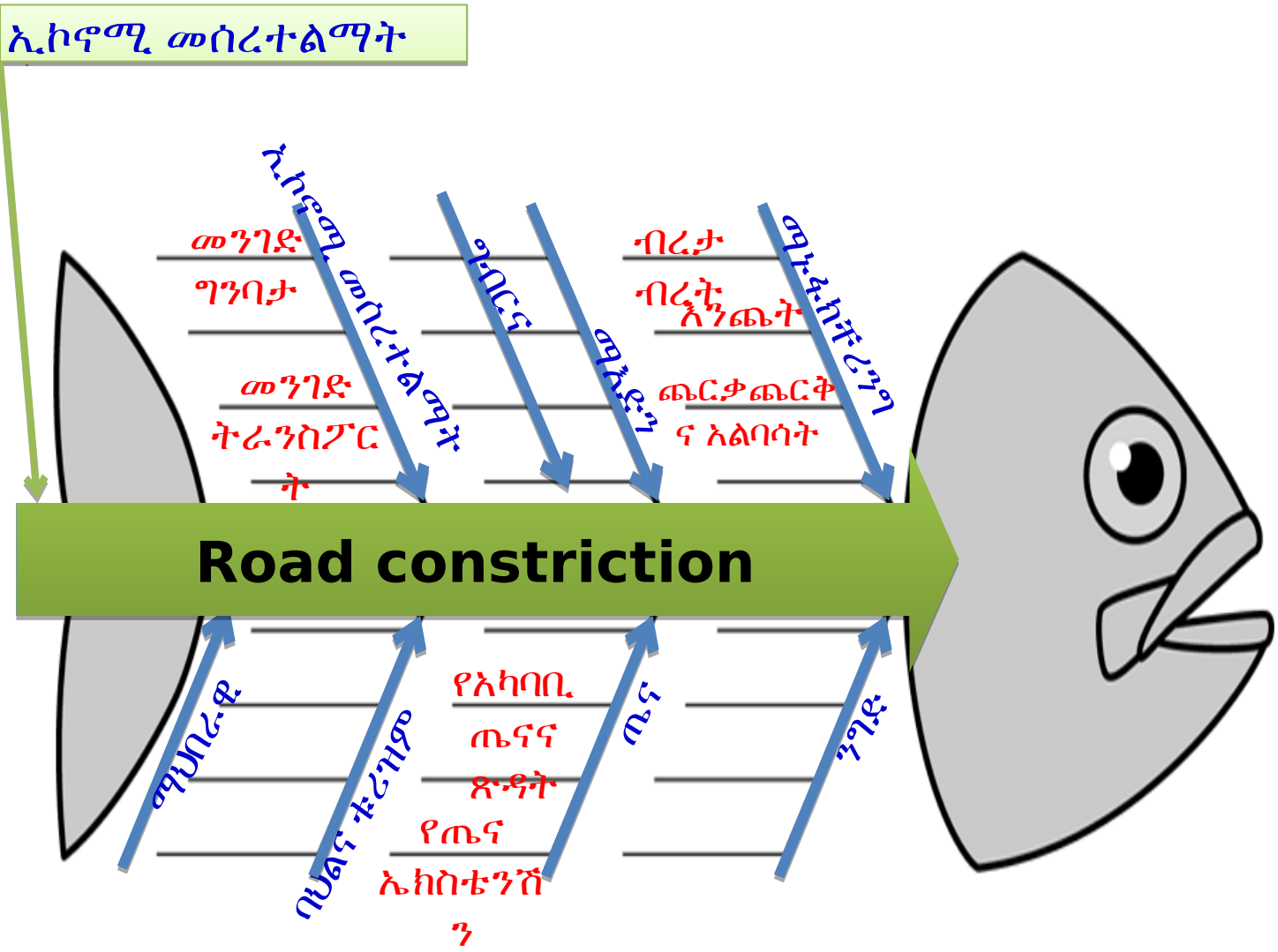
Open for traffic
after the construction work is finished

	TECHNOWARE	HUMANWARE	INFOWARE	ORGAWARE
SITE investigation	Map GPS	geographical, weather condition & back history of the site	• GPS & COMPASS application Manual • Map reading Manual	• Bureau of urban development • Municipality
Vertical Setting out using surveying instrument	Survey	• Operate specialized serving equipment • Supervise specimens & maintenance		TVET & UNIVERSTY
	Total station, theodolite		• surveying instrument Operation Manual	TVET & UNIVERSTY,industry
Using special surveying instrument	GPS Compass,photogrametric	• Operate specialized surveying equipment	• instrument Operation Manual	TVET & UNIVERSTY
Site clearing	equipment	• Skill man power	• Equipment manual	• University, industry
Cut and fill	• equipment	• Skill man power	• Equipment Operation Manual	• University, industry
Checking	• Total station , leveling, theodolite	• Operate specialized instrument • Supervise specimen &maintenance	• technical Operation Manual	• Training center, universty other

የዕድገትና ትራንስፎርሜሽን ዕቅድ ዘርፎች

1	ግብርና
1.1	ሰብል ልማትና ጥበቃ
1.2	እንስሳት ሀብት ልማት
1.3	የተፈጥሮ ሀብት ልማትና ጥበቃ
2	ኢንዱስትሪ ልማት
2.1	ጨርቃ ጨርቅና አልባሳት
2.2	ቆዳና የቆዳ ውጤቶች
2.3	ስኳርና ተጓዳኝ ምርቶች
2.4	ሲሚንቶ
2.5	ብረታ ብረትና ኢንጂነሪንግ
2.6	ኬሚካል (ፋርማሲቲዩካል፣ ሀትመት፣.....)
2.7	አግሮ ፕሮሰሲንግ
3	ማዕድን
4	ኢኮኖሚ መሠረተ-ልማት
4.1	መንገድ ግንባታ
4.2	ባቡር ትራንስፖርት
4.3	መንገድ ትራንስፖርት
4.4	ባህር ትራንስፖርት
4.5	አየር ትራንስፖርት
4.6	ኢነርጂ
4.7	ውሃና መስኖ
4.8	ቴሌኮሙኒኬሽንና አይሲቲ
4.9	ከተማ ልማትና ህንፃ ኮ/ን
5	ንግድ
6	ጤና
7	ባህል፤ ቱሪዝምና ስፖርት
8	ማህበራዊ

የእሴት ሰንሰለቶች ተመጋጋቢነት ከትኩረት ዘርፎች አኳያ



Gravel road value chain SELECTED TECHENOLOGY

The changes that come from bench marking

R.N	Indicators	Measurements	Bench Marks	As Is
1	High durability and strength	Period of time	Mini. 50 years	Min. 25years
2	Constructed based on standards and specifications	standards	Maximum applicable	Minimum applicable
3	Completion date	date	Minimum 2and half month	Mini. 6 month
4	High safety	safe	safe	unsafe
5	High qualified	durability	Quality finishing	Inequality finishing
6.	Transfer skills and knowledge to professions	ability	Skilled man power	Unskilled man power

R.N	Outputs	Outcomes	Impact
1	Increase durability	Increase period of time	Increase life span
2	Modified design	Attractive designs	
3	Higher job opportunity	Create new job	Reduced man powers
4	Quality finishing	Customer attractive	Increase market linkages

Evaluation of the value chain analysis

- Ethiopia has good environment for **Gravel roadwork.**
- poor in quality Gravel road .
- poor in technology .

Constraints contributing to these facts are:

- In adequate technological inputs
- Lack of skill.
- Poor marketing network.

Planning

- **Acquire technology.**
- **Get full drawing and specification and produce (full document)**

(prepare drawings at construction industry, produce prototype in enterprise Initiate joint action plan).

- TECHNOLOGIES





Group Member

- Laekemaryam shambel
- Mubarek reshid
- Yared assefa
- Abidella mohammed

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