Metal work **products**
Production Value Chain Analysis

Metal work Manufacturing

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d/work

Sector :- INDUSTRY DEVELOPMENT

Sub Sector: Metal Engineering

Metal work Product Production Value Chain

OBJECTIVE

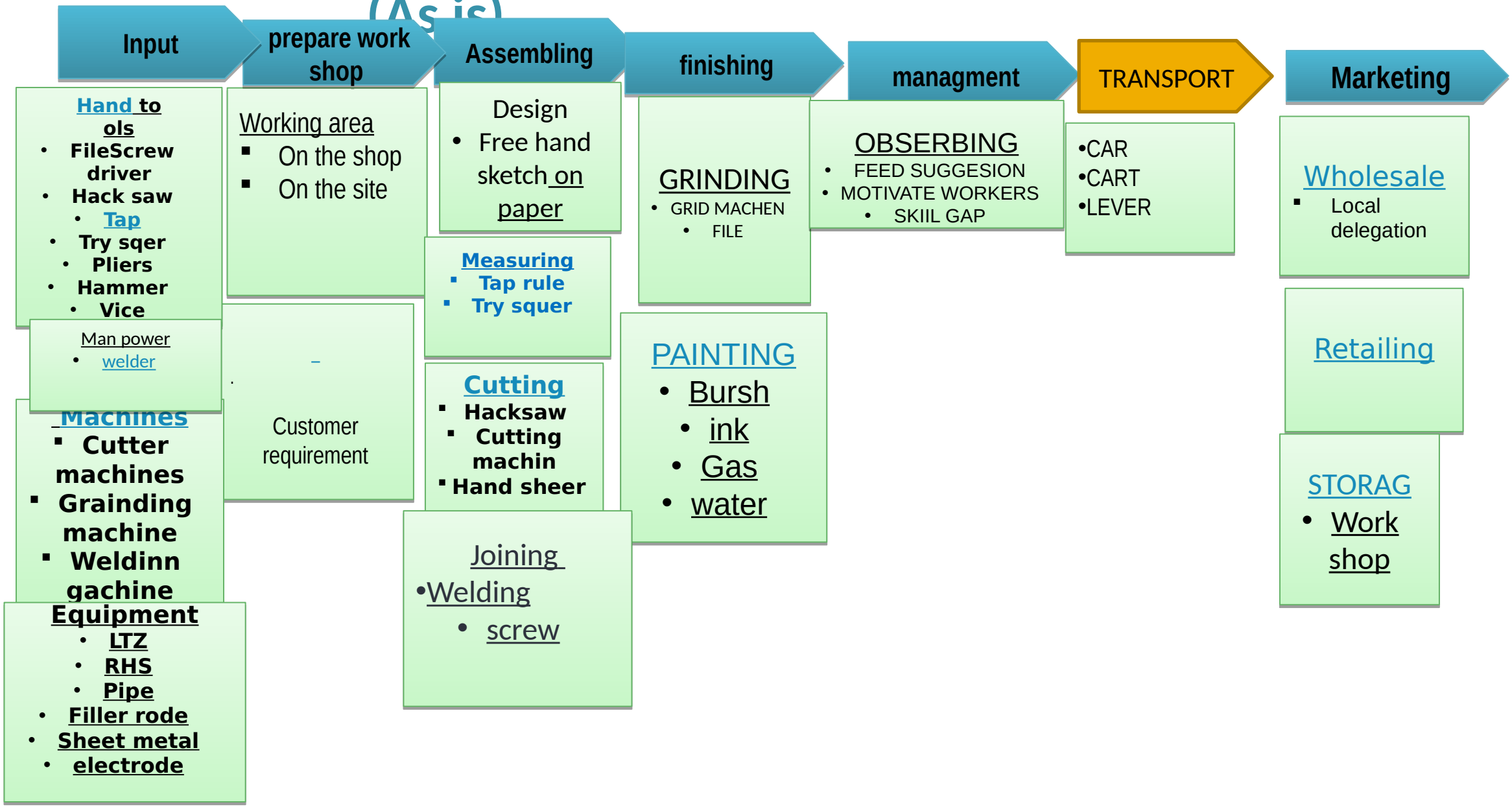
- Generally, the study was conducted to determine the present manufacturing process practices in metal production in Amhara region, d/work District.

  Specifically, this aims to:

  - Discuss the present metal products manufacturing process practices in metal production for light manufacturing.
  - Identify the Value Chain (AS IS) in d/work MSE metal work products production.
  - Compare the Value Chain (AS IS) to that of the Benchmark IN China Small industries.
  - Identify the gaps and constraints in attaining high productivity.
  - Identify and recommend technologies that will improve light manufacturers practice & increase product quality and productivity.

As is	Benchmark (china)
1. Production /day 40pcs 2. Poor technologies 3. Contribute for GDP 10%	1. Production/ha is 100pc 2. advanced technologies 3. Contribute for GDP 40%

Metal work Products Production Value Chain (As is)



Metal work Products Production Value Chain (As is)

Input

Hand tools
- FileScrew driver
- Hack saw
- Tap
- Try sqer
- Pliers
- Hammer

Man power
- welder

Machines
- Cutter machines
- Grainding machine
- Weldinn gachine

Equipment
- LTZ
- RHS
- Pipe
- Filler rode
- Sheet metal
- electrode

prepare work shop

Working area
- On the shop
- On the site

Customer requirement

Assembling

Design
- Free hand sketch on paper

Measuring
- Tap rule
- Try squer

Cutting
- Hacksaw
- Cutting machin
- Hand sheer

Joining
- Welding
- screw

finishing

GRINDING
- GRID MACHEN
- FILE

PAINTING
- Bursh
- ink
- Gas
- water

managment

OBSERBING
- FEED SUGGESION
- MOTIVATE WORKERS
- SKIIL GAP

TRANSPORT

- CAR
- CART
- LEVER

Marketing

Wholesale
- Local delegation

Retailing

STORAG
- Work shop

Metal work production products value chain[bench mark]

Input

Hand tools
- **FileScrew driver**
- **Hack saw**
- **Tap**
- **Pliers**
- **Hammer**
- **Vice**

Machines
- **Welding machine**
- **Cutter machine**
- **Bender machine**
- **Casting machine**

Man power
Skilled poerson

Equipment
- **LTZ**
- **RHS**
- **Pipe**
- **Filler rode**
- **Sheet metal**
- **electrode**

Preparation of working area

Working area on the shop
On the site

Customer requirement

assembling

Design
- Free hand sketch on paper
- computer

Measuring
- **knock rule**

Cutting
- **Hacksaw**
- **Cutting machin**
- **Hand sheer**

Joining
- Welding
- screw

finish

GRINDING
- GRID MACHEN
- FILE

PAINTING
- Bursh
- Ink

Measuring tools
- **tap rule**
- **Digital meter**
- **Caliper**
- **Combination set…**

Management

OBSERBING
- FEED SUGGESION
- MOTIVATE WORKERS
- SKIIL GAP

Product Monitoring
- **Have organized management system**

Inspect
- Use inspection tool
- Observation
- From customer feedback

Transporting

- CAR
- CART
- Crik

- Have organized and systematic work shop$ store **Storage**
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Sample products

Marketing

Export
- Can export d/f products

Wholesale
- Local delegation

Retailing

Metal work Production Value Chain(Gaps/Constraints)

Input

- **Hand tools**
- **Machines**
- **Measuring tools**
  - Caliper
  - Combination set…
- **d/f profiles**

prepare work shop

- Work shop area

Customer requirement

Asembling

Design
- Free hand sketch on paper

Measuring
- **knock rule**

Cutting
- **Hacksaw**
- **Cutting machin**
- **Hand sheer**

Joining
- Welding
- screw

Finish

GRINDING
- GRID MACHEN
- FILE

PAINTING
- Bursh
- Ink

Sample products

Product Monitoring
- **Have organized management system**

Management

OBSERBING
- FEED SUGGESION
- MOTIVATE WORKERS
- SKIIL GAP

Transporting

- CAR
- CART
- Crik

Marketing

Export
- Can export d/f products to d/f countries

Storage
- Have organized and systematic work shop$ store

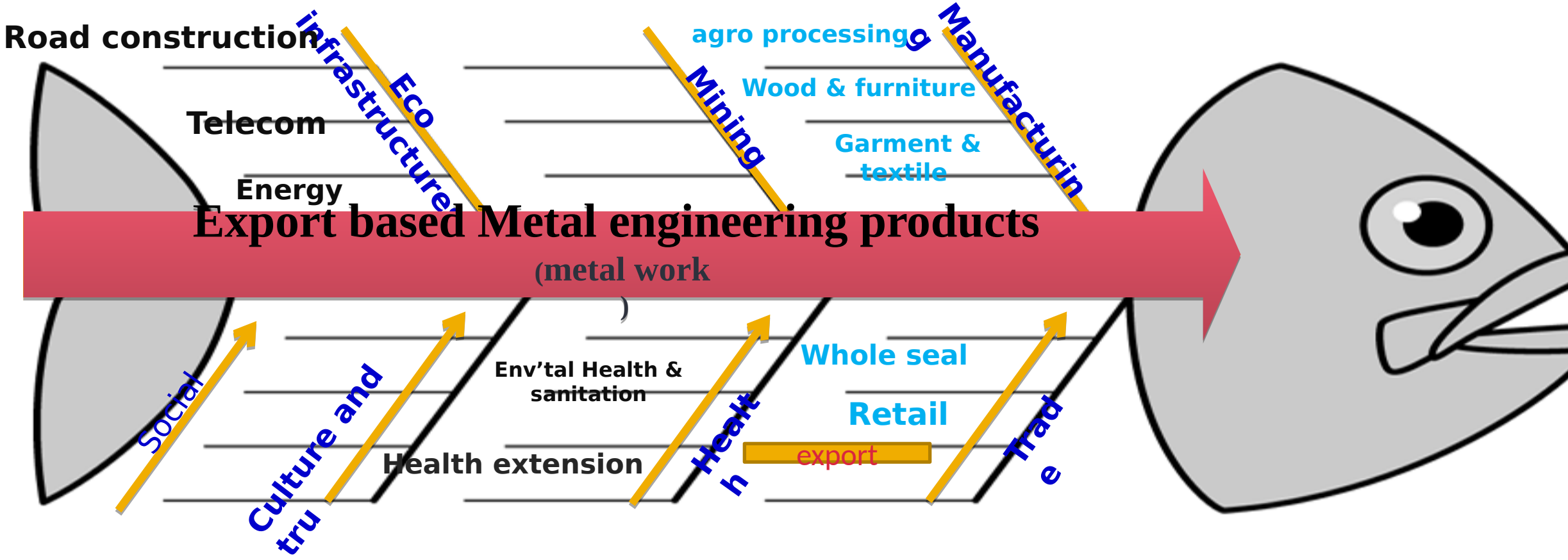
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Key

- Sub activity Gap
- Critical mismanaged approach
- Main Value Chain

Machining	2.Cutter Machine 3.Grinder Machine	.organize Machine Shop	• Product quality manual	• Machine opratio
Assembling	4. Welding machine	• Prepare working area for industrial production • Operate specialized machine and equipment • Supervise machine maintenance	• Work pices preparation Manual • Welding Operation Manual	• Assembling Dem
	5 .d/f connectors		• Welding machine Operation and Maintenance Manual	• Training center fo production
	6.bolt &nut			
Bending				
Recycling		• Skilled $ k nowledgeable manpower	• Methods of casting Manual • Safety procedure Manual • Quality Control Manual	Training center of
Storage		Establish kaizen Development	• Kaizen operation manual	• On the work Sho
Transporting	9.Cars 10.crik		• Transporting System	
Product monitoring		**Skill of management system**	**Management manual**	FB college
Inspect	11	Knowledge of marketing	Manual for export system	• d/f country
Export	12.Ship 13.air plain	• Control weeds, pests and diseases in crops • Prepare and apply chemicals	• Weeds control Manual • How to Spray Pesticides	
• **industry**	14.d/f machines & Equipment	• Machine operations	• Machine operations Manual	Industry

Metal Industry Development



The changes that come from bench marking

Sn	Indicators	Measurements	Bench Marks	As Is
1	High metal workproduction	Volume	High	Low
2	High customers need due to high quality metal work	Strength	High Durability	Less Durable
3	Increase skills for the person	Ability	Skill full ability	Unskilled man power
4	Save product cost & increase production	Time	Less	High
5	Quality metal work products	Standard	High quality	Less Quality

The Results that come from bench marking

R.N	Outputs	Outcomes	Impact
1	Increased metal work productivity	Higher market needs	Increase market linkages
2	Produce quality metal work products	Durable & attractive product	
3	Higher job opportunity	Create new job	Reduced jobless powers
4	Increase higher GDP	Market interrelationship	Develop national economy

Evaluation of the value chain analysis

- The industrial development of Ethiopia is exceedingly conducive for **metal work**
- production, however the production & quality is poor enough .
- poor in **metal work**
- production in international market
- Least in **metal work**
- processing .

Constraints contributing to these facts are:

- In adequate technological inputs.
- Lack of skills on Assembling, cutting…standard mgt & **metal**
- ****
- Poor quality of products.
- Poor marketing network.

Planning

- **Acquire technology**
  - **Copy from already imported machinery and duplicates that**
  - **Prepare drawing, specification and produce**

(give all information's about the technology to prepare drawings at Ethiopian defense metal work engineering cooperation to produce the prototype in .

- **Initiate joint action plan to all activities)**
- **Produce Marketing linkage plan**
- **client satisfaction**
- **Provide training for the actors**
- **Prepare nursery, manufacturing metal work**
- **processing manuals**

IDENTIFIED TECHNOLOGIES (techno ware)

- TECHNOLOGIES
- Cutter machine
- Cart
- Garage work bench
- Equipment shelf
- Hand tool set

Thank you!!