GARLIC PRODUCTION VALUE CHAIN ANALYSIS



Sector ;Agriculture

Subsector ;Crop Production

Garlic production value chain

OBJECTIVE

- Generally, the study was conducted to determine the present farming practices in garlic production in Meket District, Amhara region.

  Specifically, this aims to:

  - Discuss the present cultural farming practices in garlic production both for upland and lowland.
  - Identify the Value Chain (AS IS) in Meket 013 kebele garlic production.
  - Compare the Value Chain (AS IS) to that of the benchmark.
  - Identify the gaps and constraints in attaining high yields.
  - Identify and recommend technologies that will improve farmers practice & increase productivity.

Facts and figers

no	Criteria	Country						
		china	india	Republic of korea	egypt	russia	myan mar	ethiop ia
1	garlic production in metric tone	19,168,800	1,259,000	412,250	234,164	232,843	185,900	180,300

Garlic Production Value Chain (As is)

Input

IRRIGATION FACILITY

SEEDS

FERTILIZER

PESTICIDES

FARM TOOLS & EQUIPMENT

Cultivation

SITE SELECTION

- Rain fed
- Irrigation

Land Preparation

- Traditional (use of animal)
- Manual
- 2-3times Plowing and digging

Planting

Seed Variety

- Old variety C1,C2
- From Farmers exchange
- Late maturing

Planting

- Drill & direct method
- 150-200kg/ha seeds used

Production & Management

Growth Monitoring

- 2 cropping/yr
- monitoring 1day with in weak

Fertilizing

- organic
- inter Cropping

Weeding

- 1 times hoeing and weeding

Insect & Pest Control

- Traditional e.g wood ash
- Manually e.g hand weeding ,hoein

Harvesting

- Manual method e.g digging
- Low yield 55 qu/Ha)

Post-Harvest

Threshing

- Use of hand
- With in sickle

Storage

- Sacks
- Hooking in bed

Milling

- Splitting with in hand

Transporting

- Donkey
- human

DONKEY.JPG

Marketing

Wholesale

- There is no sell for others.

Retailing

- For family consumption

Garlic Processing

Powdering

- For spice

Or for condimental of food

.For local medicine

Garlic Production Value Chain (To Be)

Input

- Irrigation
- Seeds
- Fertilizer
- Pesticides
- Farm Tools & Equipment

Cultivation

- Soil Testing
- Land Preparation
  - Land soaking
  - Mechanized
- Cropping Calendar
  - Synchronous planting

Planting

- Garlic Seed Varieties
  - new and high yielding varieties
  - Early/medium
- Weeding
  - Mechanical
  - Manual (once)
- Seed Quality
  - Dried and clean
  - Pure & healthy
  - Certified seeds from seed growers
- Seedling Preparation
  - Seedling prepared in seedbed
  - pulling of seedling
- planting
  - Manual
  - Mechanical transplanting
  - Plant spacing

Production & Management

- Growth Monitoring
  Daily Monitoring
- Irrigation & Drainage
  - Water at the right amount at the right time
- Fertilizing
  - Orga 5. CROPPING CALENDAR.jpg nic
  - Inorganic with rate of application followed
- Insect & Pest Control
  - Integrated Pest Management (IPM)
- Harvesting
  - On time Harvest
  - High yield 67 qu/ha
  - Mechanized Harvesting
  - Manual

Post-Harvest

- Threshing
  - Mechanized thresher
  - Picking with tool
- Drying
  - sun drying (concrete pavements or plastic sheets)
- Storage
  Clean & dried some moisture content
  - In sacks or bags
  - Hooking on the roof or bed
- Transporting
  - Tractor cart
  - With Lorry
- Milling
  - Whole bulb
  - Leaves
  - Picking
  - OHS

Marketing

- Retailing
  - 35-40 birr/kg
  - Proper packaging (labels)
  - Proper Display with price tag & variety
- Farmers' Cooperatives
  - Marketing of farm produce (surplus)
  - Farm inputs marketing
- **Private Assemblers/ Traders**
  - Local market
  - Export

Garlic Processing

- Garlic
  - Processing
- Beverage
  - Medicine
  - Silijo
  - Olive oil
- Baking & Pastry
  - Cookies
  - bread

garlic Production Value Chain(Gaps/Constraints)

Input

Irrigation

Seed seedling.pptx

Fertilizer

Pesticides

Farm tools & Equipment

Cultivation

Soil Testing
- Not practiced

Cropping Calendar
Not yet practiced

Land Preparation
- Traditional
- 3 times plowing

Planting

garlic Seed Varieties
- Not high yielding variety
- ,Old or traditional variety
- Late maturity

Seed Quality
- Poor quality

(not pure. Clean & healthy)

Seedling Preparation
- Not practiced

Transplanting
- Not practiced (direct & drill)
- Required planting distance not followed

Production & Management

Growth Monitoring
Once in aweek

Irrigation
- No water at the right amount at the right time.

Weeding
- 2-3 times (costly)
- Traditional /Manual

Fertilizing
- Inorganic but do not follow the required application rate
- Crop rotation

Harvesting
- Delayed
- Manuall
- Low yield (35-55qu/h

Post-Harvest

Threshing
- Delayed (1-2 weeks)
- In bare soil
- 4-6 animal power

Drying
- Not practiced
- In bare soil during threshing

Storage
- Not dried garlic
- Use of pot made of mud and manure

Transporting
- Use of cart & donkey
- Trail road
- No bridge to cross river

Milling
- Broken grains
- Unsafe & disorganize
- Not translucent grains

Marketing

Retailing
- Proper packaging (labels)
- Display with no price tag & variety

Wholesale
- Proper packaging (labels)

Farmers' Cooperatives
- Marketing of farm produce (surplus)
- Farm inputs marketing

Private Traders
- local market
- export

Garlic Processing

Powdering
- For spice

Or for condimental of food

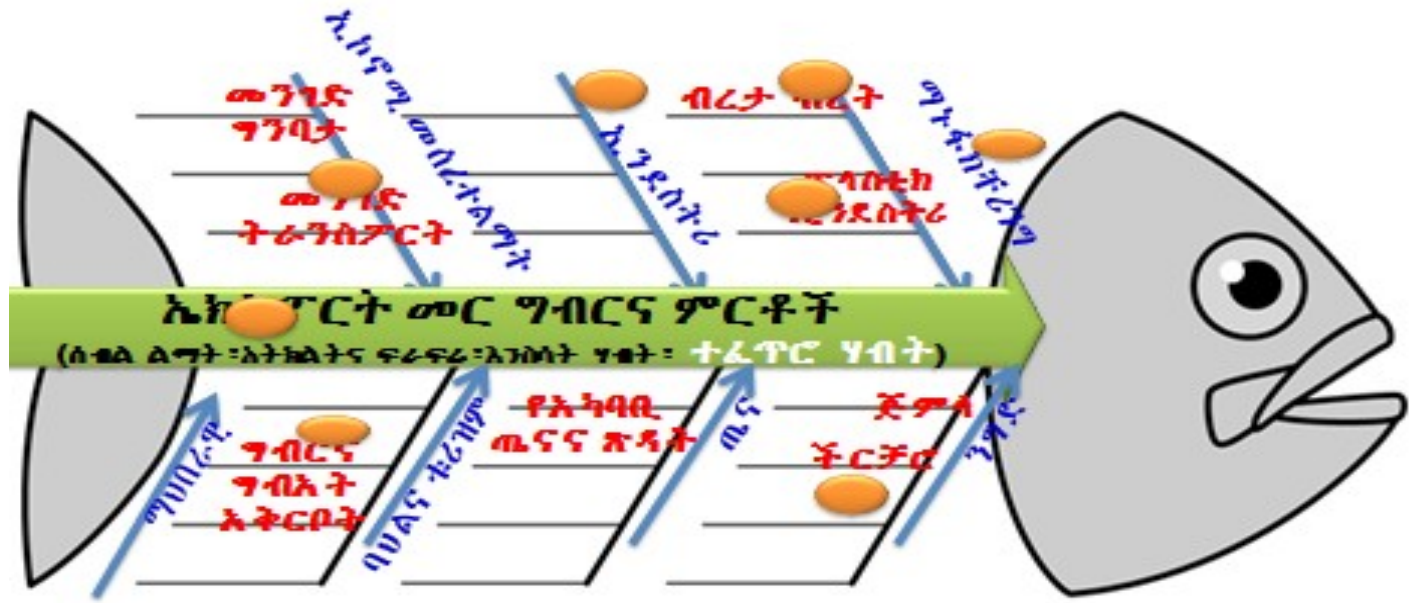
.For local medicine

Key

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

TECHNOWARE		HUMANWARE	INFOWARE	ORGAWARE
IRRIGATION	1. Irrigation & drainage infrastructure (dam, canal system,drip)	Units of Competencies on: • Schedule irrigations	• Water Management Manual • Cropping Calendar Manual	• Bureau of Irrigation to develop & construct irrigation infrastructure • Irrigators Association or Cooperative – government partner in IDP
SEED QUALITY	2. New improved Seed Varieties		• Seed Quality Manual • Garlic Seed Production Manual	• garlic Seed testing Center • garlic Seed Growers • garlicResearch Center
LAND PREPARATION	3. Moldboard Plough & Harrow	• Prepare land for agricultural crop production • Operate specialized machine and equipment • Supervise crop maintenance	• Land Preparation Manual • Farm Power Operation Manual	• Garlic Demonstration Farms • garlic MSE
	4. Hand Tractor/Power Tiller		• Hand Tractor Operation and Maintenance Manual	• Training center for garlic production • garlic Research Center
	5. Mud boat/turtle tractor			
Seedling Preparation		• Establish agronomic crops	• Seedling Preparation Manual	
Planting	6. Wooden marker	• Transplanting seedlings • Undertake crop maintenance activities • Supervise crop maintenance • Implement Plant Nutrition Program	• Methods of Planting Manual • Water Management Manual • Pest Control Manual	
THRESHING	7. mechanized Threshing and picking with tools		• Threshing Manual	• MSE to manufacture thresher, harvester & other farm machines
HARVESTING	8. Harvester	• Undertake agronomic crop harvesting • Monitor crop harvesting program	• Harvesting Manual	
MILLING	9. garlic Mill (with mechanized system)	• Save, prepare and store agricultural seed	• Milling Manual • garlic Storage Manual	
TRANSPORTING	10. Tractor Cart, Hauler Truck, Farm to market road			• Farm to Market Road &Bridges
WEEDING	11. Rotary Weeder	• Control weeds, pests and diseases in crops • Prepare and apply chemicals	• Weeds control Manual • How to Spray Pesticides	
SOIL TESTING	12. Soil test kit/ pH meter	• Soil sampling and analyze results	• Soil Sampling Manual	Soil Analysis Center /Bureau of Soils

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Agriculture- garlic production value chain

Changes come by best practice

Indicators	Unit	Best experience	AS IS
Garlic production	Metric tones	19,168,800	180,300
Per capita consumption	Kg/person	> 8	2

The result that come by best practice

ሲሰራ የሚመጣው (Outputs)	ውጤት (Outcomes)	ለውጥ (Impact)
Increase farmers productivity	Increase per capita consumption of citizens ፣	Protect citizens health Increase profit gain by garlic production
Increase the product of garlic by product	Decrease looses by market fluctuation	Increase profit gain by garlic by product

Evaluation of the value chain analysis

- Ethiopia stands 7th in garlic production in the world
- Least in garlic production globally
- High in garlic consumption
- Market barriers during fasting period
- Low yield

Constraints contributing to this fact are:

- Inadequate technological inputs
- Inadequate extension service
- Poor marketing network
- Cultural and traditional practices

Planning

- Identify technologies
- Discuses with stockholders
- Acquire technologies
- Make the designee of selected technology
- Manufacture the technologies- 100% copy
- Give continues extension service about garlic production

Identified technologies (techno wear) and respective sectors responsibility				
TECHNOWARE	GMFA	automotive	Agricultural research	Construction
➢ Irrigation & drainage infrastructure (dam, canal system, drip)				√
➢New improved Seed Varieties			√	
➢ mechanized Threshing and picking with tools	√			
➢ garlic Mill (with mechanized system)	√			
➢Soil test kit/ pH meter			√	
➢Farm machinery equipment		√		





THANK YOU VERY MUCH