

Ethiopian Institute of Agricultural Research



The Role of Poultry in the Ethiopian Economy and Opportunities for Development

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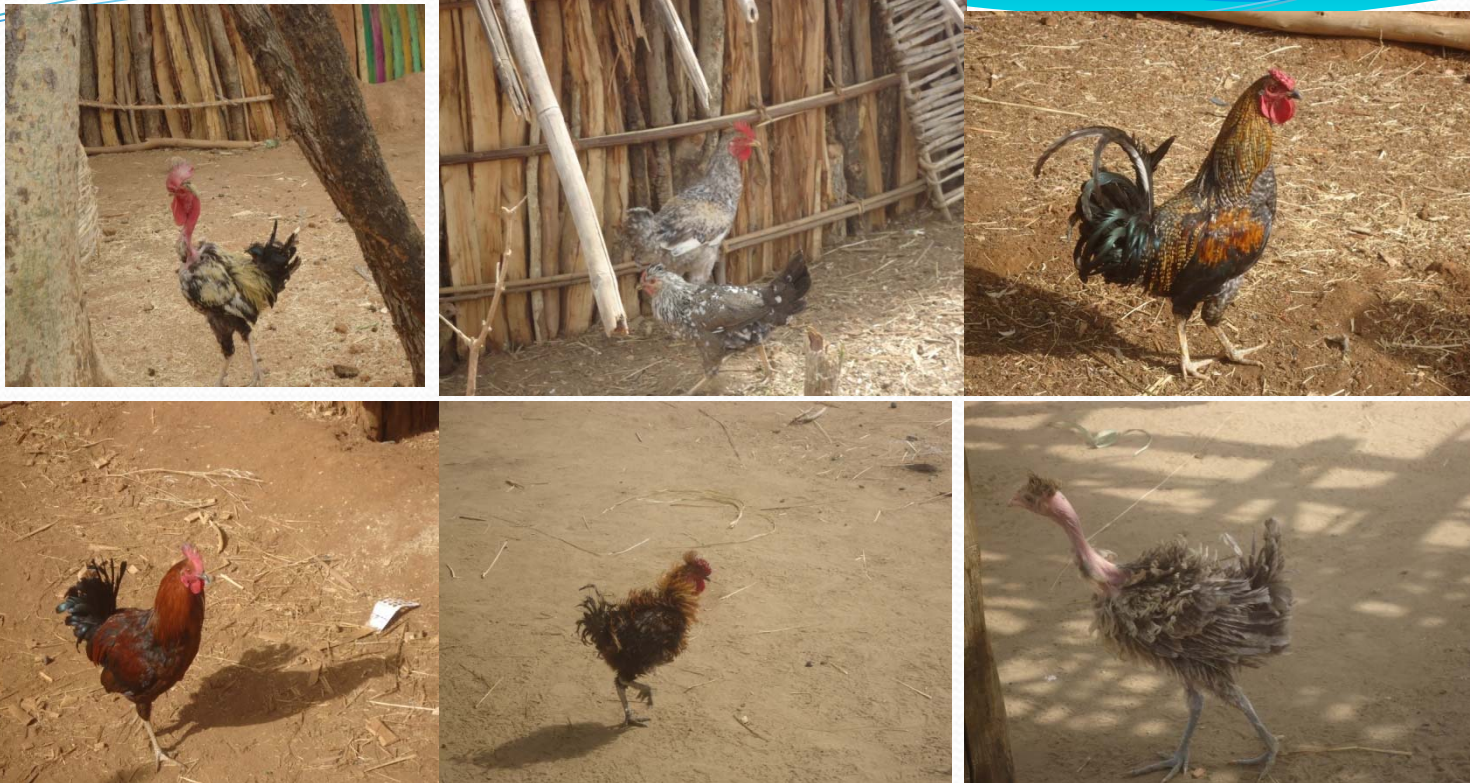
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Outline

- Poultry in Ethiopia
- Importance of Chicken
- Importance of indigenous Chicken
- Productivity of indigenous Chicken
- Challenges of chicken production
- Opportunities of chicken production
- Conclusion

Poultry in Ethiopia

- ❑ The commonest poultry production system is scavenging and semi-scavenging around the backyard,
- ❑ Almost all of the poultry production is based on chicken
- ❑ 51 million chickens are available in the country
- ❑ 96.9 percent are indigenous (CSA, 2013)
- ❑ National production is 78,000 MT of eggs & 72,300 MT of meat
- ❑ Over 90% produced by indigenous chicken (IC)
- ❑ Flock size per household in most rural communities is small; an average of 7–10 mature chicken, 2–4 adult hens, a male bird (cock) and a number of growers of various ages
- ❑ There exist diverse genotypes of chicken
- ❑ Variations in terms of adaptive, morphological and production traits exist among the indigenous chicken population
- ❑ But no defined breeds as such and they are referred to as 'ecotypes' or 'populations'



(a)

(b)

(c)

(d)

(e)

Figure 3. Comb types (a) single (b) pea (c) duplex (d) rose (e) walnut

Diverse indigenous chicken genotypes in Ethiopia

Chicken population of Ethiopia (CSA-2010/11)

| Region | Populations | | | |
|--------------|--------------|------------|------------|--------------|
| | local | Hybrid | Exotic | Total |
| Tigray | 3998 | 282 | 28 | 4308 |
| Afar | 66.28 | ? | ? | 67.32 |
| Amhara | 13587 | 390 | 71 | 14048 |
| Oromia | 18347 | 176 | 38 | 18762 |
| Somalia | 106 | - | - | 106 |
| B.Gumuz | 1144 | 4 | | 1149 |
| SNNR | 10276 | 87 | 45 | 10408 |
| Gambela | 303 | - | - | 303 |
| Harari | 52 | 2 | - | 54 |
| Dire Dawa | 74 | 3 | 4 | 81 |
| Addis Ababa | - | - | - | - |
| Total | 47953 | 944 | 186 | 49286 |
| | 97.3% | | | 100% |

Poultry in Ethiopia contd.

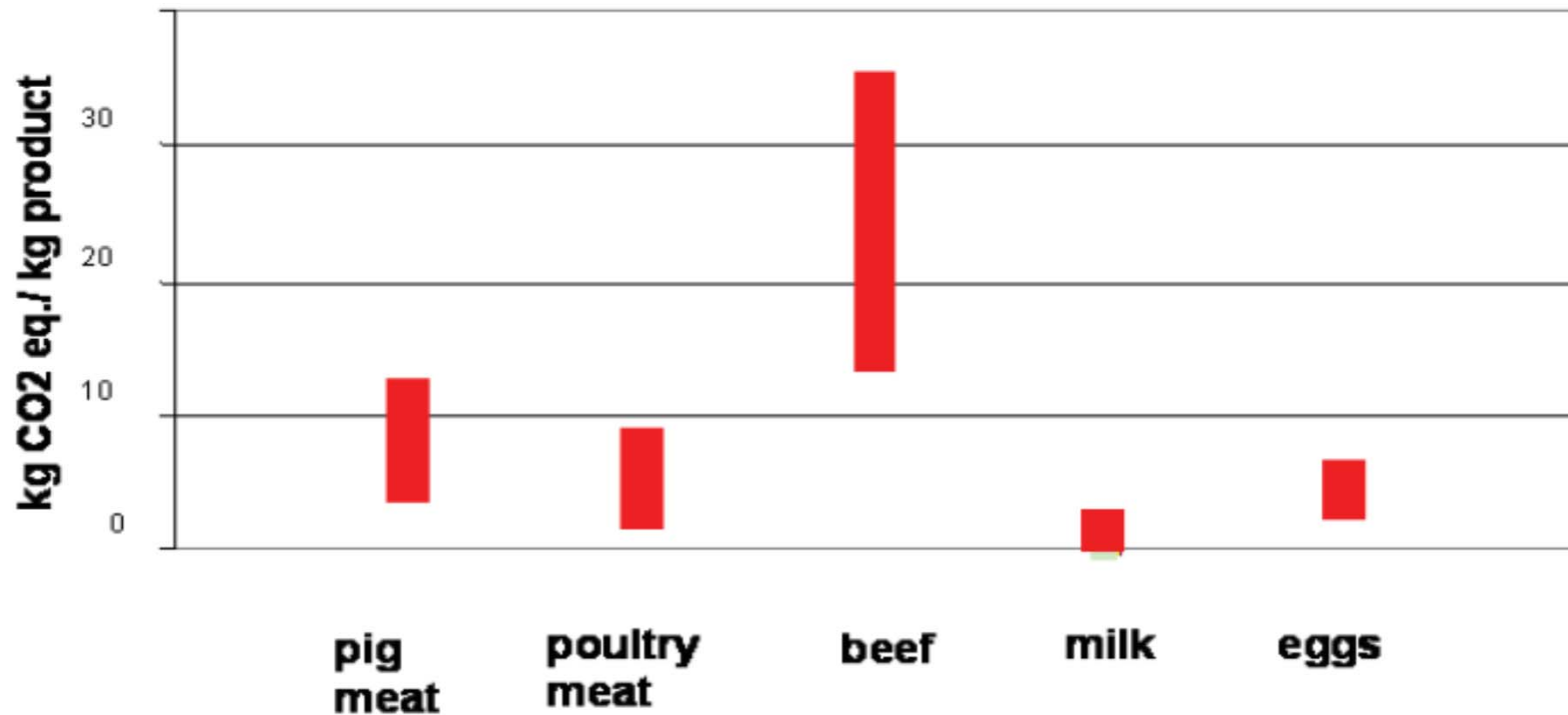
- Under village production flock size is mainly 6 to 10
- Egg production is about 36-60 eggs/hen/year
- Egg weight is about 40g
- As high as 20 kg feed is required to produce 1 kg of egg
- Age at first egg as high as 7 months
- Male reach a size of 1.5 kg in six months time female 30% less

Production systems

- Village Production Systems (largely based on IC)
- Commercial production systems (solely based on Exotic chicken)
- Small scale production systems (largely based on EC or crosses)

Importance of chicken

- Can be started with small capital
- No need for large plot of land
- Egg (and meat) is a significant source of Animal protein in large parts of the country
- It makes sizeable contribution to livelihood of resource poor farmers
- Women benefit more than men from chicken production (in terms of income)
- Children benefit more than adults from chicken production (in terms of nutrition)
- Are a hedge to other larger livestock
- Cultural values (e.g. during festive occasions)
- Would produce less Green House Gas (GHG) per unit product



The GHG emissions per kg of product for meat from pigs, poultry and cattle and for milk and eggs

Importance of indigenous chicken

- Ideal mothers, good sitters, hatch their own eggs
- Thermo-tolerant, excellent foragers and ability to utilize the limited and poor quality feed resources
- Immune to resist common poultry diseases
- Special meat and egg quality/flavor,
- hard eggshells,
- high fertility and hatchability
- high dressing percentage

These traits are of great importance

-to fit to the low input system (no or low need of expensive feed, drugs, labour and incubators)

-to adapt future changes (climate, market, disease types)

Productivity of the indigenous chicken

- The production performance of indigenous chickens is low
 - low egg production
 - slow growth rate
 - late sexual maturity
 - broodiness for an extended period
 - high chick mortality with 40-60% of the chicks hatched lost during the first 8 weeks of age (disease & predator)
 - About half of the eggs produced have to be hatched to replace chicken that have died

Productivity of the indigenous chicken Contd.

- The brooding time of the laying hens is longer, with many brooding cycles required to compensate for its unsuccessful brooding
- under scavenging conditions, the reproductive cycle of indigenous hens consists of
 - ❖ 20-days of lying phase
 - ❖ 21-days of incubation phase
 - ❖ 56-days of brooding phase

History of modern poultry production

- Official Introduction of exotic in the 1950s
- Private farms started
- Agricultural Colleges established poultry farms and extension activities
- MOA has established multiplication and distribution centers mainly serving the rural small holder farmers. (5 to 100 chicken/household)
- EIAR has introduced and tested (on station and on farm) a number of exotic breeds for the diverse production systems e.g. Fayomi for low input dual purpose, RIR and Koekoek for high input dual purpose,
- This improved egg production to about 200 eggs/hen/year
- Private small holder and commercial farms developed around urban centers – White leghorn, RIR and other synthetic hybrids
- All depend on germplasm introduced from abroad
- Helped to meet the demand in the urban areas, particularly during festivals in Addis Ababa.

Challenges of chicken production

- Heavy loss from diseases and predators
- Inadequate feed supply
- Absence of improvement program on indigenous chicken
- Absence of more productive exotic germplasm adapted to the low input management and the other environmental challenges
- Marketing problems (temporal and spatial variations)
- Cumbersome traditional cooking methods
- Knowhow and skill in chicken rearing
- Inadequacy and untimeliness in accessibility to drugs and vaccinations

Opportunities

- Reachable extension services
- Favourable policies
- Rapidly growing service /input providing private sector
- High prices of meat from other sources (cattle, small ruminant)
- Growth in income
- Improving market conditions
- Developed infrastructures

The way forward

Two thronged approach

1. Strengthen the selective breeding of IC
 - There is sizeable variation within/between IC
 - IC has a wide base and impact is significant
 - Requires less investment and have desirable traits
 - Broody, high fertility, taste; no need for high input
 - Addresses issues related with production environment (e.g. climatic stresses)
 - Better fit to desired scale

The way forward

2. Use of exotic breeds or their derivatives

2.1. Identification and use of adapted relatively high producing exotic germplasm

- Doesn't require high level of input
- May fit where there is no adequate market

2.2. Use of high producing exotic germplasm

- Fit to commercial and small scale farms close to urban centers

2.3. Developing synthetic breeds using germplasm from various sources