

# *The Agro-Food Industry Measurement -*

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# *TANZANIA'S AGRICULTURAL AND AGRO-INDUSTRY STATISTICS*

## OUTLINE OF PRESENTATION

- ✓ Tanzania's Experience on Agricultural and Agro-Industry Statistics
- ✓ How Country Measure the agro-food or the agro-industry value chain
- ✓ What are some key features of the national agro-industry
- ✓ How is this Industry defined?
- ✓ What are the key data sources and measurement issues/challenges

# Tanzania's Experience on Agricultural and Agro-Industry Statistics

## Tanzania Agricultural Statistics

- ❖ Tanzania has excellent potential for agriculture-led economic growth.
- ❖ The country has abundant land and water resources, motivated agricultural entrepreneurs, and access to international markets through a major port.
- ❖ Women participate along the entire value chain and are engaged and empowered as beneficiaries

# Tanzania's Experience on Agricultural and Agro-Industry Statistics

## Tanzania Agricultural Statistics

- ❖ The climate is favorable for a variety of crops and with increased irrigation and improved seeds, productivity and yields could rapidly increase
- ❖ Through Feed the Future, the U.S. Government's global hunger and food security initiative, USAID focuses its investments both geographically, within the Southern Agricultural Growth Corridor of Tanzania, and on specific products such as rice, maize, and horticulture.

# Tanzania's Experience on Agricultural and Agro-Industry Statistics

## Tanzania Agricultural Statistics

- ❖ USAID seeks to significantly boost annual yields of targeted crops through both improved irrigation and improved market access through construction of rural feeder roads.
- ❖ These activities complement USAID's efforts to improve farmer productivity, the nutritional value of crops and the quality of processing, storage and marketing.

# Tanzania's Experience on Agricultural and Agro-Industry Statistics

## Tanzania Agricultural Statistics

- ❖ Agriculture is one of the leading sectors in Tanzania accounting for 24% of the GDP, 30% of total exports and 65% of raw materials for Tanzania industries
- ❖ Tanzania crops include cereals with 4,798,071 planted hectares or 61% of Tanzania's total planted area, followed by roots and tubers 14%, pulses 12%, and oil seeds 7%.

# Tanzania Agricultural Statistics (Cont.)

❖ Tanzania's agricultural sector has played a key role in the last 25 years contributing to a general decline in poverty thanks to the country's fertile arable lands, diverse climatic zones and plenty of natural water sources throughout Tanzania.

❖ However, only 24% out of about 44 million hectares of total lands have been utilized so far according to UNESCO. These areas are being cultivated by smaller holder farmers whom develop average farm sizes between 0.9 and 3.0 hectares using rustic methods, leaving only 10% of the arable land cultivated by tractor.

# Tanzania Agricultural Statistics (Cont.)

## Agro-Food Crops

- ❖ The aggregate national food availability in Tanzania is not plenty, but rather of a critical balance between productions and needs.
- ❖ Among the main food crops in Tanzania are maize, sorghum, millet, rice, wheat, beans, cassava, potatoes, bananas and plantains.
- ❖ Among food crops, cereals are the major crops grown in Tanzania. The area planted with cereals 4,798,071 hectares represents 61% of total planted area followed by roots and oil seeds 7%. Among cereals, maize production is higher than any other cereal in Tanzania with a total production of over 75% of total cereal produced.



# Tanzania Agricultural Statistics (Cont.)

## Agro-Food Crops (Cont.)

- ❖ Production patterns oscillate dramatically, according to the shifting weather conditions to a given harvest year.
- ❖ In the past 10 years, for instance, maize production has varied considerably, ranging from a high of 2,638 million tonnes in 2006/7, to a low of 2,107 million tonnes in 2009/10.
- ❖ Annual staples demand in Tanzania is about 11 million tons withy maize and rice accounting for half of the total.

# Tanzania Agricultural Statistics (Cont.)

## Agro-Food Crops (Cont.)

❖ Tanzania's average yields for maize and rice are far below the African average. Low productivity of cereals in Tanzania is attributed to dependency on rain-fed agriculture and low usage of fertilizer, improved seeds and pesticides.

# Tanzania Agricultural Statistics (Cont.)

## Agro-Food Crops (Cont.)

### How the country measure the agro-food

- The area cultivated (i.e Hectares)
- Production Costs(Inputs)
- Labour/Man power(Labour Productivity)
- The quantity harvested (Units;number of bags/kg/tonnes/litres etc),
- Price per unit
- Total value (quantity x Price per unit)
- Other Costs (Storage,transportation etc)
- Value Addition/Value losses

# Tanzania Agricultural Statistics (Cont.)

## Important Agricultural Statistics

- ❖ The population of rural agricultural smallholders' households in Tanzania is 31,013,026 (30,264,358 Mainland and 748,668 Zanzibar) of which 15,487,217 are males (15,114,238 Mainland and 372,978 Zanzibar) and 15,525,810 are females (15,150,120 Mainland and 375,690 Zanzibar).
- ❖ The total number of rural agricultural households in Tanzania during 2008 is 5,838,523 compared to 4,901,837 during 2003 of which 5,706,329 were in the Mainland during 2008 and 4,805,315 in 2003, while 132,193 were in Zanzibar during 2008 and 96,522 in 2003.

# Tanzania Agricultural Statistics (Cont.)

## Important Agricultural Statistics

- ❖ At national level, crop production was the dominant agricultural activity which engaged 3,508,581 households (60.1%), followed by 2,268,255 (38.8%) households engaged in mixed crop and livestock, 57,770 (1%) households engaged in livestock only and only 3,917 (0.1%) households were engaged in pastoralist of the total crop growing households, 3,422,072 (98%) were on the Mainland and 86,509 (2%) were in Zanzibar.

# Tanzania Agricultural Statistics (Cont.)

## Important Agricultural Statistics

❖ Nationality, the total usable land available in 2008 was 14,642,284 ha of which 14,516,893 ha (99.1%) were located in the Mainland regions and 125,391 ha (0.9%) were located in Zanzibar.

❖ Annual crop production is practiced either in one or two seasons per year, depending on the rainfall pattern. Areas with a unimodal rain pattern receive only the main rainy season (Masika) while areas with a bimodal rain pattern receive rains in two seasons, one being the short rainy season (Vuli) and the other being the long or main rainy season.

# Tanzania Agricultural Statistics (Cont.)

## Important Agricultural Statistics

Tanzania types of crops are; Cereals, Roots and Tubers, Pulses, Oil seeds and oil nuts, fruits and Vegetables and cash crops. According to 2007/08 Agricultural Census; Cereals were the main type of crops grown across the country occupying 5,830,972 ha (67%) of the land under annual crops followed by pulses (chick pea, beans, cowpeas and green grams) on 1,002,819 ha (11%), oil seeds and oil nuts on 966,583 ha (11%), root and tubers 285,825 ha (3%), cash crops (cotton, tobacco, pyrethrum, jute and seaweed) On 643,803 ha (7%) and a very small proportion (1%) equivalent to 78,711 ha was planted with fruits and vegetables.

# Tanzania Agricultural Statistics (Cont.)

## Important Agricultural Statistics

The total area planted with cereals was 5,830,972 ha of which 5,797,269 ha (99.4%) in Tanzania Mainland and 33,704 ha in Zanzibar. From the total planted area in the Mainland maize occupied the largest portion of the planted area and occupied the largest portion of the planted area and accounted for 4,082,500 ha (70.4%) of the total cereal planted area. Likewise, maize production was the highest amongst the cereals at 5,436,776 tons equivalent to 71.6 percent of the total cereals in the Tanzania Mainland. Its productivity was about 1.3 tons/ha.



# Tanzania Agricultural Statistics (Cont.)

## Important Agricultural Statistics

❖ At national level, paddy was the second most popular cereal crop but the area planted to this crop was relatively limited (906,708 ha or 15.5%) while in Zanzibar, paddy was the most important cereal planted on 26,600 ha (78.9%) of the land with cereals.

❖ Amongst the other cereals, sorghum was planted on a relatively large area (568,650 ha, 9.8%) compared to bulrush millet (156,797 ha, 2.7%), finger millet (68,847 ha, 1.2%), wheat (43,182 ha, 0.7%) and barley 9233 ha, 0.004%).

# Tanzania Agricultural Statistics (Cont.)

## Important Agricultural Statistics

### Gender based participation in agricultural production

#### Households planting during the long rainy season

During the rainy season 3,972,089 households (82.7 of all agriculture households) planted crops comprising of 3,194,487 male-headed household and 777,602 female headed households (83% and 82% of the male and female headed households respectively).

#### Households planting during the short rainy season

During the short rainy season 1,623,028 households (33.8%) planted crops comprising of 1,321,425 male headed households (34% of male headed households) and 301,603 female headed (32%). Many regions experienced insufficient rainfall for crop cultivation during the short rainy season.

# Tanzania Agricultural Statistics (Cont.)

## Tanzania Livestock

- ❖ After crops, the livestock industry is the second biggest contributor to Tanzania Agriculture representing 5.5% of the country's household income and 30% of the Tanzania's Agriculture GDP. Out of the contribution to GDP, 40% comes from milk and another 30% from small stock production which differ from region to region.
- ❖ Tanzania's livestock population is mostly reared by smallholder farmers whose ownership totals 37.06 million being the mostly concentrated in the country's northern region. Tanzania livestock include cattle ( 18.8 million) and pigs (1.6 million).

## Tanzania Agricultural Statistics (Cont.)

### Tanzania Livestock(Cont.)

The sector has attracted international capitals mostly from the European Union to develop partnerships with smallholder farmers to develop commercial scale farming, allowing animal products exports to raise to USD 223 million in 2013 from USD 215 million in 2009 and 2010.

## Tanzania Agricultural Statistics (Cont.)

### Tanzania Livestock(Cont.)

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# Tanzania Agricultural Statistics (Cont.)

## Fish Farming

The number of smallholders practicing fish farming is very small, fish farming is still an upcoming sector in Tanzania. Only a few male-headed households were engaged in this activity.

# Tanzania Agricultural Statistics (Cont.)

## Tree planting

According to the 2007/08 Agricultural Census; A total of 554,196 or 14 percent of the total number of male-headed households have planted trees on their land, against 97,764 or 10 percent of the total number of female headed households.

# Agro -Industry

## How is this Industry defined?

Agro-Industry understood here broadly as postharvest activities involved in the transformation. Preservation and preparation of agricultural production for intermediary or final consumption.

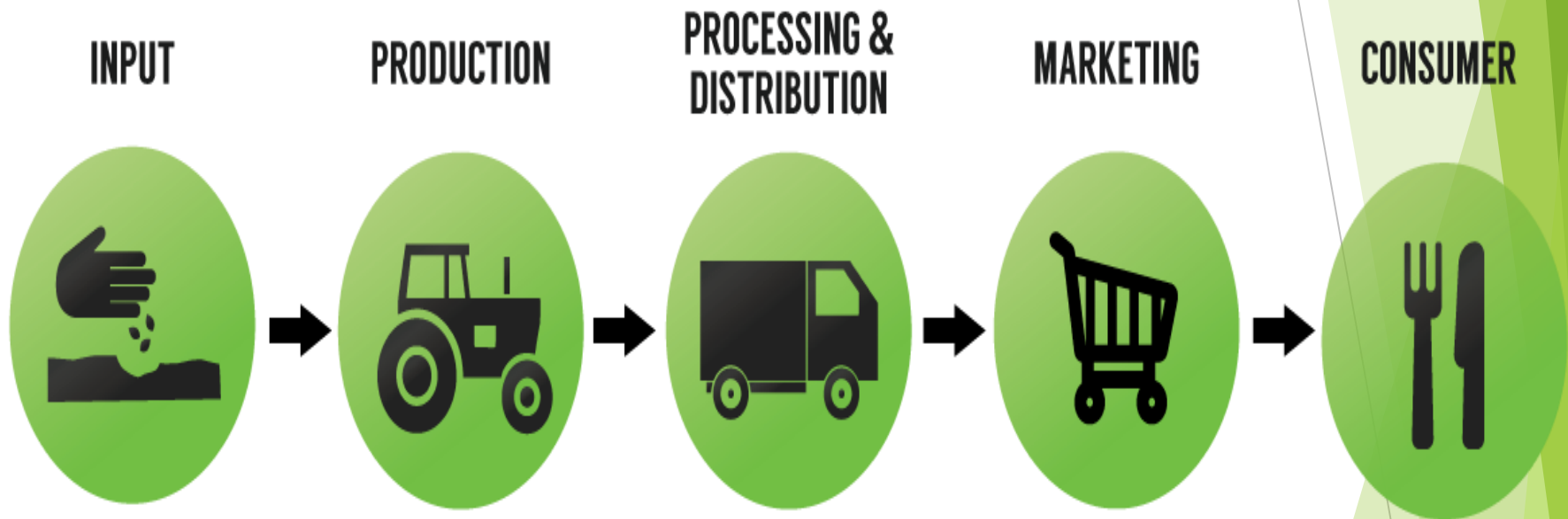
In all developing countries population growth is becoming predominantly an urban phenomenon, increasing the role of agro-industry in mediating food production and final consumption.

The agro-processing sector covers a broad area of postharvest activities, comprising artisanal, minimally processed and packaged agricultural raw materials, the industrial and technology-intensive processing of intermediate goods and the fabrication of final products derived from agriculture.

Agro-Industry is process of turning primary agricultural produce into other commodities for market and consumption.



# *The Agro -Food Industry Value Chain*



# *The Agro -Food Industry Value Chain*

Agro -Food Value chain

**INPUTS** (*Includes; seeds, “green fertilizers, Agro chemicals, Farm machinery, Irrigation, Energy ect.)*)

**PRODUCTION** (*Includes; Sorter, Grander, packager, Logistics, Energy, Materials*)

# *The Agro -Food Industry Value Chain*

## Agro -Food Value chain

**PROCESSING & DISTRIBUTION** (*Includes; Food manufacturers, Food prepares, Packages, Branding, Energy inputs, Additives, Logistics*)

**MARKETING** (*Includes; Farmers markets, CSA, Local shelf space, Groceries, Super store, Food chains, Food services*)

# *The Agro -Food Industry Value Chain*

Agro -Food Value chain

**CONSUMING** (*Includes; Home, Restaurants, Institutions, Take-out, Events*)

## **Large Scale Inputs**

- Inputs used by large scale farms are grouped into six main categories namely; seed planting materials, inorganic fertilizers, organic fertilizers, herbicides, fungicides and pesticide

# *The Agro -Food Industry Value Chain*

Tanzania experience on Agro -Food Value chain

## INPUTS

### Access to land

- According to the constitution, land is owned by the state. In practice, however, 68 percent of the land in Tanzania is accessed through family transfer under customary rights, which normally favours male family members. Therefore, in most cases customary land laws accord women only indirect, and therefore insecure, access to land.

# *The Agro -Food Industry Value Chain*

Tanzania experience on Agro -Food Value chain

## **Access to land (Cont.)**

- Of the 11,889,780 hectares directly available to agricultural households on Tanzania Mainland, 10,395,633 hectares (87%) are managed by male heads of households and 1,494,147 hectares (13%) are managed by female heads of households.
- The National average land area available per household is 2.4 hectares, however female headed households have an average of only 1.6 ha compared to 2.7 ha for male headed households which is equivalent to 30 percent less land per household.

# *The Agro -Food Industry Value Chain*

## Tanzania experience on Agro -Food Value chain

### Use of improved seeds during the long rainy season

- Of the 5,686,187 hectares planted on the Tanzania Mainland During long rainy season, 918,338 hectares (16% of the total planted area) were planted with improved seeds, of which 814,508 hectares (88.7%) belonged to male-headed households and 103,830 hectares (11.3%) belong to female-heads of households.

### Planted Area with Improved seed

- In Tanzania. the total area planted with improved seed during 2007/08 agricultural year was 1,488,893 hectares. This account only 17 percent of the total planted area. On the other hand, the total area without improved seed is 7,319,878 presenting 83 percent area of the total planted land.

# *The Agro -Food Industry Value Chain*

Tanzania experience on Agro -Food Value chain

## Use of fertilizer

- Fertilizers are applied more than any other input, however it is only applied on 27% of the total area planed (permanent and annual crops combined).



# *The Agro -Food Industry Value Chain*

## Tanzania experience on Agro -Food Value chain

### Labour employment

- The total number of employee on large scale farms was 98,184 of which 54,789 (56%) were males and the remaining 43,395 (44%) were females. Out of 54,789 male employees, 21,622 (39.4) were permanent employees while 33,167 (60.5%) were temporary employees.

### Small scale Employment

- In 2008 Tanzania mainland has an overall agricultural population (population of smallholder household members) of nearly 25 million persons (24,743,990), out of a total population of 36 million, comprising of 50 percent are men and 50 percent women.

# *The Agro -Food Industry Value Chain*

Tanzania experience on Agro -Food Value chain

## **Crop Storage**

### **Households storing crops**

- Eighty two percent of all agricultural households on Tanzania Mainland (3,938,493 households) store crops, with some regions having significantly higher percentages of households storing crops than others.

## *The Agro -Food Industry Value Chain*

Tanzania experience on Agro -Food Value chain

### **Main source of storing crops**

- Both male and female-headed households store crops mainly for home-consumption (respectively 79 and 77% of the male and female-headed households) followed by keeping produce for seeds (respectively 16 and 19 percent). Only a few households store produce with the purpose of obtaining higher prices later in the season

# *The Agro -Food Industry Value Chain*

Tanzania experience on Agro -Food Value chain

## **Method of storage**

- At national level, both male and female-headed households store maize mainly in sacks/open drums (54%), followed by locally made traditional structure (41%). Improved locally made structures, modern stores and airtight drums are much less widely used (only 2% of the smallholder households). This indicates that both types of household invest little in storage structures and rely largely on inherited locally made structures.

# *The Agro -Food Industry Value Chain*

Tanzania experience on Agro -Food Value chain

## **Marketing of agricultural products**

### **Selling food crops**

- At national level, a higher percentage of the male headed households sold crops (72%) than female headed households (62%). A higher percentage of female headed households use crops for household consumption than male headed households, which might be due to lower production levels and therefore no surplus for selling, household choice, poorer access to markets, poorer means of transport to markets, or households' choice.

# The Agro -Food Industry Value Chain

## Tanzania experience on Agro -Food Value chain

### Main marketing outlet

- Nearly a half of all agricultural households sell their agricultural produce to *traders who visit them at their farms*; 51 percent of the male-headed and 47 percent of the female headed households, *selling to neighbours* ranked second for both male and female-headed households (21 and 255 respectively).
- Market cooperatives, farmers associations and selling under contract play a relatively small role in the marketing of agricultural produce in mainland Tanzania, though percentage-wise this for marketing outlet is still nearly twice as important for male headed households (4.7%) than for female headed households (2.8). This might be because many farmers associations are still rather male dominated.

# *The Agro -Food Industry Value Chain*

Tanzania experience on Agro -Food Value chain

## **Main marketing problems**

- According to the 2007/08 Agricultural Census; the majority (67%) indicated that too low open market price was the most important marketing problem, others are transport cost being too high, crop marketing being too far, and lack of transport.

# *The Agro -Food Industry Value Chain*

## Tanzania experience on Agro -Food Value chain

### Access to credit

- Only 149,260 households received credit which presents 3 percent of the rural agricultural households in Mainland Tanzania. Of these, 129,502 were male headed and 19,758 were female headed households presenting 3.4 and 2.1 percent of the male and female headed households respectively.

### Sources of Credit

- Cooperative unions form the primary source of credit for male headed households (38% of the credit provided these households), followed by family, friends and relatives (30%). Female headed households main source of credit is family/friends and relatives (42%) followed to a much lesser extent by cooperative unions (15 percent), saving and credit associations (11 percent) and religious organization/NGOs/projects and private individuals (10 percent)



# *The Agro -Food Industry Value Chain*

**Ministry of Agriculture, Food Security and Cooperatives**

## **Vision**

By 2020 Tanzania agricultural sector to be made up of highly productive and profitable agro-value chains through modern farming and value addition in the sector

## **Mission**

To create enabling environment for sustainable development in agribusiness value chain management, agro-industries and marketing development.

## *National Agro-Industry*

What are some Key features of the National agro-Industry?

- ❖ To date there is no a smooth pattern that implies the magnitude of the agro-industry value chain'
- ❖ Value chain depends on the effect such as drought, floods, good infrastructure (Roads), market availability, storage facilities and prices

# *National Agro-Industry*

What are the key data sources and measurement issues?

- ❖ Ministry of Agriculture, Food Security and Cooperatives
- ❖ Ministry of Livestock Development and Fisheries
- ❖ Ministry of Water and Irrigation
- ❖ Ministry of Agriculture, Livestock and Environment, Zanzibar
- ❖ Prime Minister's Office, Regional and Local Governments
- ❖ Ministry of Industries, Trade and Marketing
- ❖ National Bureau of Statistics and the Office of Chief Government Statistician, Zanzibar.

# Challenges

- ❖ Low productivity of land, labour and other inputs
- ❖ Underdeveloped irrigation schemes
- ❖ Limited capital and access to financial services
- ❖ Inadequate agricultural technical support services
- ❖ Poor rural infrastructure hindering effective rural-urban linkages
- ❖ Infections and outbreaks of crop, animal pests and diseases
- ❖ Erosion of national resource base and environmental degradation
- ❖ Lack of entrepreneurial skills to turn non-farm activities into viable sources of livelihoods and foreign exchange

# Challenges

- ❖ Low productivity, inadequate infrastructure and poorly integrated markets
- ❖ Little attention has usually been paid to the value chain through which agricultural commodities and products reach the final consumers within the country and abroad.
- ❖ Usage of agricultural inputs is quite low. Tanzania uses only 9 kg per hectare of fertilizer and only 10% of farmers use improved seed
- ❖ Small-scale farmers lack capital, skills and can only manage to cultivate for subsistence
- ❖ Low levels of technology, excessive reliance on rain-fed agriculture, insufficient agricultural extension services, low productivity, deficient transportation and marketing infrastructure and facilities

# Agro-Food Processing Activities

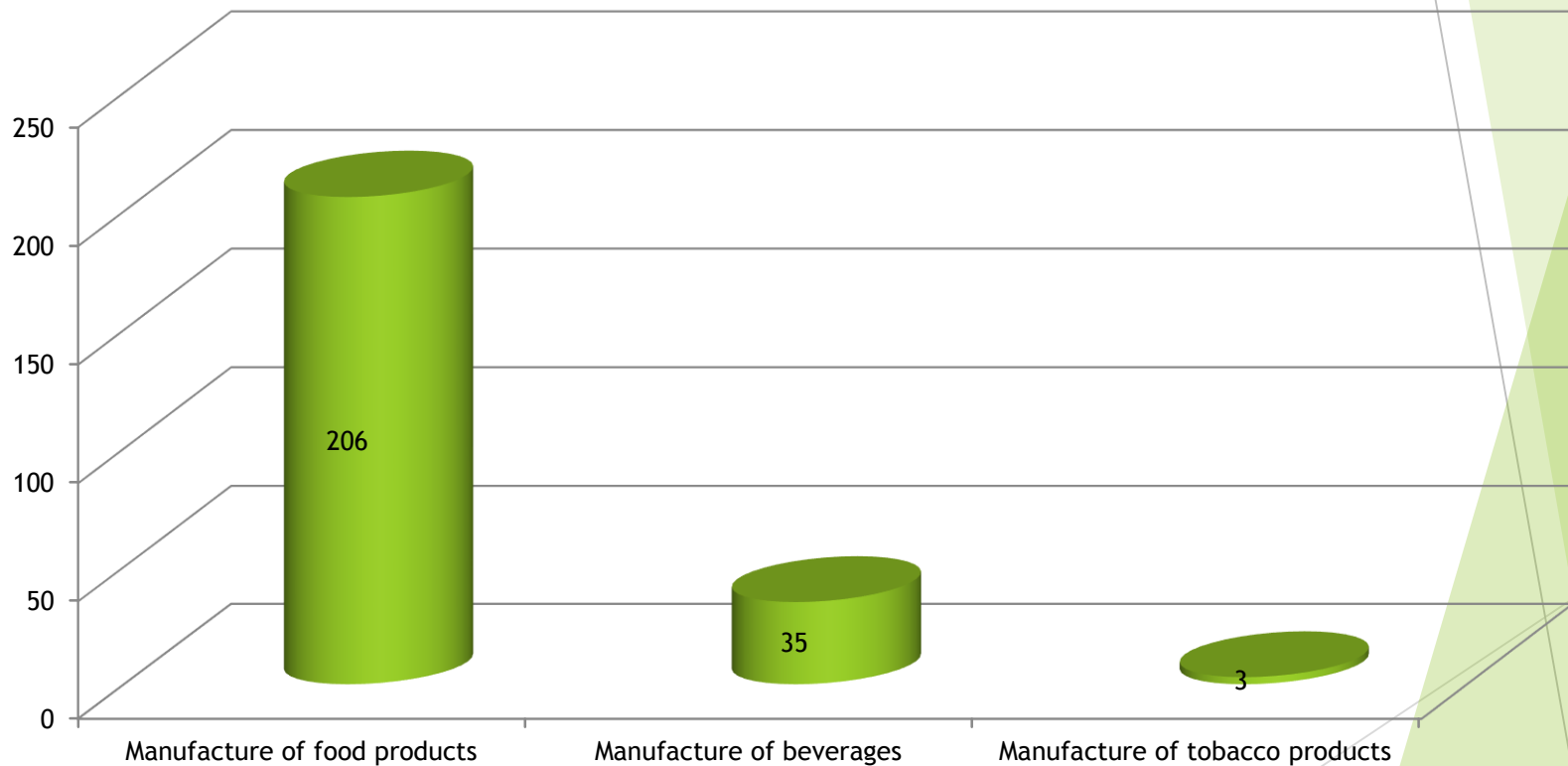
## ISIC

### Rev. 4 Industrial Activity

- 1010 Processing and preserving of meat
- 1020 Processing and preserving of fish, crustaceans and molluscs
- 1030 Processing and preserving of fruit and vegetables
- 1040 Manufacture of vegetable and animal oils and fats
- 1061 Manufacture of grain mill products
- 1071 Manufacture of bakery products
- 1072 Manufacture of sugar
- 1073 Manufacture of cocoa, chocolate and sugar confectionery
- 1079 Manufacture of other food products n.e.c.
- 1080 Manufacture of prepared animal feeds
- 1101 Distilling, rectifying and blending of spirits
- 1102 Manufacture of wines
- 1103 Manufacture of malt liquors and malt
- 1104 Manufacture of soft drinks; production of mineral waters and other bottled waters
- 1200 Manufacture of tobacco products

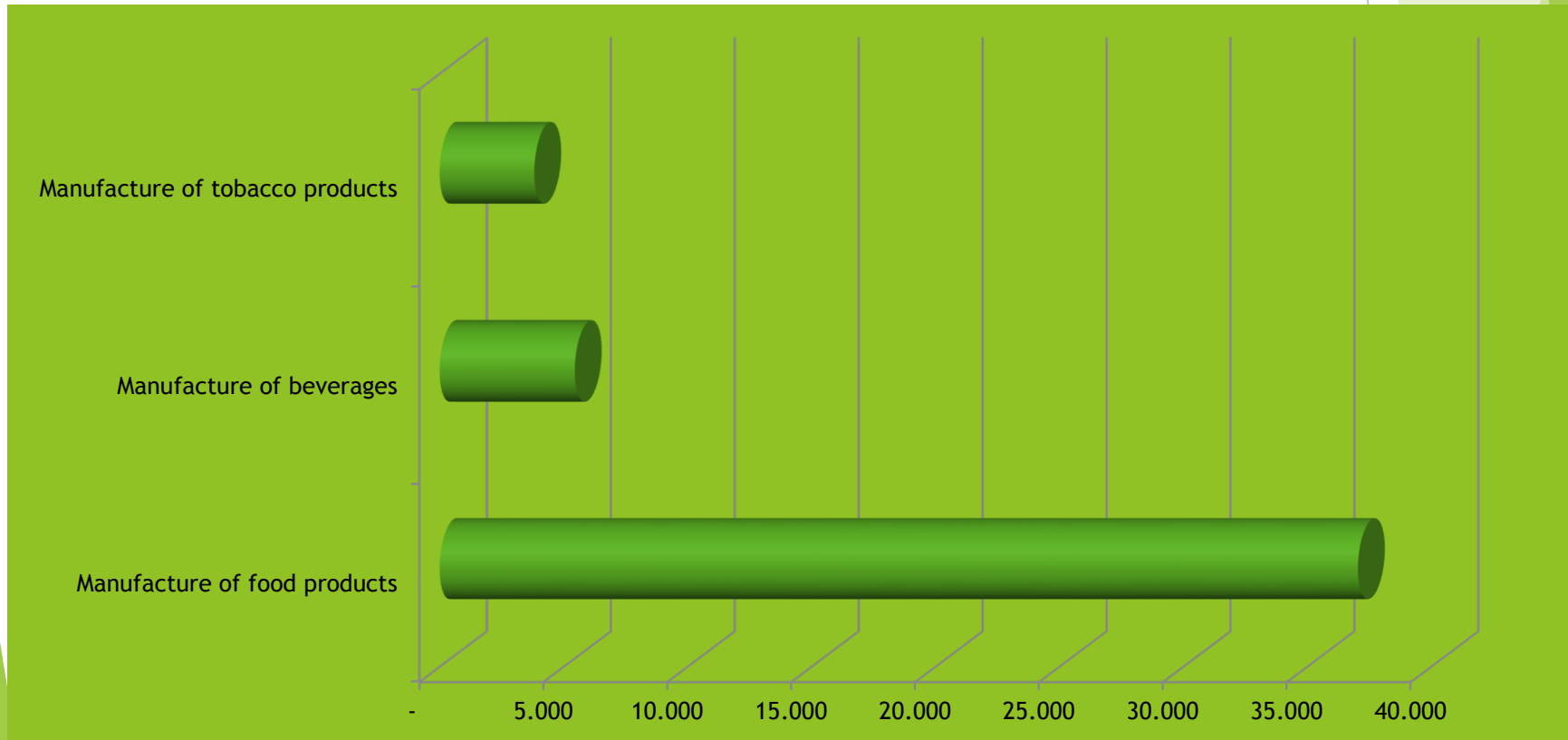
# Agro-Food Processing Statistics

## Agro -Food Number of Establishments by Activity-2009



# Agro-Food Processing Statistics

## Agro -Food Total Persons Engaged by Activity-2009





## *Agro-Food Processing Statistics*

Detailed Contribution of Agro-Food Industrial Activity to Total Manufacturing observed from Annual Survey of Industrial Production 2009 for 10+ establishments especially for Number of Establishments, Total Persons Engaged and Value Added are available from the ANNEX TABLES No. 1, 2 and 3.

# Agro-Food Processing Statistics

**Number of Establishments For Agro-Food Industrial by industrial activity - 2009 (10+ Establishments)**

ISIC Rev.4 Lev.2	ISIC Rev.4 L3	Industrial Activity	No. of Establishments	Percentage
10	101	Processing and preserving of meat	1	0.4
10	102	Processing and preserving of fish, crustaceans and molluscs	13	5.3
10	103	Processing and preserving of fruit and vegetables	3	1.2
10	104	Manufacture of vegetable and animal oils and fats	34	13.9
10	106	Manufacture of grain mill products, starches and starch products	58	23.8
10	107	Manufacture of other food products	91	37.3
10	108	Manufacture of prepared animal feeds	6	2.5
11	110	Manufacture of beverages	35	14.3
12	120	Manufacture of tobacco products	3	1.2
		<b>Total Agro-Food Manufacturing</b>	<b>244</b>	<b>100.0</b>
	<b>C</b>	<b>Total Manufacturing</b>	<b>686</b>	
		<b>Percentage Ratio of Agro-Food to Total Manufacturing</b>	<b>36</b>	

**Number of persons engaged by Agro-Food industrial activity and sex - 2009 (10+ Establishments)**

<b>ISIC Rev.4 Level 3</b>	<b>Industrial Activity</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Female%</b>
101	Processing and preserving of meat	21	17	38	45
102	Processing and preserving of fish, crustaceans and molluscs	1,384	443	1,827	24
103	Processing and preserving of fruit and vegetables	72	72	144	50
104	Manufacture of vegetable and animal oils and fats	1,166	461	1,627	28
106	Manufacture of grain mill products, starches and starch products	2,313	880	3,193	28
107	Manufacture of other food products	22,047	8,030	30,077	27
108	Manufacture of prepared animal feeds	90	49	139	35
110	Manufacture of beverages	4,518	932	5,450	17
120	Manufacture of tobacco products	2,665	1,150	3,815	30
<b>10,11 &amp; 12</b>	<b>Total Agro-Food Manufacturing</b>	<b>34,276</b>	<b>12,034</b>	<b>46,310</b>	<b>26</b>
<b>C</b>	<b>Total Manufacturing</b>	<b>67,607</b>	<b>29,474</b>	<b>97,081</b>	<b>30</b>
	<b>Percentage Ratio of Agro-Food to Total Manufacturing</b>	<b>51</b>	<b>41</b>	<b>48</b>	

<b>Agro Food Value Added by industrial activity - 2009 (10+ Establishments) ( in 000'TZS)</b>		
<b>ISIC Rev.4 Level2</b>	<b>Industrial Activity</b>	<b>Value Added</b>
10	Manufacture of food products	470,410,309
11	Manufacture of beverages	499,353,721
12	Manufacture of tobacco products	138,896,897
	<b>Total Agro-Food Manufacturing</b>	<b>1,108,660,927</b>
C	<b>Total Manufacturing</b>	<b>2,018,295,155</b>
	<b>Percentage Contribution of Agro-Food Value Added to Total Manufacturing Value Added (MVA)</b>	<b>55</b>

THANK YOU FOR YOUR  
ATTENTION

