

## **Coping with *Njaa* (Food Shortage): Food Insecurity and Household Strategies among Agro-Pastoralists in Central Tanzania**

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### **Synopsis**

This paper examines household responses to deal with food insecurity in an agro-pastoral community in Dodoma Region, central Tanzania, by analyzing income and expenditures at the household level. In the context of a highly unstable nature of agriculture, villagers have to rely on various income-generating activities to purchase everyday foods including both staple grains and secondary foodstuffs. Wealthier households tend to sell traditional livestock, notably cattle, in order to survive a food shortage. On the other hand, those households in the middle tier depend on a variety of income sources including small-scale businesses such as marketing vegetables, charcoal burning, tearoom businesses, and so on. The poorest villagers rely heavily on gifts and remittances from close kin both in the same village and urban areas.

Keywords: food insecurity, household strategy, agro-pastoralism, Central Tanzania

### **1. Introduction**

Dodoma Region is a semi-arid territory located in the central part of Tanzania. It is a marginal area for agriculture, with its annual rainfall rarely exceeding 600 mm. Due to low precipitation and irregular patterns of rainfall, villagers in the Dodoma Region have frequently suffered from crop failure. Recurrent drought and food shortages have threatened the livelihoods of the Gogo people, the major ethnic group in Dodoma, who have struggled to find various ways to survive *njaa* (food

shortage or hunger in Swahili) since the early 20<sup>th</sup> century. As it is very risky to depend on farming alone, many villagers have also kept livestock (especially cattle) to survive outbreaks of drought and famine.

There are a number of studies on food insecurity among villagers in Dodoma Region as well as their coping strategies to survive a prolonged drought. Drawing on the existing studies, Kuroda (2016: 152-153) summarizes traditional measures adopted by the Gogo to alleviate hunger before the 1960s as follows; (1) exchanging livestock for grain, (2) moving

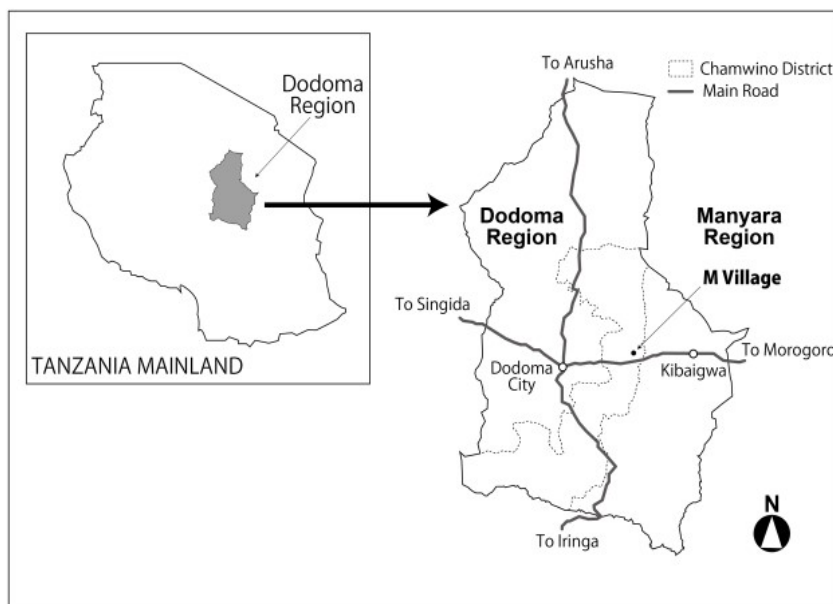
to other areas less affected by drought (*ku-hemea*), (3) becoming dependents of wealthier households, (4) searching for employment opportunities as *kibarua* (casual labourer or casual labour), (5) relying on a traditional custom to borrow grain from other grain-rich households (*songoleda*), and (6) collecting wild foods which were seldom eaten under normal circumstances. From the 1970s, other 'modern' strategies were added, including various kinds of wage labour, charcoal burning, and producing cash crops (in particular tomatoes), in response to the demand from urban consumers (*loc. cit.*).

Some of these strategies formerly pursued by the Gogo are still employed by villagers, although the socio-economic situation has changed considerably since then. Today, staple grains are constantly on sale in the market, in contrast to former days in which grain was not easily available, especially in times of drought. The challenge for the Gogo villagers today is how to generate income to purchase enough maize and other food items, which are abundant in local market places. Another difference between the pre and the post-independence period is that villagers today use cash as a major medium of exchange, unlike former times when livestock, especially cattle, embodied the foremost exchange value.

A general decline in livestock-keeping also characterizes contemporary agro-pastoral communities in Dodoma. Based on her fieldwork in 2000 in Mvumi Division, where the policy of destocking was implemented in the mid-1980s, Liwenga (2003) argued that,

after the cattle were evicted from the area, diversification of income and agricultural intensification became an established trend, which occurred only on an ad-hoc basis before destocking. Popular livelihood strategies cited by Liwenga (*ibid.*: 174-178) include; salt making, beer brewing, beekeeping, charcoal burning, and tomato production. It is important to note that, through the process of destocking, the former role of males in keeping livestock declined, and women were becoming increasingly involved in income-generating activities, especially salt making and beer brewing. She also revealed that households in different wealth ranks applied different coping strategies for dealing with food insecurity. Katega and Lifuliro (2014) also reported increased cases of non-farm activities in Mvumi Mission and Bahi Sokoni Villages. Among sample households, as many as 69.5% were engaged in non-farm activities, while only 17.6% kept livestock. For nearly 80% of households, the share of earnings from non-farm activities fell within the range of 30 to 60%. Their study also indicates the increased role of female entrepreneurs in the small-scale trading of foods (*ibid.* 20, 33, 41-42). Both studies, however, do not provide a detailed breakdown of income and expenditure at the household level.

The aim of this paper is to explore how villagers in Dodoma Region survive chronic food shortage, in the context of the highly unstable nature of farming. This paper is based on fieldwork in M Village of the Dodoma Region (Figure 1), carried out by the authors at



**Figure 1: Study Area**

irregular intervals between 2012 and 2017. The bulk of the data cited in this paper comes from formal and informal interviews with 22 sample household heads<sup>1</sup> who also agreed to keep household accounts for one month from 24 August to 22 September 2015. This “diary survey” includes the record of household incomings and outgoings on a day-to-day basis, along with daily diet and work activities.

## **2. Farming and Food Insecurity in M Village**

Despite its unstable nature, agriculture still remains the economic mainstay for the villagers in M Village. Formerly, sorghum, pearl millet, and finger millet were grown by means of slash-and-burn farming. At the time, the field was left for fallow after one or two years of cultivation. Production of maize, a less drought tolerant crop, gradually penetrated into village

life, and became widespread by the 1990s, rapidly replacing sorghum and millet as a diet staple. Cash crops such as sesame and sunflower were introduced by the mid-2000s. While sesame is a high-value cash crop for export, maize, peanuts, and sunflower are grown for both subsistence and commercial purposes. These main season crops are grown in the wet season, which lasts from November or December to March or April.

Rainy season crop production in M Village is characterized by a high instability and unpredictability. As shown in Table 1, production of major crops for the year 2013/14 and 2014/15 presents a striking contrast among the 22 households (HH), which were divided into wealthy, middle and low tiers, corresponding to the number of livestock (especially cattle) they own.<sup>2</sup> M Village was struck by a serious drought in the year 2014/15, when 13 out of 20 maize-growing HH

encountered a zero-harvest. Kuroda (2016), who conducted a research in M Village, reported frequent occurrences of total (or near total) crop failure of maize during the years between 2006/07 and 2010/11. In such years, a considerable amount of maize was purchased by each household. Kuroda (2014: 113) also reveals that 25% of sample villagers in M Village experienced *njaa* every year between 2002 and 2011, and 75% faced it five times or more.

Alongside the major crops, there are a variety of crops grown between maize, sunflower or peanut plants, in the form of mixed cropping. The common secondary crops include calabash, Bambara nut, pumpkin, watermelon, cow pea, most of which play a vital role in supplementing the staple grains. In particular, different types of edible calabash (*mumunya* in Swahili) are important crops for

villagers to survive a period of hunger before maturity of the maize (March to April) (Kessy 2006: 18). During the rainy season, the villagers also eat green maize on the cob to alleviate hunger. There also are a variety of leafy herbs grown naturally in the fields, most notably false sesame (*mlenda* in Swahili). While these herbs are cooked fresh from the field in rainy season, they are also dried and preserved to provide leafy greens in dry season when only a limited food repertoire is available.

Recently, riverside lowlands are used for dry-season commercial vegetable production (Table 1). Vegetable garden (*bustani*) production in the village probably began in the 2000s in response to new market opportunities in both urban and rural areas. At riversides, villagers dug a number of shallow wells, and grow a variety of vegetables including tomatoes, onions, okra, Chinese cabbage, chard and so on

**Table 1: Agricultural Production of Sample Farmers in M Village (22 household [HH])**

Wealth rank	HH no.	2014/15		Crop production (debe=20 liter)						Livestock ownership				
		Area under cultivation (acre)	Vegetable garden at riversides (acre)	Maize		Sunflower		Sesame		Peanuts		Cattle	Small stock	Pig
				2014/15	2013/14	2014/15	2013/14	2014/15	2013/14	2014/15	2013/14			
Wealthy	1	24.5	-	0	12	4	0	24	16	-	-	52	250	0
	2	17	-	2	39	0	12	0	6	0	-	30	30	0
	3	5	less than 0.25	0	18	-	-	0	6	-	-	20	0	0
	4	8	less than 0.25	6	18	0	6	0	6	2	72	8	5	0
	5	8.5	less than 0.25	2	20	11	5	-	-	0	36	6	4	0
Middle tier	6	12	0.25	0	6	3	12	4	18	-	-	4	16	0
	7	6.5	less than 0.25	0	18	0	21	0.5	6	0	30	2	5	0
	8	7	-	0	20	?	18	2	12	0	14	0	15	0
	9	3	-	-	12	-	-	0.35	20	-	-	0	10	9
	10	16	0.25	1	24	1	48	0	18	0.5	60	0	0	0
	11	5.5	-	0	6	0	-	-	-	0	18	0	0	0
	12	5	-	0	21	-	-	0	24	2	18	0	0	0
	13	6	-	0	?	-	10	0	5	0	18	0	0	1
	14	5.75	-	7.5	14	12	27	2	-	1.5	15	0	0	0
	15	8	-	6	30	7	27	2	12	2	-	0	0	0
	16	6	-	0	2	0	3	0	1	-	-	0	0	0
Low tier	17	12	-	1	30	6	9	1	6	12	18	0	0	0
	18	1.5	-	0	2	1	2	-	-	0	6	0	0	0
	19	2	-	0	6	-	-	-	-	0	18	0	0	0
	20	3	-	0	12	0	-	-	-	0	-	0	0	0
Uncategorized	21	4.5	0.5	-	-	0.5	108	0.25	14	-	-	4	0	0
	22	5	0.5	0	24	1	18	-	-	1	30	0	0	1
Average per HH		7.8	-	1.3	16.7	2.9	20.4	2.3	11.3	1.3	27.2	5.7	15.2	0.5

Source: Field survey, 2015.

in the dry season. In the rainy season, when the water level is high, they produce maize instead of vegetables. Dry-season *bustani* production became one of the major farming activities which can secure both an income and also secondary dishes in everyday diet. While there are male producers who have embarked on large-scale vegetable production, there is an increasing number of women involved in *bustani* farming, both for sale and for domestic consumption (see also Table 3).

### 3. An Analysis of Monthly Household Expenditures

This section examines cash expenditure patterns of sample households, based mainly on average figures for each wealth rank. As Table 2 indicates, on average, as much as 85% of monthly expenditure was spent on foods, especially on maize and other expenses that accompanied the purchase of maize (50%). Unlike former days when grain was not readily

available in the market, especially in the years of *njaa*, maize (or maize flour) is easily purchased nowadays at local shops, mills, or from the stocks of grain-rich villagers. Maize is normally transacted as unmilled grain, and villagers grind it into flour at local mills. Some villagers, however, started to purchase milled maize flour (locally known as *sembe*) from 2015, when it became available for the first time in local shops in the village.

The share of food items in total cash expenditure is different according to each economic group; 69% for the wealthy category, and 91% and 85%<sup>3</sup> for middle and low tiers, respectively (Table 2). It is noteworthy that the expense for other foodstuffs for secondary dishes such as meat, fishes, and vegetables, which were seldom bought for cash in former days, accounts for as much as 21% on average. Vegetable oil, which was never used in former times, is now an indispensable part of the everyday diet. It is also worth noting that 8% of expenditures for wealthy households is used for

**Table 2: Breakdown of Monthly Expenditure among 19 Sample Households\* (24 August- 22 September 2015)**

Items	[Tanzanian shillings**]							
	Wealthy (Average for 4HH)	%	Middle tier (Average for 11HH)	%	Low tier (Average for 4HH)	%	Average for all HH	%
Maize, maize flour, maize milling and transportation	33,375	36%	47,864	56%	24,150	50%	39,821	50%
Other starchy staples (rice, sweet potato, etc.)	1,750	2%	1,659	2%	750	2%	1,329	2%
Other foodstuffs (vegetables, beans, meat, and fishes)	12,738	14%	19,786	23%	12,838	27%	16,839	21%
Oil, sugar, salt, and tea leaves	8,550	9%	5,064	6%	3,200	7%	5,405	7%
Eating out and processed foods	7,425	8%	2,827	3%	-	-	3,200	4%
Sub-total for food items	63,838	69%	77,200	91%	40,938	85%	66,753	85%
Clothes, bedclothes, etc	17,750	19%	1,000	1%	5,000	10%	5,368	7%
Other daily necessities	6,300	7%	4,636	5%	1,775	4%	4,384	6%
Others	4,725	5%	2,227	3%	550	1%	2,400	3%
Sub-total for non-food items	28,775	31%	7,864	9%	7,325	15%	12,153	15%
Grand total***	92,613	100%	85,064	100%	48,263	100%	78,905	100%

Source: Field survey, 2015.

Notes: \* Three HH, which are either not categorized by wealth ranking (HH no. 21 and 22) or failed to complete diary survey (HH no. 2), are not included here. The same is applied to Table 4.

\*\* One Tanzanian shillings (Tshs) was equivalent to 0.00046 US dollars in August 2015.

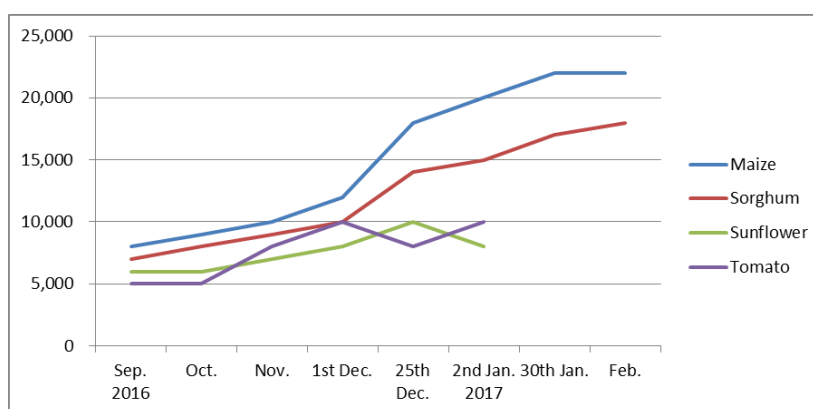
\*\*\* The material costs for a tearoom business and alcohol making, along with the cost of petrol and repair for a motorcycle taxi, are not included here. Unusual expenses for special events such as funerals and parties to celebrate primary-school graduation are also excluded.

eating out and processed foods (such as deep-fried buns and chapatias), which accounts for only 3% and 0% for middle and low tiers, respectively. There is little doubt that such an increase in cash expense for food items other than maize has put a further burden on the budget of each household. Meanwhile, the expense for clothes and bedclothes constitutes the largest amount among non-food items.

There is a geographical disparity in production of maize even within a small locality. During the past ten or so years, huge tracts of grassy shallow wetland (*mbuga*), formerly used as pastures, have been turned into maize fields. One can expect a relatively good harvest in *mbuga* especially in dry weather. In the years of severe drought, villagers would purchase maize from those who have fields in *mbuga* areas. For example, *mbuga* farmlands in Z and L Villages adjacent to M Village had a good harvest in 2014/15 and 2016/17 seasons. Villagers in M Village tended to go there to either purchase maize in cash or barter for other commodities, especially garden-fresh vegetables from *bustani*, as we

shall see later. If one has more than 10,000 Tshs (Tanzanian shillings) in hand, he or she may have walked a few hours to Z or L Village to get one *debe* container (20 liters) of maize from the stocks of grain-rich households. The average price of maize for one *debe* in dry season is around 10,000 Tshs (Figure 2), equivalent to 500 Tshs per liter. However, if one has only several hundred Tshs, he or she has to purchase maize in smaller portions at local flour mills, where one liter of maize would be sold at 750 to 800 Tshs. Thus, poorer villagers with only small sums of money have a further disadvantage in securing enough food.

The expenditure for purchasing foods differs considerably according to the season. As shown in Figure 2, the price of major grains in M Village is generally low in the post-harvest period and gradually rises from November to December, reaching its highest price in January and February, which is almost three times as much as that of September. Therefore, villagers with a large amount of cash may purchase maize in bulk when the price hits bottom between July and September, and may sell or



**Figure 2: Price of Major Crops in M Village (Tshs per *debe*)**

Source: Field survey, 2016-2017.

consume it during the period of higher prices. Villagers in food abundant areas, on the other hand, may be able to borrow money in advance by promising to deliver maize crops at a future date. For example, in February 2017, five villagers from grain-rich B Village visited a wealthy villager in M Village (HH no. 1 in Table 1) to borrow money, using standing maize as collateral. The mortgage rate was 5,000 Tshs per *debe* (20 liters), half the normal price in September (10,000 Tshs per *debe*). Consequently, HH no. 1 eventually secured 300 *debes* from B villagers at a bargain price. Thus wealthier villagers can draw a great advantage from the seasonal difference in crop prices, while poorer villagers, again, cannot adopt such a strategy.

#### 4. Coping with Njaa: Villagers' Struggle to Secure Cash Income

##### (1) An Overview on Diversification of Income

#### Generating Activities

There are a variety of ways in which the villagers overcome chronic food shortage. One such means is to reduce the amount eaten by family members. Based on his survey in M Village in 2013, Kuroda (2016: 163) suggests that in poor households, members took meals only two times (or once) a day (instead of three times) in the most severe period of the year (February to March). The aforementioned grain-borrowing system, *songoleda*, is still practiced in M Village particularly in the case of sorghum, although maize is also loaned sometimes. For example, a female head of HH no. 7, who experienced zero-harvest of maize in the 2016/17 season, borrowed one bag (equivalent to six *debe* or 120 liters) of maize from her relative in the grain-rich part of the neighboring village under the contract of *songoleda*, in which she has to return twice what she borrowed after one year.

Table 3: Income Sources of Each Household (2015)

Wealth rank	HH no.	Sales of livestock and poultry	Sales of crops	Sales of forest products	Wage labor	Gifts** and remittances	Others
Wealthy	1	Cattle	Sesame	-	-	-	Cattle trading business and other investment
	2	-	Tobacco	-	-	-	Motorcycle taxi and tailoring
	3	-	<i>Vegetables</i>	-	-	-	-
	4	Cattle, goats and chickens	<i>Vegetables</i>	-	-	From a child	<i>Making alcohol</i> , sales of maize bran
	5*	-	<i>Vegetables</i>	-	-	-	<i>Sales of maize bran</i>
Middle tier	6	Goats and chickens	-	Charcoal and <i>firewood</i>	-	From a child	-
	7*	<i>Pigs and chickens</i>	<i>Vegetables</i>	<i>Charcoal</i>	-	-	-
	8*	<i>Goats and chickens</i>	-	-	-	-	<i>Making gravels for construction, hair dressing</i>
	9	Piglets	-	Logging	-	-	Cattle trading business
	10	Cattle	-	Charcoal	-	-	Motorcycle taxi
	11*	-	-	-	-	-	<i>Brewing sorghum beer</i>
	12*	-	-	<i>Charcoal</i>	-	From relative	-
	13	Chickens	-	Charcoal and logging	On-farm	-	-
	14	Chickens	-	Firewoods and logging	-	-	Hiring out an ox-cart
	15*	-	-	-	-	-	<i>Tearoom business</i>
Low tier	16*	-	-	-	-	From children	<i>Tearoom business</i>
	17*	<i>Chickens</i>	-	<i>Firewood</i>	-	From children	<i>Trading tomatoes</i>
	18*	-	-	-	-	From grandchildren	-
	19*	-	-	-	-	From children	-
	20	-	-	-	-	From children	-
Uncategorized	21	<i>Goats</i>	<i>Vegetables</i>	<i>Charcoal</i>	-	-	<i>Trading salt</i>
	22*	<i>Pigs, chickens and ducks</i>	<i>Vegetables</i>	<i>Firewood</i>	<i>On-farm</i>	-	<i>Selling bean cake (bagia) at villager market</i>

Source: Field survey, 2015.

Note: \*Female-headed households.

\*\*This includes gifts in kind such as maize and sorghum.

The most popular means to cope with food shortage, however, is to generate cash income in a variety of ways. Table 3 shows how sample households earned cash income to survive the period of food shortage after a disastrous crop failure in 2015. As shown in the table, those with livestock and poultry sold them off to purchase maize. Traditional livestock (cattle, goats, and sheep) still remain the most important assets to get urgent cash income, especially for wealthier villagers. Recently, the number of households keeping chickens and pigs is increasing, not only because these animals grow fast and can bring a profit within a short period, but also due to the fact that they can be easily raised by women. Other income-generating activities include; the sale of vegetables from *bustani*, on-farm wage labour, charcoal burning, collecting firewood, and other small businesses. Charcoal burning is one of the most important sources of income, especially for the poorer sectors of the community.

Women have played an increasingly important role in income-generation. Roughly half of all the sample households are female-headed households (mostly widowed or divorced). Many female villagers are now engaged in a variety of income generating activities (put in italics in Table 3), probably in line with the decline of livestock-keeping as insurance against crop failure. Formerly, the main business carried out by women was brewing sorghum beer or other types of alcohol. Recently, along with charcoal production, trading vegetables in maize-abundant areas is

becoming popular among women as a relatively high-yielding and stable business in dry season. Today, an increasing number of women buy tomatoes and other vegetables from *bustani* producers both within and outside M Village, and carry them to grain-rich areas in neighboring villages, where they barter those vegetables for maize.

## (2) An Analysis of Monthly Household Income

Table 4 shows the breakdown of total monthly income of sample households by wealth rank. It should be noted that this does not represent the composition of an income for a whole year. As it shows income for only one month from August to September, no notable crop sales are indicated here, except for those of dry-season *bustani* vegetable production.

As shown in Table 4, in the case of wealthy HHs, sales of livestock gets the largest share (75%), while as much as 93% of total monthly income of the low-tier HHs comes from gifts and remittances both from within and outside the village. In contrast, those HHs in the middle tier are involved in various kinds of businesses, confirming a diversity of livelihood strategies shown in Table 3. Hiring out ox-carts, tearoom businesses, and sales of charcoal in particular earned a large amount of income, among others. On the other hand, on-farm wage labour, which was reported as an important source of income by Liwenga (2003) and Kuroda (2016), accounts for only two percent. It is partly because the demand for labour in farming normally grows after September or October, when the villagers start to prepare farmland for



**Table 4: Breakdown of Total Monthly Income (19 Sample HH, 24 Aug.-22 Sept. 2015)**

[Tanzanian shillings]

Items	Wealthy		Middle tier		Low tier		Total for all HH	
	(Total for 4HH)	%	(Total for 11HH)	%	(Total for 4HH)	%		%
Sales of livestock	875,000	75%	80,000	8%	-	-	955,000	39%
Sales of chicken	18,000	2%	70,000	7%	12,000	4%	100,000	4%
Return on investment	100,000	9%	-	-	-	-	100,000	4%
Sales of vegetables	86,800	7%	2,500	0.2%	-	-	89,300	4%
Sales of alcohol*	33,000	3%	34,000	3%	-	-	67,000	3%
Sales of maize bran	4,000	0.3%	-	-	-	-	4,000	0%
Hiring out ox-cart	-	-	175,000	17%	-	-	175,000	7%
Tearoom business*	-	-	153,900	15%	-	-	153,900	6%
Motorcycle taxi*	-	-	89,000	9%	-	-	89,000	4%
Sales of charcoal	-	-	153,000	15%	-	-	153,000	6%
Sales of firewood	-	-	18,000	2%	2,500	1%	20,500	1%
Sales of timber	-	-	25,000	2%	-	-	25,000	1%
Sales of gravels	-	-	24,000	2%	-	-	24,000	1%
On-farm wage labor	-	-	20,000	2%	-	-	20,000	1%
Hairdressing	-	-	10,500	1%	-	-	10,500	0%
Trading tomatos	-	-	-	-	4,000	1%	4,000	0%
Gifts and remittances**	35,500	3%	159,200	16%	250,400	93%	445,100	18%
Others	14,000	1%	2,600	0.3%	-	-	16,600	1%
Total***	1,166,300	100%	1,016,700	100%	268,900	100%	2,451,900	100%
Average per HH	291,575		92,427		67,225		129,047	

Source: Field survey, 2015.

Note: \*The material costs for a tearoom business and alcohol making are deducted. In the case of a motorcycle taxi, the cost for petrol and repair are deducted.

\*\*Gifts include grains and other foodstuffs received in kind, which were converted into market prices here.

\*\*\*For keeping the diary, every sample household was given 10,000 Tshs as payment, which is not included here.

the coming rainy season.

The contribution of gifts and remittances to the household budget seem to be increasing in the cases of low and middle tiers. As three out of four household heads in the low tier group are elderly persons probably in their 70s or 80s, they are heavily dependent on the assistance provided by their children or grandchildren both within and outside the village. It is also noteworthy that 16% of total monthly income for the middle tier group also comes from gifts and remittances. In 2017, we witnessed several additional cases of out-migration of young people to get a job with regular cash income, especially in the capital city of Dar es Salaam.

## 5. Conclusion

This paper reveals the diverse nature of livelihood strategies of villagers in the semi-arid Dodoma Region by examining monthly household earnings and expenditures. Under the highly unfavourable conditions for crop production, foods have become items that primarily have to be purchased for cash, rather than something to be produced on their own soil. On average, 85% of household income is devoted to the purchase of food items.

Except for the thriving vegetable gardens in the dry season, most of the income is derived from activities other than crop production. Traditional livestock especially cattle is still the

most important means to maintain a subsistence level for wealthier villagers. At the same time, those without livestock are engaged in a variety of income-generating activities. Villagers combine several different businesses to secure enough income to purchase foods. Women in particular devote considerable effort to feed their families, sometimes tapping new sources of income. Such an exploration of livelihood options characterizes today's agro-pastoralists in Tanzania.

This paper limited its scope to analyze the household data only on an average and aggregated basis. Further examination will be

needed, by analyzing the data at each household level, as well as on the basis of day-to-day balancing of the household budget. At the same time, not only short-term but also long-term strategies to cope with chronic food insecurity should be the subject of further inquiry.

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### NOTES

<sup>1</sup> The sample households were selected from two hamlets (Hamlets H and S) in M Village. While all the sample households in Hamlet H are the Gogo, those in Hamlet S are the Nguu ethnic minority. In the cases of polygamous families and a few other cases, in which women were considered to be the primary breadwinner in that particular household, wives were interviewed instead of their husbands.

<sup>2</sup> The wealth ranking exercise was originally carried out by villagers in 2011. As Table 2 indicates, the number of villagers keeping traditional livestock is declining. According to

Kuroda (2016: 157), the proportion of cattle-keeping households in M Village (including another village which split from M Village in 2016) was estimated to be roughly 17% in 2013.

<sup>3</sup> The share of cash expense for food items among households in the low tier category (85%) is slightly lower than those in the middle-tier (90%), probably reflecting the fact that three out of four households in the low tier group were receiving grain (maize, sorghum, etc.) in kind as a gift during the research period.

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## アフリカ農牧社会の食料安全保障と家計戦略 —タンザニア中部における事例—

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### 要約

本稿では、タンザニア中部の半乾燥地帯の農牧民を対象として、サンプル農家の家計を分析することによって、作物生産が極度に不安定ななかで、ほかの生計手段によってどう食料を確保しているのかを検討した。2015年に22名のサンプル農家に対して行った日誌調査と聞き取りによって得たデータをもとに分析を行った結果、次のことが判明した。(1) 農家は2~3年に一度程度の割合で干ばつによる極端な食料（とりわけ主食であるトウモロコシの）不足にみまわれる。(2) 富裕層から最貧層まですべての農家は何らかの方法で現金を調達して主食であるトウモロコシを購入している。(3) 現金収入源として、富裕層はウシをはじめとする家畜の販売に大きく依存し、最貧層は親族（とくに子供や孫）からの贈与に依存している。(4) 他方で中間層は木炭生産、小規模な商売、酒の販売、加工食品の販売など、小銭を稼ぐためのさまざまな方法を創出し、食料不足を乗り切っている。またこうした小規模な事業には多くのケースで女性が中心的な役割を果たしている。