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## CONTRIBUTION OF OFF-FARM INCOME-GENERATING ACTIVITIES TO HOUSEHOLD INCOME AMONG SMALLHOLDER FARMERS IN IRINGA DISTRICT COUNCIL, TANZANIA

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### ABSTRACT

This study examined the contribution of off-farm income-generating activities (IGAs) to household income among smallholder farmers in Iringa District Council, Tanzania. The manuscript focuses specifically on the first objective of the broader dissertation, which examined the contribution of off-farm IGAs to household income. The study was guided by the Sustainable Livelihoods Framework and employed a mixed-methods approach with a cross-sectional design. Data were collected from 128 smallholder farmers engaged in off-farm IGAs in Wasa and Lumuli Wards using structured questionnaires, while qualitative information was obtained from key informants. Quantitative data were analysed using descriptive statistics, including frequencies and percentages, while qualitative evidence was analysed thematically. The findings showed that off-farm IGAs constituted the main source of income for 52.8% of respondents, compared with 40.9% who identified on-farm activities as their main source and 6.3% who reported other sources. In terms of the contribution to total household income, 40.6% of respondents reported obtaining 50–74% of household income from off-farm activities, 39.8% obtained 25–49% and 4.7% obtained 75% or more. Overall, 85.1% obtained at least one-quarter of their household income from off-farm activities. Furthermore, 71.9% received income from off-farm activities daily, 22.7% weekly and 5.5% monthly. The findings suggest that off-farm IGAs provide an important and relatively regular source of household income, complementing seasonal agricultural earnings and strengthening household livelihood security. The study concludes that off-farm IGAs make an important contribution to household income among smallholder farmers in Iringa

District Council. Strengthening access to finance, markets, entrepreneurship skills and supportive local institutions is recommended to enhance the sustainability and income-generating potential of off-farm enterprises.

**KEYWORDS:** Off-farm income-generating activities, household income, smallholder farmers, livelihood diversification, Sustainable Livelihoods Framework, Iringa District Council.

## **1. Background of study**

Smallholder farmers in rural areas commonly depend on agriculture as their primary livelihood, yet agricultural income is often seasonal and vulnerable to climatic variability, market fluctuations and production risks. Under such circumstances, households increasingly engage in income-generating activities outside their own agricultural production to supplement farm earnings and stabilise household cash flow. Off-farm income-generating activities include petty trade, food vending, wage employment, transport services, agro-processing, handicrafts and other small-scale enterprises.

The importance of off-farm activities is linked to the broader livelihood diversification process. Households may combine farming with non-farm and off-farm activities to reduce dependence on a single income source and to create alternative means of meeting household needs. Off-farm earnings can provide cash during agricultural off-seasons and can support expenditure on food, education, health, housing and productive investments. The Sustainable Livelihoods Framework (SLF) provides a useful lens for examining this process because it views livelihood outcomes as emerging from the interaction of household assets, vulnerability conditions, livelihood strategies and institutional structures.

In Tanzania, rural households continue to combine agricultural production with a range of off-farm activities. Evidence cited in the dissertation indicates that off-farm self-employment and wage employment are important sources of income among rural households. In Iringa District Council, where smallholder farming remains a major livelihood activity, farmers face climatic and market-related constraints that make income diversification particularly relevant. The present manuscript narrows the broader dissertation to one specific objective: to examine the contribution of off-farm income-generating activities to household income among smallholder farmers in Iringa District Council. Accordingly, the analysis concentrates on the types of off-farm activities, their position as a household income source, their share of total household income and the frequency with which income is received.

## **2. Statement of the problem**

Smallholder households in rural Tanzania continue to face income insecurity because agricultural production is strongly influenced by rainfall, production costs, market prices and seasonal variation. Off-farm IGAs are promoted and adopted as a livelihood diversification strategy intended to provide additional income and reduce dependence on agriculture. However, participation in an activity does not necessarily mean that it makes a substantial contribution to household income. The contribution may vary according to the type of enterprise, market access, capital, skills, seasonality and the capacity of households to sustain the activity.

In Iringa District Council, smallholder farmers increasingly engage in activities such as crop trading, agro-processing, livestock-related businesses, food vending, transport services, honey selling and handicrafts. Despite this growing participation, context-specific evidence on the extent to which these activities contribute to household income remains important for local development planning. The dissertation identified a need to assess the actual contribution of off-farm IGAs to total household income and the regularity of income receipts among participating smallholder farmers.

This manuscript therefore addresses that evidence need by focusing exclusively on the first specific objective of the dissertation. Because the underlying study used a cross-sectional design and did not include a counterfactual group, the findings are interpreted as reported contributions and associations rather than causal estimates of impact.

### **1.3. Objective of the study**

#### **1.3.1 General objective**

To assess the contribution of off-farm income-generating activities to household welfare improvement among smallholder farmers in Iringa District Council.

#### **1.3.2 Specific objectives of the study**

To examine the contribution of off-farm income-generating activities to household income among smallholder farmers in Iringa District Council.

### **1.4 Research question**

What is the contribution of off-farm income-generating activities to total household income among smallholder farmers in Iringa District Council?

## **2. LITERATURE REVIEW**

### **2.1 Theoretical literature review**

#### **2.1.1 Sustainable livelihoods framework**

The study was guided by the Sustainable Livelihoods Framework, originally associated with Chambers and Conway and later operationalised through the DFID livelihoods framework. The framework emphasises the interaction between livelihood assets, the context of vulnerability, institutions and livelihood strategies in shaping livelihood outcomes. It recognises human, natural, financial, physical and social capital as resources that households combine in pursuing livelihoods. (Ye et al., 2022).

For smallholder farmers, off-farm IGAs represent a livelihood strategy that can convert skills, labour, social networks and financial resources into income. The framework is particularly relevant where agricultural income is seasonal or uncertain. Off-farm activities may provide alternative cash flows and reduce household dependence on a single livelihood source. In this manuscript, household income is the principal livelihood outcome, while participation in off-farm IGAs represents the livelihood strategy under examination.

#### **2.2 Empirical literature on off-farm activities and household income**

Off-farm activities are an important livelihood diversification strategy among rural households. Smallholder farmers engage in activities such as petty trade, transportation, food vending, agro-processing and wage employment to supplement agricultural income. These activities provide additional earnings and reduce dependence on farming alone.

Studies by Bezu (2015) and Loison (2019) indicate that off-farm income contributes significantly to household earnings and enhances financial stability. Similarly, Anang and Apedo (2023) found that income diversification through off-farm activities improves household income among smallholder farmers. In addition, regular income generated from off-farm enterprises helps households meet daily needs and manage financial obligations throughout the year. Therefore, assessing the contribution of off-farm activities requires examining both their share in total household income and the frequency with which income is received.

##### **2.2.1 Types of off-farm income-generating activities practiced by smallholder farmers**

Off-farm IGAs have become an important livelihood diversification strategy among smallholder farming households in many developing countries. Due to the seasonal nature of agriculture and increasing economic uncertainties, rural households often engage in various off-farm activities to supplement farm income, reduce vulnerability to agricultural shocks and improve household welfare. Several studies have shown that smallholder farmers participate

in different types of off-farm income-generating activities to diversify livelihoods and reduce dependence on agriculture. Danso-Abbeam et al. (2020) found that crop trading, food vending, livestock-related businesses and agro-processing were among the most common activities undertaken by rural households in Africa. Similarly, Baghernejad et al. (2023) reported that smallholder farmers engage in petty trade, transport services, handicrafts and agro-processing as alternative sources of income. These activities provide additional earnings and help households manage agricultural risks and income fluctuations.

### **2.2.2 Contribution of off-farm activities to household income**

Empirical evidence indicates that off-farm income contributes significantly to household earnings among smallholder farmers. Anang and Apedo (2023) found that participation in off-farm activities increases total household income and improves economic welfare. Likewise, De La O Campos et al. (2023) reported that non-farm income sources constitute a substantial share of household income in rural areas and support livelihood diversification. Furthermore, Mutsami et al. (2025) observed that off-farm income reduces poverty and enhances household resilience by providing alternative sources of income beyond farming.

### **2.2.3 Frequency of receiving income from off-farm activities**

Regular income is essential for meeting household needs and maintaining livelihood security among rural households. Off-farm IGAs often provide more frequent earnings than farming activities, which are largely seasonal. Haggblade, Hazell and Reardon (2010) found that rural non-farm enterprises generate regular cash income that helps households meet daily expenses and withstand economic shocks. Similarly, De La O Campos et al. (2025) reported that off-farm activities provide income on a daily, weekly, or monthly basis, thereby improving household cash flow and financial stability.

### **2.2.4 Contribution of off-farm income-generating activities to household saving capacity**

Smallholder farmers participation on Off-farm IGAs has positive contribution of HH saving capacity, Research indicates that participation in off-farm activities positively influences household saving behaviour. Mekonnen et al. (2024) found that increased income from diversified livelihood activities enhances households' ability to save and invest in productive assets. Similarly, Sithole et al. (2026) reported that off-farm income strengthens financial resilience by enabling rural households to participate in savings groups, access credit and accumulate capital for business expansion. These savings mechanisms contribute to improved household welfare and long-term economic stability.

## **2.3 Knowledge gap**

Although previous studies have highlighted the importance of livelihood diversification and off-farm income in improving rural livelihoods, the contribution of specific off-farm activities varies across locations due to differences in market access, infrastructure, employment opportunities, skills and local economic conditions. However, there is limited context-specific evidence on the role of off-farm income-generating activities among smallholder farmers in Iringa District Council. Therefore, this study seeks to address this gap by examining the major off-farm activities practised by smallholder farmers, their contribution to household income and the frequency with which income is received from these activities.

## **3. METHODOLOGY**

### **3.1 Research approach and design**

The study employed a mixed-methods approach with a cross-sectional research design. Quantitative data were collected from smallholder farmers using structured questionnaires, while qualitative information was obtained through key informant interviews. The two forms of evidence were used to provide complementary information on the contribution of off-farm IGAs to household income.

### **3.2 Study area**

The study was conducted in Wasa and Lumuli Wards in Kiponzelo Division, Iringa District Council, Tanzania. The area is characterised by smallholder farming and participation in a range of off-farm income-generating activities. The selected wards were therefore appropriate for examining how off-farm activities contribute to household income among farming households.

### **3.3 Population, sample and sampling**

The target population comprised 3,340 smallholder farmers engaged in off-farm income-generating activities in Wasa and Lumuli Wards. The dissertation reports a final quantitative sample of 128 respondents. Simple random sampling was used to select smallholder farmers from available lists of eligible participants, while purposive sampling was used to select six key informants comprising Agricultural Extension Officers, Community Development Officers and Ward Executive Officers.

### **3.4 Data collection and analysis**

Structured questionnaires were administered to the sampled smallholder farmers. The questionnaire collected information on off-farm activities, household income and related

livelihood characteristics. Key informant interviews were conducted using open-ended questions to obtain contextual explanations of the role and regularity of off-farm income. Quantitative data were coded and analysed using SPSS, with frequencies and percentages used to summarise the findings relevant to the selected objective. Qualitative information was analysed thematically and used to complement the quantitative results.

### 3.5 Validity, Reliability and Ethics

Validity was addressed through careful development of the data collection instruments, consultation with research experts and supervisors and pre-testing. Reliability was assessed through a pilot study before the main data collection. Ethical procedures included informed consent, confidentiality, voluntary participation and permission from relevant university and local authorities.

## 4. RESULTS AND DISCUSSION

### 4.1 Respondent Characteristics

This section presents the demographic characteristics of the respondents involved in the study. The characteristics assessed include sex, age, level of education, household size and marital status. These variables are important in understanding the socio-economic profile of respondents and their potential influence on participation in off-farm income-generating activities and household livelihood outcomes. The findings are presented in Table 4.1.

**Table 4.1: Demographic Characteristics of Respondents. (n-128)**

| <b>Respondents' Sex</b>         | <b>Frequency</b> | <b>Per cent (%)</b> |
|---------------------------------|------------------|---------------------|
| Male                            | 80               | 62.5                |
| Female                          | 48               | 37.5                |
| <b>Total</b>                    | <b>128</b>       | <b>100</b>          |
| <b>Age group of respondents</b> |                  |                     |
| Below 30 years                  | 8                | 6.3                 |
| 26-35 years                     | 62               | 48.4                |
| 36-45 years                     | 38               | 29.7                |
| 46- 55 years                    | 19               | 14.9                |
| Above 56 years                  | 1                | 0.8                 |
| <b>Total</b>                    | <b>128</b>       | <b>100</b>          |
| <b>Level of Education</b>       | 3                | 2.3                 |
| No Formal Education             | 79               | 61.8                |
| Primary Education               | 32               | 25.0                |
| Secondary Education             | 10               | 7.8                 |
| Vocational Education            |                  |                     |
| College/University Education    | 4                | 3.1                 |
| <b>Total</b>                    |                  |                     |
| <b>Household Size</b>           | <b>128</b>       | <b>100</b>          |

|                       |            |              |
|-----------------------|------------|--------------|
| 1-3                   |            |              |
| 4-6                   | 23         | 18.8         |
| 7-10                  | 74         | 57.8         |
| Above 10              | 30         | 24.2         |
| <b>Total</b>          | <b>1</b>   | <b>0.8</b>   |
| <b>Marital Status</b> | <b>128</b> | <b>100</b>   |
| Married               |            |              |
| Single                | 86         | 67.2         |
| Divorced/Separated    | 27         | 21.1         |
|                       | 9          | 7.0          |
| Widowed               | 6          | 4.7          |
| <b>Total</b>          | <b>128</b> | <b>100.0</b> |

Source: Field data (2026)

## 4.2 Contribution of off-farm income-generating activities to household income

This section examines the contribution of off-farm IGAs to household income among smallholder farmers in Iringa District Council. The research focused on the types of off-farm activities practiced, their contribution to household income, the frequency of income received and household saving capacity. These indicators provide insights into the role of off-farm IGAs in improving household welfare and livelihood security.

### 4.2.1 Types of off-farm income-generating activities practiced by smallholder farmers

The study assessed the types of off-farm income-generating activities practiced by smallholder farmers. The findings revealed that all respondents participated in at least one off-farm activity. The most common activities were selling different types of crops (24.2%) and agro-processing (22.7%), followed by selling animals/butchery (13.3%), food vending (13.3%), transport services (11.7%), honey selling (8.6%) and handicrafts (6.3%). The results indicate that smallholder farmers engage in diverse off-farm activities to diversify income sources, reduce dependence on agriculture and improve household livelihoods.

**Table 4.2: Types of off-farm income generating activities.**

| Type of Small Business                        | Frequency (n) | Per cent (%) |
|-----------------------------------------------|---------------|--------------|
| Selling Different Types of Crops              | 31            | 24.2         |
| Agro-processing (Milling and Milk Processing) | 29            | 22.7         |
| Selling Animals/Butchery                      | 17            | 13.3         |
| Food Vending                                  | 17            | 13.3         |
| Transport services                            | 15            | 11.7         |
| Honey Selling                                 | 11            | 8.6          |
| Handicrafts and Artisan work                  | 8             | 6.3          |
| <b>Total</b>                                  | <b>128</b>    | <b>100.0</b> |

Source: Field data (2026)

### 4.2.2 Contribution of off-farm activities to household income

This section assessed the contribution of off-farm income-generating activities (IGAs) to household income among smallholder farmers. The findings show that off-farm IGAs were the main source of income for 52.8% of respondents, compared to 40.9% who relied primarily on on-farm activities. Furthermore, 40.6% of respondents obtained between 50% and 74% of their household income from off-farm activities, while 39.8% earned between 25% and 49%. Overall, about 85.1% of respondents derived at least one-quarter of their household income from off-farm activities, indicating that these activities make a significant contribution to household income, support income diversification and reduce dependence on agriculture alone.

**Table: 4.3: Contribution of off-farm income to household income.**

| Category                              | Frequency  | Per cent (%) |
|---------------------------------------|------------|--------------|
| <b>Main source of Income</b>          |            |              |
| Off-Farm IGAs                         | 67         | 52.8         |
| On-Farm IGAs                          | 52         | 40.9         |
| Non-Farm IGAs                         | 8          | 6.3          |
| <b>Total</b>                          | <b>128</b> | <b>100</b>   |
| <b>Contribution -Household Income</b> |            |              |
| Less than 25%                         | 19         | 14.9         |
| 25–49%                                | 51         | 39.8         |
| 50–74%                                | 52         | 40.6         |
| 75% and above                         | 6          | 4.7          |
| <b>Total</b>                          | <b>128</b> | <b>100.0</b> |

Source: Field data (2026)

### 4.2.3 Frequency of receiving income from off-farm activities

The study examined how frequently respondents received income from off-farm IGAs. The findings revealed that the majority of respondents 71.9% earned income daily, while 22.7% received income weekly and 5.5% monthly. The predominance of daily earnings suggests that off-farm activities provide a regular and reliable source of income, enabling households to meet daily needs, improve cash flow and strengthen livelihood security.

**Table 4.4: Frequency of receiving income from off-farm activities.**

| Frequency of Receiving Off-Farm Income | Frequency (n) | Per cent (%) |
|----------------------------------------|---------------|--------------|
| Daily                                  | 92            | 71.9         |
| Weekly                                 | 29            | 22.7         |
| Monthly                                | 7             | 5.5          |
| <b>Total</b>                           | <b>128</b>    | <b>100.0</b> |

Source: Field data (2026)

#### 4.2.4 Contribution of off-farm income-generating activities to household saving capacity

The study assessed the saving capacity of households engaged in off-farm income-generating activities (IGAs). The findings revealed that the majority of respondents (80.5%) practiced saving, while only 19.5% did not save. Among those who saved, most (66.0%) used VICOBA/VSLA groups, followed by banks (19.4%) and home savings (14.6%). These results suggest that off-farm IGAs enhance household saving capacity by providing additional income that enables households to save, access credit and invest in productive activities. Consequently, off-farm income contributes to improved financial security, economic resilience and household welfare.

**Table 4.5: Household savings capacity.**

| Category                    | Frequency  | Per cent (%) |
|-----------------------------|------------|--------------|
| <b>HH- Saving Behaviour</b> |            |              |
| Saving                      | 103        | 80.5         |
| No Saving                   | 25         | 19.5         |
| <b>Total</b>                | <b>128</b> | <b>100</b>   |
| <b>Place of Saving</b>      |            |              |
| VICOBA/VSLA                 | 68         | 66.0         |
| Bank                        | 20         | 19.4         |
| Home                        | 15         | 14.6         |
| <b>Total</b>                | <b>103</b> | <b>100</b>   |

**Source:** Field data (2026)

#### 4.3 Overall discussion

Taken together, the findings demonstrate a strong reported contribution of off-farm IGAs to household income among the sampled smallholder farmers. The evidence is reflected in three related dimensions: the position of off-farm IGAs as the main income source for 52.8% of respondents, the finding that 85.1% obtained at least 25% of household income from off-farm sources and the high frequency of income receipt, with 71.9% receiving off-farm income daily.

The findings reinforce the argument that livelihood diversification is particularly important where farming is exposed to seasonality and climatic or market risks. Off-farm enterprises create alternative income streams that can operate alongside agricultural production. The diversity of activities reported by respondents also shows that income opportunities are not limited to one enterprise type; households participate in crop trading, agro-processing, livestock-related businesses, food vending, transport, honey selling and artisan activities.

However, the results should be interpreted cautiously. The study was cross-sectional and relied on respondents' reported estimates of the contribution of off-farm income. The findings therefore demonstrate reported contribution and association rather than a causal effect of off-farm IGAs on household income. Differences in enterprise type, capital, market access, skills and seasonal conditions may also explain the variation in the reported contribution.

## **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Summary**

The study found that off-farm IGAs significantly improved household welfare by increasing income, promoting savings and reducing dependence on seasonal agriculture. Income from these activities also enabled households to acquire assets and improve food security through better access to food and regular meals.

### **5.2 Conclusions**

The study concludes that off-farm IGAs play an important role in improving household income, asset accumulation and food security among smallholder farmers. They strengthen household resilience by providing additional and more regular sources of income throughout the year.

### **5.3 Recommendations**

#### **5.3.1 Recommendations for action**

Iringa District Council, development partners and other stakeholders should strengthen support for off-farm income-generating activities through entrepreneurship training, business development services, financial literacy programmes and improved access to affordable credit. Investment in rural infrastructure and market facilities should also be prioritized to enhance business growth and household welfare.

#### **5.3.2 Recommendations for further research**

Further studies should be conducted in other districts and regions to generate broader evidence on the contribution of off-farm income-generating activities to rural household welfare. Future research should also examine their effects on poverty reduction, women's empowerment, youth employment and household resilience to climate and economic shocks.

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