ANALYSIS OF ENTREPRENEURSHIP PRACTICES FOR TRANSFORMING SMALL SCALE AGRIBUSINESSES IN SOUTHERN TANZANIA: A VERTICAL INTEGRATION ROLE ON GRAINS

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Abstract

The study intends to categorically analyse entrepreneurship practices for transforming small-scale agribusinesses in southern Tanzania. The study used interview and structured questionnaires to collect primary data from 254 small scale agribusiness owners, randomly selected from Mbozi district and Mbeya urban agribusiness registries. Descriptive and inferential statistics as well as data processing matrix were used to analyze entrepreneurship practices for transforming small scale agribusinesses. As expected, the results show that agricultural production technology dominated by hand hoe utilization (78.7%) as compared to animal plough (7.5%), power tiller (11.4%) and tractors utilization (2.4%). Majority of agribusiness owners lack private owned post-harvest storage facilities (69.7%) and harvested grains are sold prior to simple processing (92.9%), albeit, awareness about simple process (67.9%), as result, the effect of agricultural production technology, post-harvest storages, and agro-processing practices found to be moderate to poor. On the other hand, neither local radios (97.2%) nor social media (90.9%) used to promote grains. Similarly, neither branding nor proper packaging practiced (96.9%), consequently the effect of entrepreneurship practices found to be categorically poor. The significant positive weak correlation between APT and AT under VF

moderation (r = 0.274, n = 254, p = 0.000 and r = 0.186, r = 254, p = 0.003) was established as compared to significant positive strong correlation between STORP, MAKP, APRP and AT under HF moderation. The key actors in agribusiness subsector urged to formulate and implement appropriate policy, programs and strategies to improve post-harvest storage, marketing and agro-processing practices for significant agribusiness transformation.

Keywords: Entrepreneurship practices, Vertical integration, Agribusiness transformation, Tanzania

INTRODUCTION

Globally, different paradigms regarding agribusiness transformation emerged (AGRA, 2018; Vermeulen *et al*, 2018; Bachmann *et al*, 2017; WB, 2016). Some of the paradigm linked agribusiness transformation with introduction on new varieties, widespread application of agricultural technologies, market demand, and governance in terms of policy implementation (Vermeulen *et al*, 2018). African countries including Tanzania, have had its agribusiness sub-sector confronted by poor agricultural production technology, low or no access to mechanization, most technologies in agriculture still primitive and require backbreaking manual work (ACET, 2017). Consequently, the sector characterized by low product quality standards, failed to take advantage of the long growing seasons as only about 5.4% of agriculture is irrigated, low productivity for both land and labour, which limit product access to local as well as international markets (ACET, 2017; GoT, 2012). Due to poor access to agricultural markets, rural farmers have for so long depended on subsistence farming living other participants (traders, consumers, intermediaries) benefiting more.

Agricultural markets are highly vulnerable to domestic and global food prices. As such, in the domestic side, staple food price inflation is lower in countries with greater local production and among products with lower consumption shares (Okou, *et al.,* 2022). Likewise, the market channels of crops for instance grains, have many intermediary buyers and processors between producers and consumers (USDA, 2018). In order to pave the way for the participation of cooperatives and private traders in the marketing aspects of all agricultural crops in a competitive marketing environment for all actors (producers, traders, processors and exporters) at all levels, the Tanzania government among other restructurings, embarked on several decontrol of marketing systems such as decontrol of non-traditional export crops in 1986, food crops in 1989 and traditional export crops in 1993/94 marketing season (URT, 2008). Furthermore, it enacted the Tanzania Agricultural Marketing Policy (AMP), implemented

Agricultural Sector Development Programme phase two (ASDP II), formulated Agricultural Sector Development Strategy (ASDS-II), and infrastructure improvement (REPOA, 2013; URT, 2013).

Moreover, postharvest losses of agricultural produce in Tanzania remains significantly high. Poor post-harvest storage practices and unreliable weather conditions contribute to rapid deterioration of harvested crops (Suleiman, 2017). As a result, maintaining staple food crops throughout the year and managing cash flow becomes a stern predicament that face smallholder farmers (Channa, *et al.,* 2022). The global initiatives such as the 2009 Comprehensive Framework for Action, Global Agricultural and Food security Programme, and the Committee on World Food Security (CFS), together with Africa Union's Comprehensive Africa Agricultural Development Program (CAADP), and the 2014 Africa Union Summit in Malabo, collectively among other parameters, address management and mitigation of postharvest losses in various level to curb food shortage, alleviate poverty and improve nutrition (URT 2019). It is approximated that up to 47 percent of USD 940 billion are needed to eradicate hunger in Sub Sahara Africa come 2050, mainly to support the post-harvest sector (FAO & World Bank, 2010). Until the 1970's, Tanzania had no policy on storage for agricultural products. However, following the appearance of the Large Grain Borer (LGB) in the 1980's, resulting in high post-harvest losses of cereals, which endangered food security in the country, the government began to support farmers to reduce post-harvest losses (REPOA, 2013). The country also enacted the National Post-Harvest Management Strategy (NPHMS) 2019-2029 with ambitions to facilitate and build the capacity of post-harvest actors in order to reduce losses and increase farmers' income as well as food and nutrition values (URT, 2019). Nevertheless, there still a knowledge gap on post-harvest losses management thus the stakeholders' knowledge involved in the country are not good enough to prevent the losses (Kereth, *et al.,* 2013).

Similarly, agro-processing facilities in most part of the country remains underdeveloped. Financial constraints, bureaucracy, technological difficulties, raw materials both quality and quantity are associated with impediment of agro-processing advancement (Nkwabi, *et al.*, 2019). Other predicament in line include poor storage facilities, unreliable sources of supply, experience, processing skills and energy cost (Jahari*, et al.,* 2017; Isinika & Kipene, 2016). Given that there is so much potential in the Tanzanian agribusiness subsector (AGRA, 2021), and in order to safeguard the economic gain and turn smallholder farms into profitable rural businesses that generate surpluses, and feed global population which is expected to grow to about 8.5 billion by 2030 (UNCTAD, 2018; AGRA, 2017), the knowledge of entrepreneurship practices and its relation to agribusiness transformation of paramount significance. It is from this

connection, the study was carried out to analyze entrepreneurship practices for transforming small-scale agribusinesses in southern Tanzania. Spacifically, agricultural production technology, post-harvest storage, marketing, and agro-processing practices are categorically examined in relation to agribusiness transformation.

LITERATURE REVIEW

There is little future for farmers unless they become more entrepreneurial in the way they run their farms Kahan (2013). Basing on Structure Conduct Performance theory, agribusiness transformation emanates from total structural conduct and performance shift from traditional subsistence agricultural production to modernized commercial agricultural production with sustainable increased efficiency, innovation, diversification, and value-addition (WB, 2016). Entrepreneurship practices under agribusiness context is central to both agricultural production and agro related production across agro industries and agro-enterprises (Naminse and Zhuang, 2018). The theoretical framework of entrepreneurship practices comprise of agricultural production technology, storage, marketing and agro-processing practices as profound variables for agribusiness transformation. Various scholars empirically analysed agricultural production technology practices for instance; Ameh *et al* (2017) found that the effect of agricultural production inputs in Nigeria from 1990 to 2016 was statistically insignificant. Likewise, ACET (2017) stated that the farming technologies in Africa are still primitive and require backbreaking manual work, highlighting agricultural production technologies as cultivation tools such as tractor and power tillers or animal draught. Similarly, The Tanzania national agricultural policy and the government programs recognize storage, market, mechanization, transportation, agro-processing facilities as important infrastructure for agribusiness transformation though largely underdeveloped (URT, 2013). On the other hand, Wang and Huang (2018) affirmed that application of technology investment can promote agricultural economic growth, thus agribusiness transformation.

On Post-harvest storage practices, the past studies indicate that farmers lose an average of 9.6% of stored yam in 2-month period, while traders lose 3.3% of yam stored in a month. Although postharvest storage practices enhanced the welfare outcomes for traders in Ghana, there was no statistically significant effect detected for farmers (Ansah *et al.,* (2018). Nevertheless, there has been mixed opinion with regards to the profitability of post-harvest storage facilities (Abass *et al*, (2019). Until the 1970's, Tanzania had no policy on storage for agricultural products, however, following the appearance of the Large Grain Borer (LGB) in the 1980's, resulting in high post-harvest losses of cereals, which endangered food security in the

country, the government began to support farmers to reduce post-harvest losses (REPOA, 2013).

Furthermore, several studies indicate positive and significant effect of marketing practices agribusiness, for example, Mignouna *et al* (2017) categorically found that the yield of yam (productivity) is positively and significantly related to probability of participating in marketing activities (marketing practices). The higher the yam yields the greater the tendency for the farmers to sell yam. However, the latter found the price of yam to be negatively, albeit, insignificant associated with the decision to sell. Additionally, the study by Okou *et al* (2022) reveal the net import dependence, consumption share of staples, global food prices, and real effective exchange rates as key factors that govern changes in local staple food prices hence market dynamics. Similarly, adverse shocks such as natural disasters and wars bring 1.8 and 4 percent staple food price surges respectively. Likewise, the study by Omayio, *et al.,* (2020) affirm market access to be significantly different (p ≤ 0.05) between two geographical locations. Linking the structure, conduct and performance theory, Gichangi (2010) found that not much of sweet potato sales promotion was carried out apart from some sorting and grading. This findings suggest that formation of the sweet potato price mainly depended on the spontaneous regulation of the sweet potato market; the setting of price among the actors mainly relied on free bargaining price. Kizito, (2011) emphasized the importance and use of improved agricultural market information in developing economies.

Agro-processing on the other hand, influence price of farm commodity due to value addition. Omayio, *et al.,* (2020) found most (60%) of the respondents did not know of any processed guava products irrespective of their levels of education and gender ($p > .05$). Despite the high production of guavas in the country, processing remains extremely low (3.1%) due to limited knowledge (74.8%) and lack of appropriate equipment (65.9%) leading to the fruit's economic under exploitation (Omayio, *et al.,* 2020). Similarly, a study by Asom & Ijirshar (2016) revealed agriculture value added had positive but insignificant influence on the growth of the Nigerian economy in both the short and long run. According to Asom and Ijirshar (2016) measures taken to advance the level of processing industries, innovations in improving existing processes, techniques, procedures, and technology entirely help to foster the level of value added in agricultural sector thereby contributing to the growth of the economy hence agribusiness transformation. Relatedly, a study from WB (2016) reveals most of agribusiness products are in the form of raw commodities, typically sold at prices lower than those of leading competitors due to value addition (processing). It is from the reviewed literature, amongst others draw the urgency studying agribusiness transformation

under Tanzania context. This study is conceived to complement agribusiness knowledge portfolio by analysing entrepreneurship practices for transforming small-scale agribusinesses in southern Tanzania.

METHODOLOGY

This study used primary data from a cross-sectional survey of 254 grains agribusiness owners from Mbozi and Mbeya Urban districts to analyse entrepreneurship practices for transforming small-scale agribusiness. The choice of Mbeya region deemed necessary since 80% of her population on average engaged in agriculture production, 40% of region's GDP is contributed by agribusiness, and suitable climatic conditions for food and cash crops production (URT, 2007). Presence of significant SAGCOT operations and the fact that Mbeya is the only city in the southern highlands of Tanzania with international airport make the region even more worthy for the study.

The purposive sampling method was employed to choose active grains agribusiness owners from the two districts, two wards and two villages. The vertical and horizontal integration model indicators were used to form two groups of vertical integrated against none vertical integrated agribusiness owners. The sample size was estimated using Yamane's mathematic sampling method so as to ensure the findings generalized from the sample are with limits of random error (Adam, 2021). The study respondents were drawn from each group by using probability method of simple randomly sampling. This was in order to ensure absence of researcher's biasness consequently reliability of the study enhanced.

The dependent variable in the study is Agribusiness Transformation (AT), with a special attention on vertical integration function as moderation variable. Parameters of agribusiness transformation enlisted as Profitability (P), Employees (E), Investment Capital (IC), and Sales (S). Profitability determined by increase in net worth of agribusiness firm whereas employees are the hired human labour, and investment capital as well as Sales describe financial resources available for business growth and exchange of goods or services to customer using monetary value respectively. Each of these dimensions assigned several items ranging from 5 to 7 items making up a total of 23 items on a five-point Likert scale (1-5), as a proxy to describe opinion of agribusiness owners on agribusiness transformation. The scores of individual construct are summed up to generate minimum and maximum scores whose mean are interpreted under poor, moderate and excellent level of effect as summarized in Table 1.

Table 1: Measurement of Agribusiness Transformation (AT)

Agribusiness Transformation Variables	# of indicators	Scores (Min & Max)	Mean Interpretation (Effect)
Profit Generation	7 items	7 - 35	If M = 7- 17 Poor 18-27 Moderate 28-35 Excellent
Sales Status	5 items	5 – 25	If M = 5-12 Poor 13-20 Moderate 21-25 Excellent
Capital Investment	6 items	6 – 36	If M = 6 – 16 Poor 17-27 Moderate 28-36 Excellent
Employees Number	5 items	5 - 25	If M = 5-12 Poor 13-20 Moderate 21-25 Excellent
Total AT	**23**	**23 - 121**	**If M=23-40 Poor; If M=41-80 Moderate; If M=81-121 Excellent**

The independent variable used is entrepreneurship practices which measure by agricultural production technology practices, whereas the values (1) Not at all true, (2) Slightly not true, (3) Undecided, (4) Mostly true, and (5) Completely true are used. Post-harvest storage, marketing and Agro-processing practices amongst others are measured in the similar approach. The farm size, age and education level of the respondents are included in the equation as indicated in Table 2.

Table 2: Independent Variables Measurement

S/N	Description	Measurement
i.	**Agricultural Production Technology Practices (APT)**	
	Tractors (TRAC), Power Tillers (PTIL), Animal plough (ANPLO), Hand hoe (HHOE)	Equipment used to simplify farming activities measured by Likert scale
ii	**Post-Harvest Storage Practices (STORP)**	
	Local Storage (STORLO)	Keeping grain using local methods, Likert scaled
	Improved Storage (STORIMP)	Keeping grains using modern methods, Likert scaled
	Others (STOROTH)	Alternative methods of keeping grains, Likert scaled
iii	**Marketing Practices (MAKP)**	
	Promotion (PROM)	Advertising products to enhance sales, Likert Scaled
	Branding and Packaging (BRAPA)	Products labelling and formal wrapping, Likert scaled
	Grading and Pricing (GRAPRI)	Setting categories and selling values per unit based on quality and quantity, Likert scaled

iv	**Agro Processing Practices (APRP)**	
	Primary processing (PRIMP)	Grain processing using human power, Likert scaled
	Simple machines (SIMACH)	Value addition using traditional/simple machine, Likert scaled
	Advanced machines (ADMACH)	Value addition using modern machines, Likert scaled
v	**Moderation variables**	
	Vertical Integration (VI)	Upstream and downstream performance of the firm, Likert scaled
	Horizontal function (HF)	Same value chain performance and growth
vi	**Demographics**	
	Area planted	Land cultivated for grain , continuous (in Ha's)
	Education level	Highest level of formal education attained, categorical variable
	Age	Number of years of respondents, Continuous (in years)

Data cleaning and coding was carried out using excel and SPSS IBM Statistics Version 26 respectively. Descriptive analysis for both independent and dependent variables was carried out using occurrence measure of percentage. Data were recoded into different variables to generate categorical variables which relate to data processing matrix developed to analyse small-scale agribusiness transformation by interpreting mean scores of transformation indicators into poor, moderate or excellent (Table 1). Moreover, correlation analysis was carried out to ascertain moderation effect of vertical and horizontal functions as well as specific entrepreneurship practices on agribusiness transformation. The data test carried out and passed appropriately include validity and reliability, normality test as well as heteroscedasticity, homoscedasticity and multicollinearity.

RESULTS AND DISCUSSION

Descriptive Results

The results indicate that majority of respondents grow maize (72%), followed by paddy (12.2%) and other types of grains (15.8%) i.e., coffee, wheat, millet, sorghum and common beans. Most of maize producers (62.2%) are small-scale agribusiness owners cultivating between 0.8 and 1.6 hectares of grains per season as indicated in Table 3. Majority of agribusiness firms in Tanzania remain small, operate informally and face high farm inputs costs, low productivity and value-addition as result lows marginal returns (WB, 2018).

Table 3: Distribution of cultivated area per respondent (N =254)

Variable	Frequency	Percent
Below 0.8 Ha's	62	24.4
0.8 - 1.6 Ha's	158	62.2
Above 1.6 Ha's	34	13.4
Total	**254**	**100**

In assessing agricultural production technology practices the results indicate that majority (78.7%) of respondents use hand hoe for agricultural production, while few propositions (14.6%) use other forms of agricultural production technologies. It was found that 90.9 percent of respondents depend on human labour for agricultural production, whereby 7.1 percent do not depend on human labour for agribusiness production. It can be deduced that reliance on primitive agricultural production technology practices render poor effect on agribusiness transformation. As expected, 94.5 percent of respondents lack own tractors as compared to 2.4% who possess own tractors as illustrated in table 4. These results suggest that access to tractor for agricultural production is a non-vertical function. Relatedly, the findings indicate that there is low utilization of power tillers for agricultural production, as 11.4 percent of respondents stated to use power tiller for agricultural production as compared to 72% who do not use power tiller for agricultural production. These findings reinforce the fact that the use of hand hoe for agricultural production is dominant among smallholder agribusiness enterprises. These findings are consistent to Giller *et al*., (2021) that under this circumstance agricultural production fails to deliver the rate of economic growth currently assumed by many policy initiatives in Africa. Moreover, it was revealed that 57.1 percent of respondents use animal plough for agricultural production. This means that application of animal power for agricultural production appear to be the second dominant to hand hoe (Table 4). These findings are similar to Guthiga *et al.*, (2007) that draft animal power is viewed as an appropriate and affordable technology for small scale growers in developing countries who do not afford expensive fuel powered mechanization.

Table 4: Effect of agricultural production technology practices in percentage (N = 254)

S/n	Statements	Not at all true	Completely true	Undecided	Total
i	Tractors used more often than others	76.4	13.8	9.8	**100**
ii	Hand hoe used more often than others	14.6	78.7	6.7	**100**
iii	Possess own tractor (s)	94.5	2.4	3.1	**100**
iv	Production implements are hired from non-farmers	67.3	22	10.7	**100**
v	Use power tillers more often	72	11.4	16.6	**100**
vi	Animal plough used more often	20.1	57.1	22.8	**100**

vii	Both animal plough and power tillers used	83.5	14.6	1.9	**100**	Table 4…
viii	Use Combine Harvesters to harvest	88.6	8.7	2.7	**100**	
ix	Depend on human labour for agricultural production	7.1	90.9	2	**100**	
x	Family labour used more often in agricultural production	34.6	61.4	4	**100**	
xi	Few used hand hoe for agricultural production	86.2	13	0.8	**100**	

Using the data processing matrix it was revealed that the excellent entrepreneurial effect necessary for agribusiness transformation is extremely low (0.8%). These findings resemble what stated by ACET (2017) that the farming technologies in Africa are still primitive and require backbreaking manual work.

Delving post-harvest storage practices, the results indicate that majority (63.8%) of respondents do not own local storage facility, implying that majority of agribusiness owners do not sell grain off season when prices are high to optimize profits. This implies that majority of respondents deviate from entrepreneurial core values. Supporting this, GEM (2022) affirms that the fundamental attribute and a core function of entrepreneur is desire to generate profit. The results further indicate that most of respondents (68.9%) indicate that the storage facilities are located far from the farm. It can be construed that the distance from farm to storage facility may affect growers' motivation to utilize storage facilities. Moreover, short term post-harvest storage practices such as the use of sacks or plastic drums are commonly used by growers since grains are sold relatively shorter time after harvesting due to various factors including financial needs, and influence of other actors in grain market value chain such as, agro-dealers, assembly traders, large traders, warehouse receipt system, off takers and processors. These findings relate to Karuho and Collins (2020) who did a study on improving African Grain Markets for Smallholder Farmers in East Africa. Analysis of modern storage practices indicate that almost 70 percent of respondents lack modern storage facilities, however nearly one fourth (21.3%) of respondents have access to modern storage facilities and perform associated practices. In the context of other storage practices, In spite of respondents' awareness on contribution of other storage practices on profitability of grain business, the results indicate that majority of respondents (66.9%) sell grains without keeping them in store as detailed in Table 5. These results suggest that growers' financial constraints and fear to lose money might cause poor motivation to undertake long term storage practices, hence surging post-harvest loses.

Table 5: Effect of post-harvest storage practices in percentage (N = 254)

S/n	Statements	Agree	Disagree	Undecided	Total
i	Storage facilities located near farm yard	15.4	68.9	15.7	100
ii	Owns private local storage facility	21.2	69.7	9.1	100
iii	Use modern storage facility	21.3	69.6	9.1	100
iv	Utilized communal owned crop storage facility	23.2	63.8	13	100
v	Storage affordable and efficient	36.6	56.7	6.7	100
vi	Access ample storage capacity across the season	73.6	17.7	8.7	100
vii	Constructed own storage facility	29.5	65.4	5.1	100
vii	Grains pay well after storage	85.4	2.4	12.2	100
viii	Sell without keeping crops in store	25.6	66.9	7.5	100
ix	Use common warehouse to store crops	7.1	84.6	8.3	100
x	Significant profit made if storage practiced	70.9	20.8	8.3	100
xi	Government officials support storage facilities	48.4	47.6	4	100
xii	Stakeholders insist on application of storage	29.5	68.5	2	100
xiii	Storage facility located very far	15.4	79.1	5.5	100
xiv	Store crops and sell when price is high	35	64.2	0.8	100

The overall effect of storage practices on agribusiness transformation is categorically poor (32.3%) while 67.3 percent indicate the effect is moderate (Figure 1). This findings related to Kumar and Kalita (2017) that as much as 50 – 60 percent cereal grains can be lost during the storage stage due only to the lack of technical efficiency along storage practices, Similarly, Tefera (2012) found that one of the key constraints in improving food and nutritional security in Africa is the poor post-harvest management practices that lead to between 14 percent and 36 percent loss of maize grains.

Figure 1: Effect of storage practices on agribusiness transformation

Author(s)
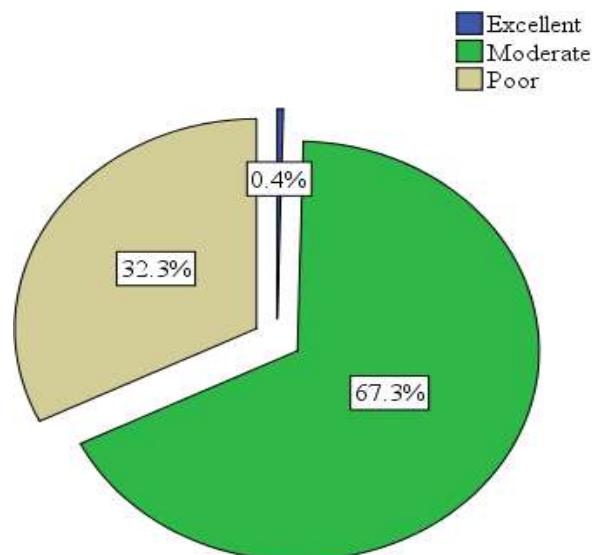
Analysis of marketing practices indicate that majority of respondents (97.2%) never use radio to advertise farm products. It was found that 90.7 percent of respondents never use social media to promote agricultural produce, whereas 63.8 percent of respondents often use mobile phone as a marketing tool to search for customers. Furthermore, the results indicate that traders are the main grains market outlet (61.8%) than village market (25.6%). These results present both bitter and sweeter repercussions, on one side, grains producers overcome transaction costs and other overhead costs which would have encountered by taking grains to the village market, on the other side, purchasing grains from farm yard or at primary processing point lower prices given to growers in expense of logistic costs incurred by traders.

These results match Gichangi (2010) that not much of sweet potato sales promotion was carried out apart from some sorting and grading in Kenya. The results further indicate that most of respondents (96.9%) never practiced branding and packaging of grains, and 97.8 percent of respondents neither had business logo nor 98.8 percent had formalized agribusiness enterprise (Table 6). These results suggest that most of agribusiness owners operate underneath and informally, which contradict entrepreneurship reputation. It was found that 57.9 percent of respondents accepted that customer buy grains because of the low price. It can be construed that since majority of agribusiness owners consider price lowering as a main attribute for increasing sales volume, it follows that the essential roles of proper grading, packaging, and branding is likely compromised to fulfil desire of agribusiness owners to sell quickly.

Table 6: Effect of marketing practices in percentage (N =254)

S/n	Marketing practices	Never	Often	Sometimes	Total
i	Use radio to advertise my farm products (pro)	97.2	2.4	0.4	100
ii	Customers normally come to buy themselves (gp)	28	68.9	3.1	100
iii	Practices contract farming (bp)	95.3	4.3	0.4	100
iv	Use social media to promote (pro)	90.9	8.3	0.8	100
v	Mobile phone used in search for customers (pro)	63.8	35.8	0.4	100
vi	Friends and relatives help to look for customers (pro)	35	61.5	3.5	100
vii	Social gathering used to advertise grains (pro)	69.3	8.7	22	100
viii	Grains are taken to market place for selling (pro)	61.4	25.6	13	100
ix	Packaging and labelling practiced (bp)	96.9	3.1	0	100

x	Grains sold through village market than to traders (pro)	61.8	25.6	12.6	100	Table 6…
xi	Grains need to be transported to market for selling (pro)	18.9	23.6	57.5	100	
xii	More producers than buyers (gp)	7.5	69.7	22.8	100	
xiii	My business name appear on product package (bp)	96.9	2.7	0.4	100	
xiv	Customer buy my crop due to lower price (gp)	21.7	57.9	20.4	100	
xv	Pack well my product before selling (bp)	72.8	24.4	2.8	100	
xvi	Have business logo (bp)	97.6	2.4	0	100	
xvii	Registered with business name (bp)	98.8	1.2	0	100	
xviii	Participate effective on exhibition like Nane Nane (pro)	95.2	2.4	2.4	100	
xix	Promotion increase sales (pro)	72.8	15.4	11.8	100	
xx	Approach market differently every season (bp)	68.9	19.3	11.8	100	
xxi	Listen to media when got time (pro)	52.4	22.4	25.2	100	

The overall marketing practices assessment by using data processing matrix demonstrate that there is poor effect of marketing practices on agribusiness transformation (81.9%) whereas, 17.7 percent and 0.4 percent indicate that the effect of marketing practices on agribusiness transformation is moderate, and excellent respectively.

In the context of agro-processing practices, results indicate that 33.5 percent of respondents outsource agro processing services while most of respondents (94.9%) state that agro-processing machines are expensive, these results suggest dominance of horizontal function among respondents. While majority of respondents (61.8%) practice primary processing before selling grains, most of respondents (92.9%) sell grains without simple processing practices. It can be deduced that the primary processing mainly aiding transportation of grains from the farm rather than purely value addition. Since simple agro processing practices involve changing of the form of grains for instance, maize milling, the study found that simple agro-processing practices demonstrate moderate effect (58.3%) in the study area. This means that simple agro-processing practices are good predictor of agribusiness transformation. Moreover, the results show that 68.1 percent of respondents unaware of advanced agro-processing practices, implying that that agro-processing options are limited to primary and simple processing practices alone. It was revealed that majority of respondents (63.4%) neither attended agro processing seminars nor training (Table 7). These findings suggest that capacity building programs on agro-processing especially on simple and advanced agro-processing practices is an appropriate entry point.

Table 7: Effect of agro-processing practices in percentage (N = 254)

S/n	Agro processing activities	Agree	Disagree	Undecided	Total
i	Grains processed before selling	4.3	92.9	2.8	100
ii	Grains sold at farm gate price	17.3	61.8	20.9	100
iii	Know nothing about agro-processing	11.8	69.7	18.5	100
iv	Agro-processing add more profit	45.7	43.7	10.6	100
v	Agro-processing machines are expensive	94.9	2	3.1	100
vi	Agro-processing lead to high taxes than selling unprocessed grains	82.7	10.6	6.7	100
vii	Source out agro-processing services	33.5	46.1	20.4	100
viii	Advance agro-processing machines available	21.1	68.1	10.8	100
ix	Simple agro-processing machines used	85.4	7.1	7.5	100
x	Training and seminar organized on agro-processing	25.6	63.4	11	100
xi	Stopped agro-processing due to running costs	16.1	80.3	3.6	100
xii	I know where to procure agro-processing machine	20.9	65	14.1	100

Basing on the data processing matrix, the results indicate that there is poor contribution of agro processing practices (46.9%) on agribusiness transformation. However, there is a surging moderate and excellent effect of agro-processing by 52.6% and 0.4% percent respectively (Figure 3). These results suggest that there is a potential effect existing that can lead to agribusiness transformation if well managed. URT (2013) observed that, storage, market, mechanization, transportation, and agro-processing facilities as important infrastructure for agribusiness transformation though largely underdeveloped.

Figure 3: Effect of agro-processing practices on agribusiness transformation
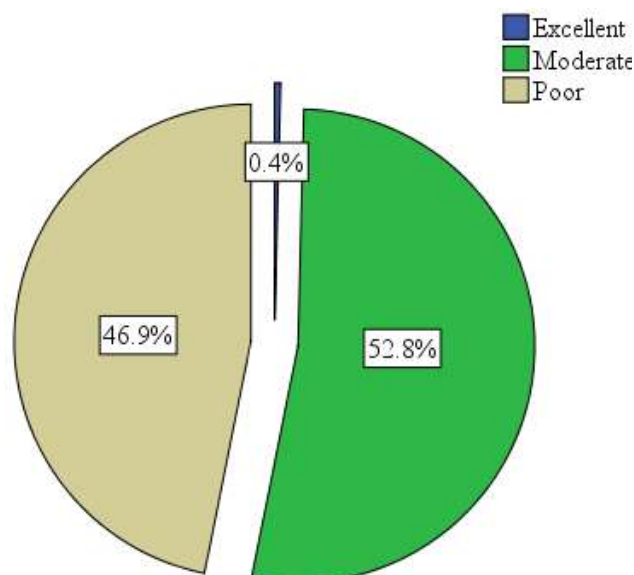
Correlation analysis

The results reveal significant positive weak correlation between APT and AT under VF moderation (r = 0.274, n = 254, p = 0.000 and r = 0.186, r = 254, p = 0.003) respectively whereas, the significant positive strong correlation was established between Post-harvest storage (STORP) i.e., (r=0.417, n=254, p =0.000), marketing practices (MAKP) i.e., (r = 0.526, n = 254, p = .000), Agro processing practices (APRP) i.e., (r = 0.335, n = 254, p = .000) and agribusiness transformation (AT) under horizontal function (HF) moderation as detailed in Table 8. These findings suggest that any planning process on agribusiness transformation should encourage development of agribusiness horizontal infrastructures if agribusiness transformation is to be efficiently and effectively.

Table 8: Correlation Analysis between Entrepreneurship Practices and
Moderation Effect of Vertical function (N = 254)

|		APT	STORP	MAKP	APRP	VF	HF	AT
APT	Correlation Coefficient	1	.294**	.276**	.281**	.296**	.327**	.274**
	Sig. (2-tailed)		0	0	0	0	0	0
	N	254	254	254	254	254	254	254
STORP	Correlation Coefficient	.294**	1	.516**	.426**	.539**	.491**	.417**
	Sig. (2-tailed)	0		0	0	0	0	0
	N	254	254	254	254	254	254	254
MAKP	Correlation Coefficient	.276**	.516**	1	.534**	.509**	.608**	.526**
	Sig. (2-tailed)	0	0		0	0	0	0
	N	254	254	254	254	254	254	254
APRP	Correlation Coefficient	.281**	.426**	.534**	1	.791**	0.077	.335**
	Sig. (2-tailed)	0	0	0		0	0.222	0
	N	254	254	254	254	254	254	254
VF	Correlation Coefficient	.296**	.539**	.509**	.791**	1	.182**	.186**
	Sig. (2-tailed)	0	0	0	0		0.004	0.003
	N	254	254	254	254	254	254	254
HF	Correlation Coefficient	.327**	.491**	.608**	.077**	.182**	1	.451**
	Sig. (2-tailed)	0	0	0	0.222	0.004		0
	N	254	254	254	254	254	254	254
AT	Correlation Coefficient	.274**	.417**	.526**	.335**	.186**	.451**	1
	Sig. (2-tailed)	0	0	0	0	0.003	0	
	N	254	254	254	254	254	254	254

**. Correlation is significant at the 0.01 level (2-tailed).

Agribusiness transformation

In analyzing profitability, sales, capital investment and employability, the results reveal that 86.2 percent of respondents affirm that grains is a profitable business as compared to 8.3 percent of respondents who refuted. Similarly, 64.4 percent of respondents assert that grains sold quickly after harvesting, however, it was found that that there is no pre sales agreements

(64%) that agribusiness owners signed with buyers before harvesting. These results suggest that grains selling is by large take place under none contract farming arrangements thus agribusiness owners are free to seek and sell grains where market is conducive. On capital and human investment, the results indicate that majority of respondents (77.6%) neither had taken bank loans nor travelled abroad for agripreneurship learning respectively. The results further reveal that 63 percent of respondents depend on family labour than employed labour for agribusiness production. It can be deduced that apart from provision of casual labour, there is absence of substantially formal employment created by small scale agribusiness owners in the study area. Therefore, basing on the data processing matrix mean scores, the results indicate that agribusiness transformation among small-scale in southern highland is poor (89.4 %) with a small proportions (10.6%) of the mean scores indicating agribusiness transformation is moderate as illustrated in Figure 4.

Figure 4: Agribusiness transformation
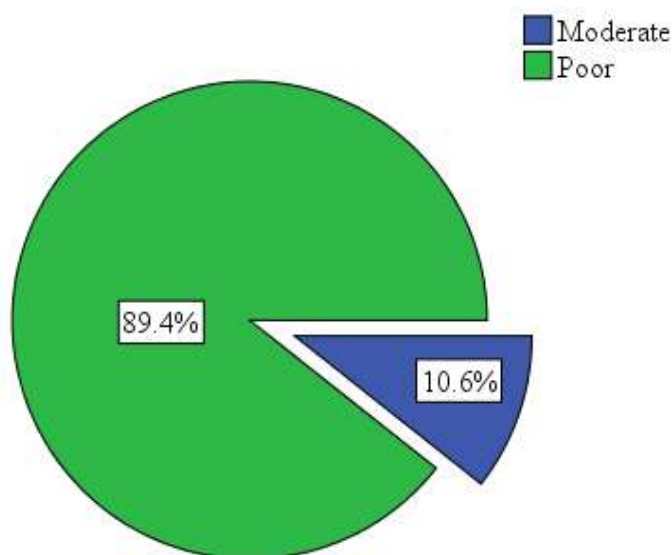
CONCLUSION AND RECOMMENDATIONS

The study finds that entrepreneurship practices for transforming small-scale agribusinesses in southern Tanzania are categorically poor (89.4 %) under vertical function. This could have been contributed by the fact that agricultural production technology dominated by hand hoe utilization (78.7%) as compared to animal plough (7.5%), power tiller (11.4%) and tractors utilization (2.4%). Moreover, majority of respondents (69.7%) lack private owned post-harvest storage facilities and harvested grains are sold prior to simple processing (92.9%), despite commanding awareness about simple process (67.9%). Poor utilization of local radios

(97.2%) and social media (90.9%), lack of branding and proper packaging (96.9%) collectively dwindled effective agribusiness transformation under vertical function. Thus, future researches can be centered on exploring entrepreneurship innovation and interventions that encourage horizontal infrastructures development and management. Likewise, investment in vertical infrastructures may have no desirable contribution on agribusiness transformation due to small size hectares cultivated by majority of agribusiness owners. It should be noted that the study confined itself on small-scale than the large scale agribusinesses transformation, hence its limitation. The small scale agribusiness key actors urged to formulate and implement appropriate policy, programs and strategies that address improved efficiency and effectiveness of horizontal integrated entrepreneurship practices. Tanzania ministry of agriculture advised to launch strategic public-private co-owned agro-processing corridors, review and reinforce incentives to accelerate agricultural production technology, post-harvest storage, and marketing investment for meaningful agribusiness transformation in southern Tanzania.

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