Factors Affecting Youth Participation in Agribusiness

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ABSTRACT

Bhutan's youth represent 60% of the population. It presents an enormous potential to contribute to the country's development. However, most of the youth are migrating to urban centers. As an agrarian nation, the country strives to be food self-sufficient and formulates policies and programs for youth engagement in agribusiness. Efforts have been made to engage youths in agribusiness, but there is a dearth of evidence on what works and what does not. This makes it difficult to design interventions and often leads to planning and implementing agencies to adopt a unified approach that does not necessarily meet the youth's needs. Therefore, this study was conducted to understand the factors affecting youth participation in agribusiness. A total of 100 youths from three districts in Eastern Bhutan (Mongar, Trashigang, and Trashiyangtse) were surveyed using semi-structured questionnaires. Out of the 100 youths sampled, 50 of the youths were involved in agribusiness and sampled using a random sampling method. The other 50 youths who were not into any agri-business were sampled through purposive sampling. The data gathered were analyzed using binary logistic regression. The results revealed that being interested (interest), receiving training (capacity development), ease in finding potential buyers for their produce (market availability), perceived high returns from agribusiness (returns), having experience in agricultural activities (experience) and access to land have a significant effect on the youths decision to participate in agribusiness. Government support has been crucial for the start of their enterprise. Interventions such as the User Rights Certificate, implemented to facilitate access to resources, have succeeded in producing favorable outcomes. However, the agribusinesses' sustainability is uncertain, as most startups do not fare well once the support is withdrawn. The youths are heterogeneous, have differing needs, and face different challenges. This calls for an integrated approach where policies and programs are designed based on shared interests, expectations, and capabilities, targeting different youths' segments accordingly.

Keywords: access, agribusiness, constraints, factors, interest, needs, youths

ABBREVIATIONS

ARDC	Agriculture Research and Development Center
CARLEP	Commercial Agriculture and Resilient Livelihoods Enhancement Programme
Dzongkhag	District
FAO	Food and Agriculture Organization of the United Nations
GNHC	Gross National Happiness Commission
ICT	Information and Communications Technology
IFAD	International Fund for Agriculture Development
ILO	International Labor Organization
Masl	Meters above sea level
MoAF	Ministry of Agriculture and Forests
MoLHR	Ministry of Labor and Human Resources
NSB	National Statistics Bureau
RAMCO	Regional Agricultural Marketing and Cooperatives
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Emergency Fund

Definition of Terminologies

Agribusiness	:	Business sector encompassing farming and farming-related commercial activities.
Employed	:	Persons who during the reference period performed some work for wage, salary, profit, or family gain in cash
Households	:	Family or social unit living together, who pool their incomes together.
Head of household	:	The dominant decision maker in a household
Youth in agribusiness	:	Agri-entrepreneurs aged 15-35 have been included. This is because the implementing agency recognizes them as youths.

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CHAPTER ONE

INTRODUCTION

1.1. Background

Bhutan is an agrarian nation where the 56.76% population's livelihood depends on the agriculture sector (Ministry of Agriculture and Forests [MoAF], 2017b). The agriculture sector contributes 17.37% to the country's Gross Domestic Product (GDP) in 2017 (National Statistics Bureau [NSB], 2018). Bhutan has the potential to increase production and improve food self-sufficiency. Food self-sufficiency refers to how a country can satisfy its food needs from its domestic production (Food and Agriculture Organization [FAO], 1999). However, complex and multiple interrelated factors hinder to realize the goal of food self-sufficiency (Gross National Happiness Commission [GNHC], 2019). For example, land used for agriculture decreased by 15,453 acres between 2010 and 2016 (MoAF, 2017a). The developmental activities and increasing forest area further worsen the issue. Currently, Bhutan relies on imported commodities, including cereals, fish, and vegetables. For instance, Bhutan imported cereals worth over 2.5 billion Ngultrums in 2018 (Department of Revenue and Customs, 2018). The reliance on imported food further hampers the country's goal of realizing food self-sufficiency. Rural to urban migration is another constraint to maintain a productive workforce in rural areas. According to the NSB (2017), 21.7% of the rural population has migrated to urban centers. Since most migrants are of productive ages between 15 and 29 years (NSB, 2017), the labor force in rural areas is declining and constraining agricultural activity (GNHC, 2019).

Although few youths might see a future for themselves in agriculture or rural areas (FAO, 2014), most of Bhutan's youth do not prefer agriculture as their career choice. This is because most agriculture-based livelihoods are smallholder farming characterized by non-mechanized farming, low yields, and subsistence farming. However, the youth unemployment rate in Bhutan is 15.7% (NSB, 2018a). This indicates that the country has an abundance of labor supply, which could revolutionize the agriculture production system. Considering the increasing demand for food products and the resulting imports, it offers Bhutan's youths a chance to modernize the agriculture sector. Thus, investing in

agribusiness is essential in improving livelihoods and incomes, spur productivity, and create jobs, particularly for the youths.

Agribusiness, in this study, refers to farming plus all the other industries and services that constitutes the supply chain from farm production through processing to wholesaling and retailing, which can create job opportunities and generate incomes. For the study, youths between ages 15 and 34 have been surveyed as the implementing agencies (CARLEP and ARDC) recognizes them as youths. Efforts have been made to encourage youth participation in the agri-food system. However, in the absence of understanding the trajectories of youth's decision-making, it can be difficult to design effective policies. With little to no data available, it can lead to a waste of resources in adopting a uniform approach by governments and policymakers. Making interventions through this approach can be inefficient, as they may not cater to the different needs of diverse youths. Therefore, empirical studies on youths in agribusiness will help stakeholders develop strategies to promote entrepreneurship through youth enterprises' development. Hence, this study attempted to identify factors affecting the youth's decision to pursue agribusiness and assess the youths' challenges in agribusiness in Bhutan

1.2. Objectives

a) Identify factors affecting youth's decision to pursue agribusiness in Eastern Bhutan.

b) Identify challenges faced by youths engaged in agribusiness in the three regions.

CHAPTER TWO

LITERATURE REVIEW

2.1 Youth in Agriculture

The agricultural sector absorbs a significant labor force. In Bhutan, it contributes to nearly 57% of the total employment (MoAF, 2017b). However, most farmers involved are ageing and dwindling involvement of the young workforce in agriculture. One plausible argument is due to the youths' declining interest in the sector (Susilowati, 2014). Several other factors are responsible for the declining interest of youths to pursue agribusiness.

The low level of agricultural productivity and earnings cause the youths to form negative perceptions about agriculture as a career. The slow growth of the agricultural sector and the decline in its contribution to the GDP further impede the growth of the sector. The size of the land is another challenge. The average landholding size in Bhutan is 1.4 hectares (MoAF, 2015). However, agro-industry offers a solution to this problem through value-added agriculture (Susilowati, 2014). The continued growth in demand for value-added agricultural products makes a strong business case for youths to participate (Yami et al., 2019).

Bhutan's youths constitute a numerically dominant and resourceful segment of the population. Half of the country's population is below the age of 26, and the size of the working-age population has been steadily increasing (NSB, 2018a). For instance, the labor force participation rate increased from 62.2% in 2016 to 65.7% in 2017 (MoLHR, 2017). The FAO (2014) identifies six principal challenges concerning rural youth's participation in agriculture: limited access to knowledge, education, and information (1), access to land (2), access to financial services (3), access to green jobs (4), access to market (5), and engagement in policy dialogue (6).

Given the importance of institutions in the growth of agribusiness, there are institutional bodies that deal with addressing these challenges. In Bhutan, the MoAF has different departments overseeing the development of commercial agriculture, such as the department of agricultural marketing and cooperatives. It includes the promotion of farm mechanization, quality control for agricultural inputs, and training and research.

2.2 Access to Knowledge, Education and Information

Attracting and retaining youths in farming is critical for the sustainability of youths in agribusiness. The rural population makes up 62.2% of the total population of Bhutan (NSB, 2018b). If most people move to the cities, it would put a strain on the already overburdened urban centers and would be a loss for the farming-based rural economy. Youths possess the highest potential to transform farming into a science and knowledge-based economy. Modern Information and Communication Technologies (ICTs), including mobile phones and the internet, enable access to information to enhance productivity on the farm, enable agricultural innovation, and provide access to financial services and markets (Irungu et al., 2015). Access to information and education not only improves food security but also improve farmers' livelihoods (Muro and Burchi, 2007).

Facilitating training and providing youths with technical and non-technical skills can play an essential role in raising productivity. The combination of technical training, agricultural extension, coaching services, and access to finance improves the incomes of rural youths (Lachaud et al., 2015). The growing use of ICTs in agriculture help improve the image of agriculture, and can lead the youths to perceive agriculture in a different light. ICTs have the potential to increase farm productivity by supporting the efficient use of critical resources, including water, fertilizers, and land (Deloitte, 2012). Farmers can now use ICT tools to manage their farming activities from crop selection to production monitoring (World Bank, 2011). Youths in agribusiness can obtain needed information, such as weather forecasts and output market prices on their phones.

2.3 Access to Land and Financial Services

Bhutan’s arable land is 7.8% of the total surface area (Land Use Planning Project, 1995), out of which only 2.76% is being cultivated (MoAF, 2017). Bhutan is trying to avoid additional farmland loss by giving the farmers usage rights to use the state land for agricultural and economic purposes. The User Rights Certificate (URC) can be an essential incentive to tackle land constraints. Land access is fundamental to farming and can contribute to employment creation and income generation (FAO, 2014). The youths cannot purchase land through acquired savings given high rates of youth unemployment, low wages for the rural youths, and high land prices. Bhutan's youth unemployment is higher than that of adults with an unemployment rate of 10.6%, out of which youths’

unemployment rate among females (12.9%) is higher than among males (9.2%) (NSB, 2018b). It is an even more significant challenge for young women in developing countries to obtain the necessary capital to buy land as they do unremunerated household work or subsist on low wages (FAO, 2011).

Just like access to land, access to financial services such as savings and loans is fundamental to start any agricultural activity. They need the finance to cover up costs of production as well as investments in improved production capacities. If more youths can access savings, loans, and other financial products, they cannot only invest in themselves but the country's economy and food security. In the developing countries, 62% of youths remain outside the formal financial system, which further inhibits their capacity to engage in productive activities, such as starting a business or continuing with their education (International Fund for Agricultural Development [IFAD], 2015).

2.4 Access to Green Jobs

Climate change is one of the defining challenges of our time. It is a cross-cutting development issue that affects every aspect of sustainable development. The effects of climate change are increasingly evident in climate-dependent activities like agriculture and tourism, where adaptation and mitigation strategies entail high costs for both the private and public sectors (International Labor Organization [ILO], 2017). Most young people in the developing world live in rural areas. Bhutan's traditional farming system is close to nature, and the government's aim in becoming organic provides opportunities for youths to engage in sustainable business models.

2.5 Engagement in Policy Dialogue

Engaging youths in decision-making or project planning can produce more results that are reliable. Policies affecting youths are robust and targeted when the youths are consulted (United Nations Population Fund, 2013). Too often, youths are left out of the processes that shape their future. A greater understanding of youth's issues in agribusiness can be a key instrument in the development of youths-responsive agricultural policies. This can be done through policy dialogue between youths, government institutions, programs, and civil societies (Ministry of Foreign Affairs of Denmark, 2012). Engagement of youths in policy processes can result in youth-friendly policies and can

work as an incentive. A youth-friendly policy is developed with the active engagement of youths and empowers and recognizes them as a differentiated group because of social, economic, and cultural differences. Any policy aimed at youths must respond and meet the youths' needs, including but are not limited to finance, land with secure tenure, lucrative markets, and agro-enterprise skills training (White, 2012).

2.6 Commercial Agriculture and Resilient Livelihoods Enhancement Programme (CARLEP)

The Constitution of the Kingdom of Bhutan considers the agriculture sector as one of the 'five jewels' of the country's economy. The sector is a priority, given the potential for agriculture to meet the government's objectives of diversifying the economy, reducing poverty, and fostering inclusive growth (GNHC, 2013). Institutions, including private, public, and non-governmental institutions are supporting and governing agribusiness in Bhutan. The CARLEP under the IFAD is one of the supports from development partners for agribusiness in Bhutan. The program seeks to transform the subsistence-based rural agricultural economy into a market-driven productive sector based on sustainable agricultural value chains.

The CARLEP covers six dzongkhags from Eastern Bhutan: Lhuentse, Mongar, Pemagatshel, Samdrup Jongkhar, Trashiyangtse, and Trashigang. These are the areas with potential for production but see an increasing number of out-migrants. Most of the migrants are youths and young adults aged 15-29 (NSB, 2017). Rural youths are the future of food security (FAO, 2014); thus, it is essential to invest in them. The major challenges the rural youths face in starting an agricultural activity are access to land and access to finance (FAO, 2014). CARLEP and other programs such as the URCs create an enabling environment to support rural livelihoods (World Bank, 2017). The support includes access to finance, market linkage, and training. More recently, under the URCs, farmers and unemployed youths can benefit from state lands for agricultural and economic purposes in rural areas.

CHAPTER THREE

METHODOLOGY

3.1 Study Area

The study was conducted in three dzongkhags of the six program areas under CARLEP (Lhuentse, Mongar, Pemagatshel, Samdrup Jongkhar, Trashiyangtse, and Trashigang). These dzongkhags are associated with high poverty rates (Table 1). The rural livelihoods are characterized by subsistence agriculture because of small landholdings, scattered settlements, and long distances to road-points and markets (Wang et al., 2013). The farmers practice mixed farming, where they raise both livestock and crops.

Bhutan has six agro-ecological zones. The wet subtropical zone from 100-600 meters above sea level (masl), humid subtropical 600-1200 masl, dry subtropical 1200-1800 masl, warm temperate 1800-2600 masl, cool temperate 2600-3600 masl and the alpine 3600- 7500 masl (MoAF, 2017). The dzongkhags have varying agro-ecological within it, allowing for the growth of different crops in one dzongkhag. Table 1 shows the agro-ecological zones within a dzongkhag.

Depending on the altitude and availability of water, different agricultural production systems prevail and offer different livelihood strategies. They grow a variety of cereals (e.g., paddy, maize, wheat, and millet) and horticultural crops (e.g., potatoes, cardamom, ginger, chili, apple, and citrus). A few youths have contracts with Bhutan Agro Industry Limited. The pristine natural environment provides the potential for value addition and diversifying into high-value crops.

Table 1**:** Profiles of six dzongkhags

Dzongkhag	**Agroecological Zone**	**Poverty Rate**	**Population**
Lhuentse	From dry subtropical to alpine1200-7500 masl	6.7	15,552
Mongar	From humid subtropical to cool temperate 600-3600 masl	17.1	41,956
Pemagatshel	Wet subtropical to warm temperate 100-2600 masl	13.7	27,636
SamdrupJongkhar	Wet subtropical to warm temperate 100-2600 masl	6.2	36,154
TrashiYangtse	Dry subtropical to alpine 1200-7500 masl	11.9	15,363
Trashigang	Dry subtropical to alpine 1200-7500 masl	10.7	47,102

Source: NSB (2018)

3.2 Sample Size

From the list of youths in agribusiness registered under ARDC, Wengkhar, and RAMCO, 67 youths were in agribusiness from the three selected dzongkhags Mongar, Trashigang, and Trashiyangtse. From the list, 50 youths were selected randomly. Another 50 youths who are not into agribusiness were sampled to assess their perspective on youths in agribusiness. Thus, a total of 100 youths took part in this study.

3.3. Sampling Procedure

A combination of sampling methods was used to select respondents to meet the study's objective of identifying the factors affecting youths' participation in agribusiness. First, from the six Eastern dzongkhags, three were selected randomly based on a lottery draw. Selected dzongkhags were Mongar, Trashigang, and Trashiyangtse. From the total of 67 youths in agribusiness currently registered in ARDC, Wengkhar, and RAMCO under the selected dzongkhags, randomly17 were selected from Mongar, 18 from Trashigang, and 15 from Trashiyangtse for the study. Another group of youths who were not in agribusiness was selected using purposive sampling, 17 youths were selected from Mongar, 18 from Trashigang, and 15 from Trashiyangtse.

3.4 Survey interview

Data were collected during January and February 2020 through self-administered questionnaires and face-to-face interviews. The self-administered questionnaires allowed for a way to collect large amounts of information quickly. However, for some respondents, face-to-face interviews were conducted; this was done as the respondents felt more comfortable and allowed for more interaction.

3.5 Questionnaire

For the collection of data, a semi-structured questionnaire was used. The use of semi-structured questionnaires enables the collection of both qualitative and quantitative data. Part one of the questionnaire consisted of questions to obtain demographic information; part two consisted of questions to ascertain asset base; part three consisted of questions on environmental challenges; part four consisted of access and constraints to resources and part five consisted questions on recommendations.

3.6 Secondary Data

Secondary data were collected for the literature review. Data from CARLEP, ARDC, and RAMCO were sought after for sampling purpose and to understand the context in which they were working. These included the number of youths in agribusiness and their contact information.

3.7 Ethical Consideration

Approval to conduct this study was discussed between the College of Natural Resources and the ARDC, Wengkhar, and Office of Programme Management, CARLEP. Formal permission was agreed between the researcher and the implementing agency as this study's results would prove beneficial to them. Youth were briefed on this study's purpose and that their responses would contribute immensely to this study. They were assured of the confidentiality of their responses.

3.8 Empirical Model

3.8.1 Conceptual Framework

For this study, a conceptual framework was referenced from FAO's conceptual framework for distress migration of rural youths. The framework builds on the New Economics of Labor Migration model, which assumes that the decision to migrate reflects both the socio-economic characteristics and aspirations of the individual, and the composition, wealth and main livelihoods of the individual's household (Deotti, and Estruch, 2016). In rural areas, households face labor and financial market constraints, and migration is a strategy to diversify income sources and cope with risks (World Bank, 2006; Herrera, and Sahn, 2013). Therefore, in line with a conceptual framework for distress migration of rural youths, the framework (Figure 1) presupposes that the decision to migrate is subjected to a set of determinants, which vary according to the local context and stage of structural transformation, as well as the household typology and individual characteristics of the migrant. These same factors can affect youths' decision to stay back in the rural areas and take up agriculture as a livelihood strategy.

The agriculture and rural development stage in the area of origin has a substantial impact on rural youth retention. There is evidence that unemployment and underemployment in rural areas are among the principal drivers of migration of youths (UNICEF, 2014; Young, 2013; Van de Glind, 2010; FAO, 2004). This is especially the case when there is the coexistence of underdeveloped rural areas and more advanced urban areas offering better chances of employment and higher wages. Understanding the interconnectivity of these factors can help assess the impact of the programs on rural young people and how the interventions can be scaled up to provide adequate responses to the young population's needs.

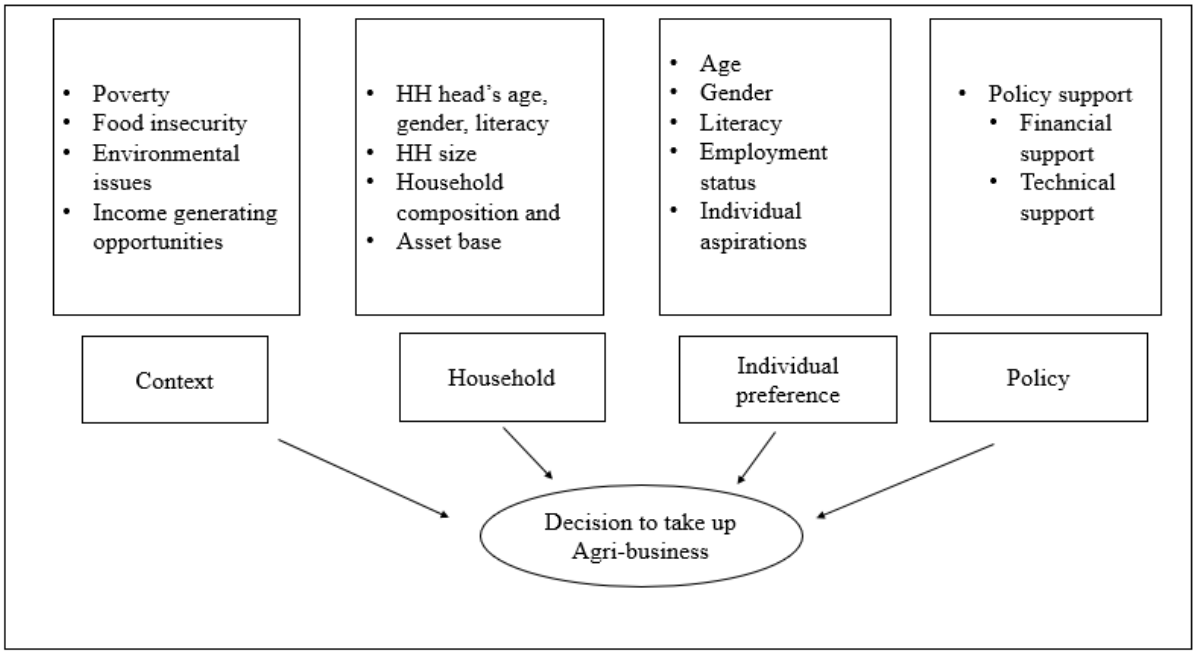

Figure 1: Factors affecting the decision of youths to pursue agribusiness.

The lack of decent employment opportunities in rural areas that affect youth's decision is affected by the four clusters of factors, including context (a), household (b), individual preference (c), and policy support (d), as discussed in the subsequent sub-topics. Table 2 presents the detailed measures of dependent and independent variables that were used in this study.

a) Context

Over 75% of the world's poor people reside in rural areas and depend on subsistence agricultural (FAO, 2014). Rural labor markets do not function well; furthermore, the seasonal nature of agricultural labor results in strong fluctuation in wages and employment opportunities and poor working conditions, especially for the youths. They lack access to services and resources (FAO, 2011). Several barriers that keep them from taking up farming (IFAD, 2019) confront the youths. There are limited opportunities to engage in off-farm activities, and few more attractive job prospects and the youths lack the necessary training to improve their entrepreneurial, administrative, technical, and social skills; and have limited access to programs comprising opportunities for credit, savings, insurance, and matching grants (Alexandratos, and Bruinsma, 2012).

Rural-urban differentials further impede these challenges in infrastructure availability, including roads, schools, and hospitals (Herrera and Sahn, 2013; Katz, 2000). Most policies aimed at enhancing agricultural productivity and food security have failed to prioritize equality. They tend to benefit large-scale producers and neglect the heterogeneity and constraints faced by small-scale agriculture (FAO, 2013). Young people in smallholder farming families or landless families face another constraint, the only possible way to become a farmer is to find work first outside agriculture (and often outside the village), hoping to save enough money to buy or rent some land (IFAD, 2019). Nevertheless, buying land is becoming an increasingly unrealistic option due to rising land prices.

b) Household Determinants

Youth's decision to agribusiness is often determined by household heads' profile, such as age and education levels. For instance, the head of a household with at least one migrant is usually older and more educated than the head of a household without migrants (Akhter and Bauer, 2014). Also, larger households are more likely to resort to abandoning farming. As the size of the family increases, its per capita income decreases, and family members may migrate to seek non-farm employment elsewhere (FAO, 2016). Peer influence and socio-cultural norms are essential to push factors for youths to stay in agriculture. Ownership of productive assets (i.e., land, livestock, machinery and equipment, plantation crops, and financial savings) also determines whether a household needs to pursue livelihood diversification. The propensity to migrate among those with their land and farm assets is lower than landless (Kok et al., 2016) are. Access to land through the URCs can be beneficial in the retention of youths in agriculture in Bhutan.

c) Individual Preference

The decision to take up farming as a livelihood strategy is also dependent on individual characteristics. Understanding the role of these individual factors is challenging, as it requires the collection of specific data (Carletto, and Brauw, 2007). The highest rates of migration were among the youths, and it decreased with age (FAO, 2016). This adds to the aging population of food producers (Barr, 2014). Gender plays a vital role in the youth’s decision to farm. Women are more likely to remain in rural areas because of their

reproductive, care responsibilities, and financial and decision-making constraints (FAO, 2016). Individuals who are more educated tend to be more mobile; they seek work that matches their higher skills and expectations, which pays returns on education costs incurred; hence, they do not see agribusiness as viable. Unemployed youths are more likely to leave farming in search of economic opportunities in urban areas. Having an interest can be a determinant in the decision to take up agribusiness.

d) Policy support

Policy supports include the removal of barriers to access, increased representation in decision-making, and improved infrastructure. Additionally, youths in rural areas can feel socially and politically excluded. They may have no participation in family decision-making processes or civic life, which can push them out of the agriculture sector (FAO, 2016). The inclusion of youths in the decision-making process can enable their voices to be heard and ensure the delivery of efficient and targeted interventions that are in line with their aspirations, strategies, and activities. Modern agriculture can offer significant opportunities for job creation for young people. To attract young people to the sector, an enabling policy and regulatory environment are fundamental (ILO, 2012).

Table 2: Variables measured

Categories	Variables	Code	Description	Measurement
Context	Sex	V1	1 = female 0=otherwise	Dummy
	Background/ experience	V2	1 = having experience in agricultural work 0 =otherwise	Dummy
	Soil erosion	V3	1 = Occurrence of soil erosion, 0= otherwise	Dummy
	Extreme weather conditions	V4	1 = yes 0 = otherwise	Dummy
	Low soil fertility	V5	1 = yes 0 = otherwise	Dummy
	Water shortage	V6	1 = yes 0 = otherwise	Dummy
	Pest and diseases	V7	1 = yes 0 = otherwise	Dummy
	Presence of crop depredation by wild animals	V8	1 = yes 0 = otherwise	Dummy

	Income generating activities	V9	1= yes 0= otherwise	Dummy
Household Characteristics	Education	V10	1 = formal schooling 0 = otherwise	Dummy
	Economically productive household members	V11	No. of family members contributing to household income	Scale
	Land	V12	Access to land 1= yes 0= otherwise	Dummy
Individual preferences	Schooling	V13	1 = tertiary 0 = otherwise	Dummy
	Interest	V14	1 = interested in agribusiness as a career option 0 = otherwise	Dummy
	Returns from agribusiness	V15	1 = high 0 = low	Dummy

Policy Support	Difficult access to inputs	V16	1 = difficult 0 = otherwise	Dummy
	Difficulty in management	V17	1 = difficult 0 = otherwise	Dummy
	Technical assistance	V18	1 = yes 0 = otherwise	Dummy
	Other support from government and institutions	V19	1 = yes 0 = otherwise	Dummy
	Loans	V20	1 = yes 0 = otherwise	Dummy

A binary logit model was used to analyze factors affecting youths' decisions to engage in agribusiness. Logistic regression describes data and explains the relationship between one dependent binary variable and one or more nominal, ordinal, interval, or ratio-level independent variables. Logistic regression generates the coefficients of a formula to predict a logit transformation of the probability of the characteristic of interest:

$$\text{Logit}(p) = \beta_0 + \beta_1 V_1 + \beta_2 V_2 + \ldots \beta_{10} V_{10} + \varepsilon$$

Where p is the probability of the presence of the characteristic of interest. If $P < 0.05$, then the variable contributes significantly to the prediction of the outcome variable. The independent variables affecting the youths' decisions to take up agribusiness are categorized into four broad categories: Context, household characteristics, individual preferences, and policy support. See Table 2 for a detailed description of the dependent and independent variables.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Demographic Profile of Respondents

The results in Table 3 show the profile of the respondents. The respondents were from Mongar (34%), Trashigang (36%), and Trashiyangtse (30%). A high percentage (65%) of the youths were between the ages of 21 to 27, with mode age of 25. The sex of the respondents is distributed equally (50% male and 50% female), but there are more male youths in agribusiness respondents (73%) than females (27 %). Almost all respondents have some schooling, with (53%) at the secondary school level and (47%) at the tertiary level. The occupation of respondents varies, (22%) of them were students, (18%) employed in other sectors other than agribusiness, (10%) unemployed, and the rest (50%) were youths in agribusiness.

Bhutan has a noticeably young population. More than half of them are below 28 years (UNICEF, 2017). A young population represents many opportunities. However, they are a vulnerable group and face many challenges. One such problem is the lack of employment opportunities. Youth unemployment is 15.7%, which is higher than the national average of 3.4% (NSB, 2018b). Agribusiness holds considerable potential to provide employment opportunities to many youths if supported with increased investment and favorable policy and legal framework.

Table 3: Demographic information of respondents

Characteristics	Response (%)
Dzongkhag	
Mongar	34
Trashigang	36
Trashiyangtse	30
Age	
15-20	10
21-27	65
28-33	22
>34	3
Sex	
Male	50
Female	50
Literacy	
Secondary level	53
Tertiary level	47
Occupation	
Student	22
Employed (other than in agribusiness)	18
Unemployed	10
Agri-entrepreneur	50

4.2 Activities of Youths in Agribusiness

Youths in agribusiness participate in a range of activities. Their activities and net monthly income are given in Table 4. They are involved in the production, processing, and marketing of commodities. Almost all the youths in agribusiness surveyed partake in the production (90%) and marketing (87%). Only a few youths engage in all three lines, many partaking only in production and marketing or processing and marketing. Those involved in the production line include horticulture crops, cereals, milk, and eggs. While only some of the producers process their goods, youth entrepreneurs in the processing chain (33%) include making and marketing dairy products such as milk, cheese and butter, and other commodities such as confectionaries.

The youths have their income diversified in the fields. They grow various horticulture crops and cereals (30%), and many have integrated dairy and poultry in their farms (43%). The rest (27%) include processed goods entrepreneurs and those in the production line that have signed contracts with buying agencies. A few youths (20%) participate in other income-generating activities. These include carpentry, vehicle hire for delivery, and labor in other fields. The median net monthly income of the entrepreneurs lies between Nu. 10, 000 and Nu. 17,000. The youths in agribusiness started their venture because of their interest (69%). They also joined because they had support from agencies (22%) and financial support (7%). Only a few joined because members of the family (2%) persuaded them.

Table 4: Activities of agri-entrepreneurs

Item	Response (%)
Activities	
Production	90
Processing	33
Marketing	87
Type of Business	
Mixed Farming	30
Integrated Farming	43
Contract	27
Participation in other income generating activities	20
Net Income	
3000-9999	13
10000-16999	60
17000-23999	17
24000-30000	3
>30,001	7
Reasons for taking up agribusiness	
Own Interest	69
Family Persuasion	2
Support from agencies	22
Financial support	7

4.3 Constraints in Pursuing Agribusiness

The youths face numerous hurdles in their advent to joining agribusiness. Information on the youth's access to resources and skills are presented in table 5. More than half of the youths, (54%) reported it is not easy to have financial access. Most youths (90%) reported it easy to access land, where only (10%) found it difficult to acquire land. Access to farm inputs (seeds, tools, etc.) was not an issue to most youths (65%). A high number of youths (67%) reported to lack of skills in management and production. Therefore, most youths (37%) emphasized the requirement of capacity building training. On the contrary, a few youths did not see it as a challenge (33%). Among youths in agribusiness, only 20% reported having had enough training to run an agribusiness confidently. Local environmental issues play a constraint in youths' decisions to start agribusiness. Most of the respondents (78%) rated environmental issues (windstorms, drought, etc.) difficult. Market access is defined as road connectivity to the nearest selling place and the time taken to reach the consumers. Some youths (52%) found it challenging to reach the market, and some (48%) reported market access was not a constraint. Most youths (54%) said there exists a market for their products, so it is relatively easy, while (46%) rated market availability difficult.

Bhutan's government, along with many private and non-governmental institutions, has made an effort to create an enabling environment for the youths to participate in agribusiness. Governments and development partners have developed strategies and implemented various interventions to facilitate youth engagement in agribusiness. These include skills development, facilitating access to resources, and the use of technologies in agribusiness. Their efforts can be seen with the number of youths engaged in agribusiness, with over one hundred youths from six dzongkhags in the east, involved in the production, processing and marketing sector of the agriculture value chain. Some youths have accessed loans, almost all youths involved have received training, and some have support from the government in the delivery of their produce and equipment and machinery support. All of which are necessary incentives for the youths.

Table 5: Access to resources and constraints

Resources	Response (%)
Access to Finance	
Easy	46
Difficult	54
Access to Land	
Easy	90
Difficult	10
Access to Inputs	
Easy	65
Difficult	35
Production and Management Skills	
Easy	33
Difficult	67
Environment Issues	
Easy	22
Difficult	78
Market Access	
Easy	48
Difficult	52
Market Availability	
Easy	54
Difficult	46

4.4 Needs of the youths in taking up agribusiness

Youths were asked about the kind of support they would need to become an agricultural entrepreneur. This answer was gathered through an open-ended question, where the youths can explain their needs. Through a thematic analysis, the following results were obtained. Most youths said they needed trainings (40%), followed by a marketplace to sell their produce (20%). Some expressed that value addition to agricultural commodities shows prospects (13%). Others included fund support (10%), technical support (7%) the rest included creating awareness through including it in the school curriculum.

Table 6: Needs of the youths to take up agribusiness

Themes	**Response (%)**
Trainings	40
Market	20
Value addition	13
Fund support	10
Technical support	7

Training on financial literacy can help youths manage money, and entrepreneurship skills benefit the youths. They can understand the market better and develop their business plans (Moore, 2015). Access to technologies and equipment may further encourage youths to participate in agribusiness. Ease in access to land resources can make it easier for youths to see a career in agribusiness. Almost all youths surveyed reported it was not very difficult to obtain land. This could be because of the government's support to provide land for agriculture development under the User Rights Certificate (URC). Similar results are reported in Ethiopia and Malawi, where land reforms enabled youths to access land, which allowed them to rehabilitate communal lands and engage in agricultural value chains (Yami et al., 2019). From the results, it is evident that government interventions such as improving access to productive resources can produce favorable outcomes for youths and agribusiness.

4.5 Challenges of Youths in Agribusiness: Initial and Current challenges

The youths involved in agribusiness were asked to rate their finance, land, input, management, and market challenges. The majority of youths (53%) reported it was easier to access finance and land since their establishment. This could be due to them being recognized as an enterprise or because of their net worth that funding institutions can give loans. However, accessing loans takes a lot of time. Some of the youths in agribusiness are located far from the financial institutions, which takes a toll on their productive time and resources. Since they receive support from the government and institutions, they have easier access to land, allowing them to expand their activities. On the contrary, their access to input supplies is limited. It can be because many times, governments and institutions give subsidized or free seedlings at the start, but as the business progresses, it becomes difficult for them. Without support, the youths have to find other sources for input, which can be difficult. Other current challenges include management and coping with environmental issues. They reported it is more challenging to manage their enterprise now than it was at the beginning. When asked what kind of support would be beneficial to encourage youths to take up agribusiness, 47% of the responses were on training on business plan development, crop management practices, and marketing. The entrepreneurs reported it challenging to find a market for their produce during their initial business; however, with time, market availability became less of a challenge. Figure 2 shows the problems at the start of the business, and the current challenges faced.

The increase in their constraint to input and management, questions the sustainability of the business. It could represent youths' reliance on support and not take measures such as savings for input procurement or the government or institutions withdrawal before their startup is fully equipped. The youths reported management of their business was relatively easier during the initial starting years than it was currently. It could be attributed to the organizations' involvement helping with the administration or management could have been easier during the initial years because everyone involved was motivated and goal-oriented. Since most of the youths involved were in groups, it could have posed a management challenge from lack of leadership and group cohesion. With rising difficulty faced with environmental issues and disagreement among group members, the business's sustainability is questionable.

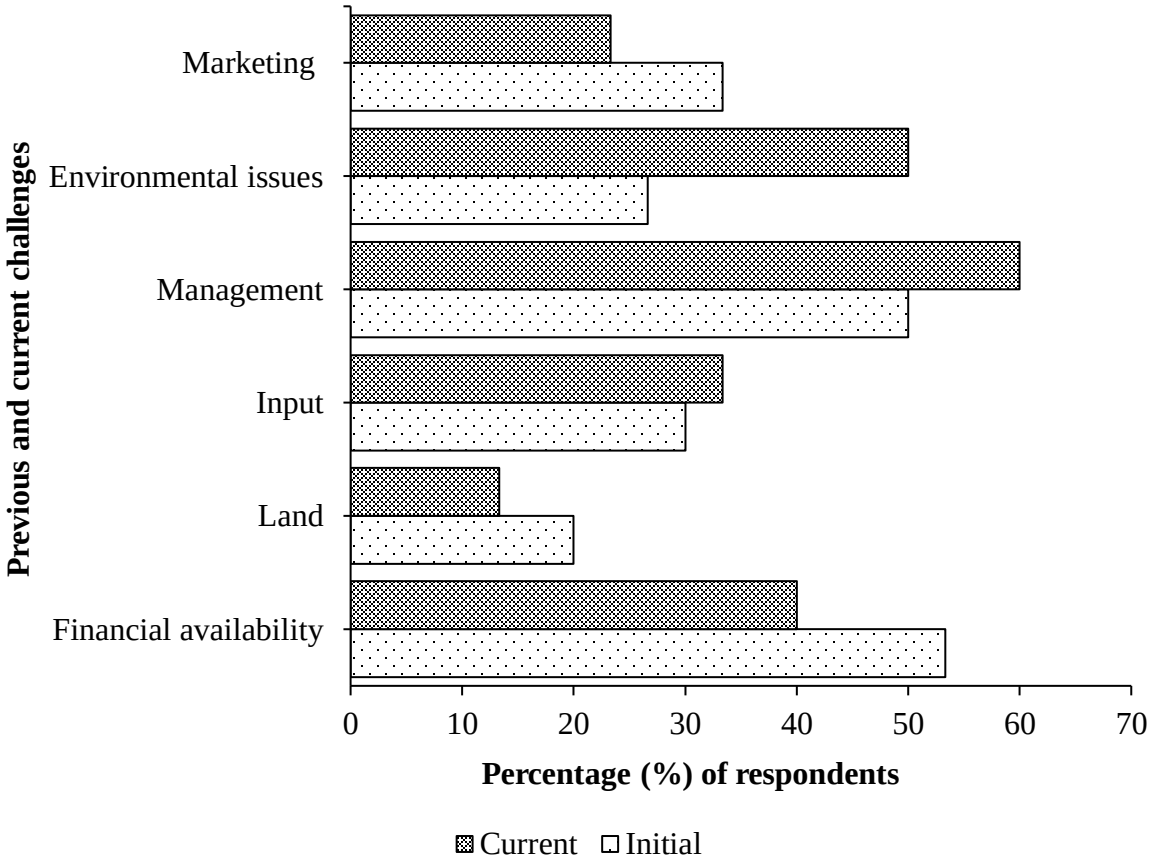

Figure 2: Initial and current challenges of the youths in agribusiness

There is a success with government and organizations working for the participation of youths in agribusiness. So far, interventions have been successful in providing an enabling environment. However, there is a lack of evidence on what worked and what did not; this can make it difficult to produce evidence-based policy and design interventions targeting the youths. From the results, the youths' needs are different, and their challenges differ in time scale. The youths in agribusiness report it being easier at the beginning regarding access to land, finance, input, and management. This could mainly be from the supports received. Even among youths who are not in agribusiness, they perceive that access to resources is easier because of the support for youths and agriculture. However, a significant challenge for youths' participation in agribusiness is the aversion to agricultural related activities. The low level of productivity and earnings of agriculture

leads to youth forming a negative perception about agriculture as a viable career option. (Barratt et al., 2012).

4.6 Assets of Youths in Agribusiness

All the youths in agribusiness own a cellphone, have access to the internet, and have a bank account. The land is not a constraint to many youths, as 90% of respondents owned land. Many of the youth entrepreneurs do not own vehicles for transporting their goods. Although only 17% of youths owned a car, others hired. Around 67% of the respondents reported having machinery for production and processing. All youths in agribusiness have access to the taped water source, with 77% having irrigation facilities. This could be because many of the entrepreneurs are engaged in the production chain. Almost half of the agribusiness (47%) youth practice integrated farming own livestock, such as poultry and dairy cows. Concurrently around 13% of the respondents have biogas plants installed.

Table 7: Assets of youths in agribusiness

Assets	Response (%)
Land	90
Vehicle	17
Equipment	67
Irrigation	77
Livestock	47
Biogas	13
Cellphone	100
Television	57
Internet	100
Bank Account	100

4.7 Factors affecting Youths Participation in Agribusiness

4.7.1 Test for Multicollinearity

A test was run to verify collinearity among specified explanatory variables. Table 8 presents the Variance Inflating Factor (VIF) test results used to verify the status of

collinearity. The results reveal that there was no significant collinearity between explanatory variables.

Table 8: Test result for multicollinearity

Variable	**VIF**
Perceived returns	2.746
Interest	1.786
Future	1.724
Experience	2.458
Sex	1.368
Level of Schooling	2.165
Household head literacy	1.988
Economically productive household member	1.485
Market availability	1.483
Soil erosion	1.939
Extreme weather conditions	1.823
Low soil fertility	1.560
Water shortage	1.478
Pest and diseases	1.583
Crop depredation by wild animals	1.400
Difficult access to land	1.569
Difficult access to inputs	1.432
Difficulty in management	1.527
Technical assistance	1.735
Support from government and institutions	2.297
Access to loans and credit	2.314

The results for the Hosmer-Lemeshow test is not significant (X^2= 4.700, df=8, p>0.05). This indicated that the model is not a poor fit. The results indicate that the predictors explained 67.1% of the variance (R^2= .671). The empirical result revealed that taking up agribusiness because of being interested (Interest), receiving training and support from the government (capacity development), perceived high returns from agribusiness

(returns), having experience in agricultural activities (experience), access to land have a significant effect on the youths decision to participate in agribusiness. Other factors did not contribute significantly to the youth's decision to take up agribusiness. Table 9 shows the log coefficients of the factors modeled that had a significant effect on the youths' decision to engage in agribusiness.

Table 9: Logistic regression results: Factors affecting participation

Factors	B	Sig.	Exp (B)	95% C.I. for EXP(B)	
				Lower	Upper
Perceived returns	3.034	.021	20.786	1.582	273.039
Interest	2.482	.030	11.961	1.275	112.184
Future	.396	.676	1.486	.232	9.519
Experience	3.389	.002	29.645	3.530	248.960
Sex	.959	.252	2.609	.506	13.449
Level of schooling	1.690	.064	5.418	.906	32.403
Household head literacy	.148	.872	.862	.142	5.225
Economically productive HH members	.065	.914	1.067	.325	3.506
Market availability	1.584	.055	4.872	.965	24.608
Soil erosion	-.322	.757	.725	.094	5.565
Extreme weather conditions	-.304	.777	.738	.090	6.066
Low soil fertility	-1.227	.241	.293	.038	2.283
Water shortage	1.028	.228	2.794	.526	14.849
Pest and disease	-.699	.403	.497	.097	2.555
Crop depredation	-1.274	.110	.280	.059	1.334
Difficult access to land	-2.570	.036	.077	.007	.843
Difficult access to inputs	.041	.958	1.042	.223	4.869
Difficulty in management	-.222	.780	.801	.169	3.800
Technical assistance	-1.313	.126	.269	.050	1.445
Support from government and institutions	2.857	.033	17.405	1.265	239.517
Access to loans and credit	1.519	.157	4.568	.559	37.352
Constant	-4.316	.114	.013		

The results indicate that perceived high returns, interest, having experience in agriculture, market availability, and receiving training and support from government and institutions, have a positive relationship with youths' decision to take up agribusiness. There is a negative and significant relationship between difficulty accessing land and youths' decision to take up agribusiness. Meaning that when the youths find it difficult to obtain land, they are less likely to take up agribusiness as a career path. Youths are discouraged in pursuing agribusiness if their access to land is constrained. This can be because of the small and fragmented land holdings of many Bhutanese households and the high land prices. For every unit increase in agribusiness's perceived returns, the odds in favor of youths engaging in agribusiness increases by 20.786 ($P<.05$). Youths who understand that the gains from agribusiness are high are more likely to take up agribusiness. Youths interested in agribusiness are 11.96 times more likely to take up agribusiness as a career ($P<.05$). Having worked in the agriculture fields has a positive effect on the youth's decision to participate in agribusiness, the odds of participating are 29.645 for those who have experience. Youths who have attended training and or received support from the government are 17.40 times as likely to engage in agribusiness as those who did not.

Interest can go a long way in how sustainable a business model is. The three dimensions that makeup interest include meaningfulness, impact, and competence (Weber, 2009). How a person perceives a task's value determines the effort, he or she will put in. If youths understand agribusiness as valuable, they will be willing to work harder. Similarly, if individuals believe they make a difference, or that what they are doing has an impact, they will be more interested. Conversely, if one considers that one is not competent or lacking in ability and previous knowledge, interest is diminished. In this way, it can be a constraint for youths to engage in agribusiness because many of them (80%) believed that they did not have enough training to be one. All youths in agribusiness have received training. This could explain their interest in agribusiness. Research shows a positive correlation between interest and motivation (Weber and Patterson, 2000).

Motivation is crucial for meeting goals and objectives. Motivation levels have a direct impact on productivity, where highly motivated workers achieved increased productivity (Bawa, 2017). This can be crucial to the sustainability of agribusiness. Without

motivation, it can be challenging to keep the business afloat. According to the Vrooms expectancy theory, a person's effort will lead to performance. That performance will lead to reward (Lunenberg, 2011), if a youth perceives that the returns for his/her effort are low, he/she will not be willing to put in much effort. This can be detrimental when working in groups. The bottom line of any business is to make money, which is a reward for all the hard work put in. Such a form of reward is through markets' availability, where the youths can sell their produce. Market availability is a factor affecting their decision to participate in agribusiness. Due to the numerous marketing infrastructures (market information systems, the place for interaction with buyers), the youths find it easier to sell their produce.

Results showed that youths who had experience in the agriculture field were about ten times likely to participate in agribusiness. This is similar to Pelzom and Katel (2017) findings those youths who were in the field of farming were likely to accept agriculture as a source of employment in Bhutan. This indicates that youths perceive agribusiness as a gainful opportunity as a means of living. A barrier to entry is the availability of and access to land. Since most youths understand agribusiness as dealing with production, for which land is fundamental, their inability to access land can be detrimental to their agribusiness engagement. The availability of land on lease or a group formation as collateral is proving to be useful for their agribusiness participation.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Engaging youths in agribusiness has become an important strategy to create employment opportunities in Bhutan. Several factors influence the youth's decision to become an agricultural entrepreneur. For this study, youths in agribusiness included those youths involved in the production, processing and marketing of agricultural commodities. Of the 20 factors, 5 proved to be a significant contributor. The youths are constrained by several factors. Understanding these factors and their relationship with youth's decisions can act as a guide to strategize and develop interventions. Government support has been crucial for the start of their enterprise. Interventions implemented to facilitate access to resources have succeeded in producing favorable outcomes. However, other factors such as education, development of rural facilities, the market potential of the enterprise, etc. could determine the sustainability of the firms. A thorough understanding of the factors affecting their decision and the needs of the youths can prove beneficial in assessing key areas of intervention. Designing interventions based on shared interests, expectations, and capabilities, and targeting different segments of youths accordingly can be effective for youth engagement in agribusiness. Youths are heterogeneous and their needs and constraints may differ. The design of future interventions should be an integrated approach by establishing networks with the private sector and development agencies. To facilitate access to resources, knowledge, and build business partnerships.

5.2 Recommendations

- The design of interventions should be based on shared interests, expectations and capabilities. Targeting different segments of youths accordingly could be more effective.
- Employing an integrated and holistic approach to facilitate youths access to resources.
- Involving the youths in the design and planning of interventions.
- Rural transformation through improved infrastructure and living conditions.
- Price supports for agricultural workers (especially in less favored areas).

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