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Determinants of Tertiary Students' Intention to Participate in the Agriculture Sector in Visayas, Region 8 Philippines

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Abstract *— The study examines the intention of the tertiary students to participate in the agricultural sector in Visayas, Region 8 Philippines. Data suggests a decreasing trend of labor participation towards the agriculture sector. The objectives of the study is to identify and evaluate the factors that affect the decision of the students to participate or pursue a career in the agriculture sector in Visayas and be able to provide effective recommendations that can help engage the labor force to pursue a career related to the development of the agriculture sector. The study explores and assesses the factors that influence the participation of tertiary students in the agriculture sector. The factors the study seeks to evaluate the significance of parent's education, both the father and mother's highest educational attainment, to tertiary students' intention to participate in the agriculture sector. In addition, the study explores the positive effects of students' education, migration, and income; and the negative relationship of age towards the intention of tertiary students to participate in the agriculture sector. Consequently, the findings of the study delves into the proposing and crafting various strategies and initiatives policymakers may develop, to improve the awareness and increase agriculture literacy among the youth in the tertiary level of education.*

Keywords *— Tertiary Students, Youth, Participation, Labor Force, Agriculture Sector, Age, Students' Education, Parent's Education, Migration, Income*

I. INTRODUCTION

Agriculture, one of the economic drivers that contribute to the growth of the Philippine Economy in terms of the country's Gross Domestic Product (GDP). The Agriculture sector is an avenue for the country to achieve sustainable food security. Over the years, the Philippines have been suffering a constant decline of its share in GDP percentage in the agriculture sector compared to the other dominating economic sectors, the Industry and Services sector (Plecher, 2020). As regards to the total number of employed persons in the agriculture sector, for the periods 2014 to 2018, the Philippines recorded 11,801 and 9,998 (in '000 persons) respectively. This shows a steady downward trend of employment in the agriculture sector in the country.

Although the scope of the study would highlight primarily in the Visayas region in the Philippines concerning the factors affecting the decreasing labor participation of the youth in the agriculture sector, the study will mainly focus on the youth between the ages 18 and 22 or students in the Tertiary-level. According to the Philippine Statistics Authority (PSA), the total number of employed persons in the agriculture sector in Western Visayas; data shows that from the year 2014 to 2018, 1,206 and 970 (in '000 persons) respectively. In the Eastern Visayas, figures suggest that in 2014 to 2018, 501 and 626 (in '000 persons) respectively In Central Visayas, the records indicate 904 in 2014 towards 655 in 2018 (figures are expressed in '000 persons). Collectively, there seems to be notably decreasing labor participation in the agriculture sector in the Visayas region.

The study explores the reason behind the decreasing participation of the youth in the agriculture sector. Youth, as defined by the United Nations General Assembly, are persons falling between the ages of 15 and 24 years, but the study will center on the youth between the ages 18 to 22 years old or students in the tertiary level of

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education. The study specifically seeks to determine the impact of the students' intention to participate in the development of the agriculture sector in terms of establishing their own business or continuing the family business in agriculture. Due to the fact that the average age of farmers in the Philippines is 57 years old, which suggests that in the future, there will be insufficient (low supply) of farmers unless the youth would engage themselves in the agriculture sector (Santiago et.al, 2015). In addition, as reported by the Philippine Statistics Authority (PSA) on the Agricultural Indicator System (AIS released in 2020), there's a higher proportion of self-employed (own-account workers) combined with the unpaid family workers in comparison with employees (wage and salary workers), 52.2%, 14.1%, and 33.6% respectively. To give emphasis to the study's dependent variable, this focuses on the students' intention to participate in the agriculture sector in terms of establishing their own business or continuing the family business in agriculture. The study examines the relationship between the several factors; which include age, students' education, parent's education (Father and Mother's highest educational attainment), migration, and income that motivates the participation of tertiary students in the agriculture sector.

1.1. BACKGROUND OF THE STUDY

This research tackles the issues surrounding the field of agriculture, stating the different factors on why there is a decline rate in the labor force in agriculture of the youth in Visayas wherein the population of aged farmers is becoming a problem as young adults prefer to work in the industrial and service sector. It is stated in the statistics that the distribution of employment in the Philippines is declining in 2010-2020 from 32.84% to 22.52% in the agriculture sector, 15.54% to 19.85% in the industrial sector, while the service sector has the highest rate from 51.63% to 57.64%. It is clearly seen from this data that there is a huge difference in the workforce in the agriculture sector with regards to the other two sectors. As time goes by younger generations are becoming more competent and tend to shift to other jobs that will fit their skills due to higher opportunities and better paying jobs for their future and family. And as they move out of the agricultural sector it brings a burden to elder populations of the sector and most probably the result is that the sector will rely more on them which will affect its labor productivity due to continuous decrease in its labor force.

1.2. PURPOSE OF THE STUDY

Given the rising number of issues in the agricultural sector, the decreasing labor participation of the youth has been one of the most important problems that the agricultural organizations need to address. The constant technological advancement in the farming sector such as the use of innovative machinery and processes, improved irrigation system, disaster-resistant crop species, and even better farm-to-market roads have not been enough to sustain agricultural development. With the 57 years average age of farmers in the Philippines and a small rate of living improvement it will be a huge hindrance for the country to encourage the youth to be engaged in the agriculture activities. This suggests that after some years or so, few farmers will be left in the agricultural productivity if younger generations will not consider the significance and values of agriculture.

The purpose of this research is to examine the tertiary students' intention to participate in the agriculture sector in Visayas, Region 8 Philippines. One of the main problems arising from this study is the shifting of jobs from agricultural to another sector which is the industrial and service sector. The Philippines is struggling to address the issues of agricultural productivity due to lack of studies, research and attention on it, that is why this study would help to provide concrete solutions together with the objectives. The first objective of this study is to identify and evaluate the factors that affect the decision of the tertiary students' to participate or pursue a career in the agriculture sector in Visayas, Region 8 which will assess some of their personal aspects (age, migration, income, students' education, and parent's education) to consider a future career in the agricultural sector. The second objective of this study; to provide effective recommendations and solutions that would help engage the labor force to pursue a career related to the development of the agriculture sector which will be highlighted in the duration of the study to encourage the youth also to increase its awareness of the benefits considering the job opportunities under the agricultural sector.

II. LITERATURE REVIEW

This chapter covers significant studies and academic journals that build foundation to the aims and objectives of the study. The chapter comprises various economic concepts and theories that provide the relationship between the different variables included in this study. This section explains each variable's significance to the study's aim to examine the tertiary students' intention to participate in the agriculture sector in Visayas, Region 8 Philippines. Although the related literature is heavily dependent on other countries, there were also some

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studies conducted in the Philippines and its neighboring Association of Southeast Asian Nations (ASEAN) countries.

Young people's involvement in agricultural development has decreased in many newly industrialized Asian countries. Over the last two decades, at least, there has been a decline. Like Indonesia, part of Southeast Asia, the percentage of the agricultural labor force in 35 percent decreased from 20% in 2003 to 12.9 percent in 2013 (Susilowati, 2014). In China, a similar pattern has been noticed. (Ji et al., 2017; Zhang et al., 2018) and in the Philippines (Ji et al., 2017; Zhang et al., 2018) (Moya et al., 2015). This trend, together with the general population's ageing (Chomik and Piggott, 2015), contributes to the farming population's ageing. In Thailand, a similar pattern is gaining traction. In recent decades, it has accelerated significantly (Rigg et al., 2012; Suphannachart, 2017). The agriculture sector's poor performance not only hinder livelihoods, but it also has an impact on the production capacity of natural resource bases, accelerates environmental degradation, and fails to address poverty and malnutrition (Ashley and Maxwell 2011).

2.1. YOUTH AS PART OF THE AGRICULTURAL WORKFORCE

The study generally focuses on the participation of the youth; ages 18 - 22 years old or in the tertiary level of education, in the agriculture sector, as opposed to the definition of the United Nations that is youth belonging between the age range 15 and 24. According to the Asian Development Bank (ADB), the workforce of the Philippines consists of the youth, forty five percent (45%) of the population are below the age of 25 about one fifth of the workforce which has a moderately high labor force growth rate of about 2.5% per annum. In a study conducted by Quijano-Pagutayao (2020), the youth have solid ground to generate and provide discrete solutions facing the global issues in the agriculture sector. Although, the youth have been less drawn to be employed in the agriculture sector. With this, the ADB has recorded a constant shift of the Philippine Economy from agriculture to the traditional industry that make up the services and industrial sector. Moreover, there has been awful perception among the youth of related college degrees in agriculture which also resulted in a decrease in labor participation in the said sector.

As for the youth's perception on agricultural-related degrees, most of which offer theoretical-based courses which wouldn't prepare or equip students' readiness in their chosen agricultural careers (Hendrix et al., 2018). The drawbacks would result in students having only minimum skill requirements to jobs that are in demand of highly trained individuals, like in precision farming (Erickson et al., 2018). The study conducted by Erickson discovered that universities and community colleges that offer agriculture-related degrees in the United States of America (USA), struggle to keep up with the specifics of their curriculum due to the fact that there is a low supply of competent instructors/ professionals in this type of field. The study suggests to have programs/ applied courses that will immerse students to undergo real-life training at companies that make use of advanced technologies and modern agricultural processes.

Young farmers are hesitant to work on these farms because they see little opportunity to increase their income (Rigg et al., 2018). Second, the number of young farmers has rapidly declined in recent years, and the situation is thus not progressing toward stable livelihood systems that combine farming and non-farming income-generating activities. To meet this challenge, the Thai government has developed an agriculture strategy for the period 2017–2036 (Office of Agricultural Economics, 2017), emphasizing the importance of agriculture as a key social and economic component of society. This strategy includes the goal of assisting young farmers in establishing themselves. Another advantage would be assisting young farmers in establishing their own farms. Young people make up a sizable proportion of the labor force in Thailand, the Philippines, and Indonesia's industrial sectors (Nag et al., 2018), Supporting young people in starting their own farms is one option among many for providing more stable livelihoods for future generations. However, policies to assist young people in becoming farmers are still being developed in Thailand (Faysse et al., 2019).

Being financially incapable due to low income in farming encourages parents to push their children to persevere in life as there are a lot of uncertainties in working in the agricultural sector. Youths of today's generation prefer non-farming jobs as this gives higher income (Leavy and Hossain 2014). The next generation of farmers are vital in emerging economies, as they are the most prosperous element of the nation. Engagement and empowerment of the youth with agriculture is over 60% of Bhutan's workforce in the 15-24 age group (RGoB, 2014b; Katwal, 2013) (RGoB, 2012a; Dorji, 2015). The unemployed in the youth population increased per year in 2012, 2013, and 2014 (RGoB, 2014a). Many young people in rural areas do not find jobs, which disproves the human capital principle as intellectual resources do not help them. Today's job market has made

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clear that whilst obtaining a relevant degree does not guarantee a professional or semi-skilled position, access to these jobs requires personal or familial networks (Bessant et al., 2017, Ch. 5).

Another frequently cited reason is young people's disdain for farming (Morarji, 2014; Rigg et al., 2018) due to the declined participation of young people in agricultural production in Asia's newly industrialized countries of the 'pull' and 'push' factors. According to Peou, the availability of non-farm income-generating activities, such as temporary or permanent migration to work in factories, is a key pull factor. Push factors include the difficulty of obtaining land, the desire to be independent of their parents, the general low profitability of farming which is stated by Rigg (2016), and the willingness of farming parents to see their children work in non-farming jobs. Young people can work in agricultural production as farm workers or employees, or as farmers, that is, as owners of farm capital and involved in farm decisions, either independently or as part of a group, usually their family. In the current situation, the declining participation of young people in farming in newly industrialized Asian countries is a concern. Several studies have identified the consequences of farmer aging: aged farmers tend to use only extensive practices (Ji et al., 2017), and changes in farming practices due to aging can reduce agricultural productivity (Saiyut et al., 2017; Seok et al., 2018). The aging of China's farming population is already contributing to land abandonment (Li et al., 2018). The reasons for these changes are not necessarily related to the capacities of aging farmers in and of themselves, but rather to the fact that older farmers are less productive.

In other countries, like Nigeria, having a sustainable participation in agriculture is problematic because this sector remains to be classified as a low-return and high-risk sector (Kafle et al., 2019). The youth have also expressed their desire to be employed in white collar occupations rather than be involved in laborious/ manual labor that only pays at a minimum wage rate. In the study conducted by Carlisle in 2019; brought about by the advancements in technology, it is assumed that agriculture workers leave their line of work because fewer workers are only required to operate modern technologies but in reality a suite of economic and policy barriers have conspired to make agriculture a decidedly unwelcoming profession—just at the moment we most need an influx of farmers. Most of the skilled agricultural workers have difficulty in transitioning to sustainable modern agriculture processes due to the limitations of most farmers in their age. It is challenging to teach modern techniques to aging farmers in using advanced technologies in the different agricultural processes. As an initiative in the US, there are nonprofit organizations such as the National Young Farmers Coalition, that aim to help the aging population of farmers have substitutes when retirement approaches.

According to the study of Supaporm Poungchompu (2012), the continuous decrease in the number of farmers in the ages below 65 in Thailand and Japan is the main cause of the rising portion of older farmers in both countries. As labor productivity is one of the greatest priorities in implementing food stability, the aging producers in the agricultural sector in several developing countries could be the reason for lowering the productivity of labor (Phillippe, 2011). There are several factors affecting these phenomena. As defined by Susilowati (2014), one of these factors is the increasing number of youths who attain higher levels of education that enables them to seek non-agricultural jobs with high-paying salaries in the cities. The perception of the youth towards profitability and status as a career is also one of factors that influences their participation in agriculture. The insufficiency of showcasing the career path of successful young farmers and agricultural entrepreneurs can limit how the youths can be encouraged in engaging in agriculture (Njeru, 2017).

Additionally, the New Growth Path (2010) provided key barriers such as joblessness, poverty, and inequality that affects the youth involvement in the economy. As a result, the South African government is encouraging policymakers to pay more attention to the relationship between young people and agriculture in light of persistent rural poverty, unacceptably high levels of unemployment, and an aging farming population. As stated by O'Meara (2019), integrative strategies by the government, agricultural sector, and the community can be a way to sustain the workforce and save the ageing farmers from the vulnerability of physical health, social isolation, and even poor access to support services. As per Murphy (2012), there have been no incentive policies up until now. They should have taken in the experience of the developed and developing countries in order to fully implement policies and programs for both young and aged people.

Programs such as Youth in Agriculture Programme (YIAP) of the Ondo State in Nigeria aims to create employment for the youth through participation in modern agricultural practices by raising production efficiency and productivity and for them to take up farming as a lifetime vocation. It has been a powerful strategy for mobilizing additional human resources (Favou et al., 2016). However, it is not possible to develop a general purpose solution to encourage the youth to be engaged in agriculture. It should be a comprehensive and

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development policy that addresses all the factors and relationships that influence the youths' access to employment. A more productive approach that seeks to expand the opportunities for them to gain a sense of security and fulfillment in the rural and urban areas should actually be entailed so that they can get to experience life and make a living (Elias, 2018).

2.2. AGE OF THE LABOR FORCE IN THE AGRICULTURE SECTOR

As mentioned, the workforce of the Philippines comprises forty five percent (45%) of the youth or those people who are under the age of twenty five (25). In the Philippines' agriculture sector, the vast majority of farmers are relatively old and they would keep on working to make ends meet. In the country, the average age of farmers is more than 57 years (Elauria, 2015). This indicates that most of the farmers would reach retirement and are vulnerable and weak which would make the sector unproductive. According to Guo (2015), people are anxious about the effects on the output of the aging workforce in the agricultural sector and also if these aging producers will continue to engage in agricultural production.

The director of the Agricultural Training Institute (Saliot), argues that the Philippines will run out of farmers in the next 15 years since its average age is 57 (IRIN 2013). This problem is not unique to the Philippines. It is worldwide. This is particularly seen in Asia (Rigg et al. 2019). Most farmers in Thailand are 52 (Saiyut et al. 2017). One out of three farmers in China are over 50 years of age, 75% are self-dependent (Yang 2013). Skirbekk discovered that older employees outperform younger workers in occupations that require experience and verbal skills, such as word power, analogies, phrase correction, and verbal reasoning. Stones and Kozma, on the other hand, look at how physical skills diminish with age, at least after the age of 30 to 35. According to Salthouse, the effectiveness of age on these abilities varies based on the type of occupation. This suggests that elderly adults have lower cognitive ability decades ago, but this era's elders have better knowledge and abilities. In summary, the literature disagrees about how age and productivity are related.

At some point in the future, most of the individuals involved working in the agriculture sector matures or reaches the senior age, wherein the retirement age would strike and they become unproductive members of society. With this, comes new developments in technology that must adapt to modern techniques in the agriculture practices to have a more efficient and effective process in the production and distribution of agricultural products. It was discovered in Ghana, a country in West Africa, that as farmers age their willingness to learn the changes in modern technologies reduces (Ohene, 2013). As opposed to the youth, who can easily adapt to these changes in modern technology, as a result will increase efficiency and productivity that yield an increase in their income levels. Income, as one of the motivations that is innate to humans to work harder and become better in their chosen field of work, in this case is the agriculture sector.

The surge in the youth unemployment rate has raised major global concern throughout the world (ILO, 2020). In Ethiopia, most of the youth live in rural areas where agriculture has been its main source of income or livelihood for the people. In a 2014 study conducted by Bezu, out of the five hundred ninety nine (599) youths sample size, only nine percent (9%) of the youth answered that they want work related to agriculture whereas the others chose to seek non-agricultural employment. Employment opportunities have been amplified by the expansion and development of the services sector and construction industries in the near urban areas of Ethiopia.

According to the Philippine Statistics Authority (PSA), there was a notable decrease in employed persons in the agriculture sector in the Visayas; mainly in the Western and Central Visayas regions. For the Western Visayas, in 2014 it had a total of 1,206 (in '000) persons employed in agriculture that fell to 970 (in '000 persons) in 2018. On the other hand, Central Visayas recorded 904 (in '000 persons) in 2014 which plunged in 2018 to 655 (in '000 persons). Among these Visayas regions, only the Eastern Visayas was seen to have 501 (in '000 persons) in 2014 and increased in 2018 to about 626 (in '000 persons). In total, the Visayas regions employed persons in agriculture had shrunk from the years 2014 to 2018.

According to White (2012), agriculture in its current situation has become unattractive to young people veering away from agricultural or rural futures. As the study suggests, the rural youth are abandoning agricultural employment because in most countries, as observed in formal education, it imparts on young people not to have a mindset to be a farmer, like in Africa. This insinuates a reduced importance in the concept of the agriculture sector. The image being portrayed here in the agriculture sector is a result of underdeveloped

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agriculture essentials, which neglects this sector to flourish and keep up with modern practices to improve efficiency and effective agriculture practices.

In a study by Supaporm Poungchompu (2012), the number of farmers aged 35 and below have been decreased to 8.56% from 2013 to 2018 while the number of farmers above 55 years old have been increased to 10.12% from 2012 to 2018 as well in Thailand. As of Mukembo (2019), with the huge portion of the youth in the population of most of the developing countries, few of them are interested in pursuing agriculture-related careers knowing that their workforce is critical to ensure the food security of the present and future generations. In 2013, the Agricultural Census showed that the number of younger employees (those under 34 years old) had dropped to 12.9 percent. This has been the driving force of the agricultural sector to achieve agricultural prosperity in the future decades by the policies and programs that cater better opportunities for the youths.

Agricultural productivity outpacing demand is due to an ageing workforce. The rice culture used to be Japan's primary food source of nourishment, but as a more prosperous and varied Japan experienced it during the Second World War. As a result, most farming is done by elderly couples with only one member working because of the lack of participation of the younger labor force. Urban children grow up in cities, but do not value rural traditions because of the burden of modern city life. According to 2011 demographic statistics, 23 percent of Japan's population is over the age of 65. In the long run, Japan's working-age demographic is limited, the labor pool is scarce, and competition for young and middle-aged labor intensifies between agricultural and non-agricultural sectors.

There are many examples in today's world of the rising issue of the (relatively) skilled unemployed/underemployed. In India, young men from rural farm backgrounds partake in "timepass," enrolling in one degree course after another as they struggle to find work (Jeffrey, 2010). In one Javanese village, the average “young farmer” is in his (or her) 30s or early 40s and has a history of prior non-farm jobs (usually including a time of migration) before turning to farming. The subsistence trend of young farmers, like of their ancestors with a smallholding supplemented by other outlets (livestock, wage labor, petty trade, utilities, and so on) (White and Wijaya, 2017).

2.3. THE EDUCATED YOUTH AND INFLUENCES OF THEIR PARENTS

Human capital considers the educational attainment and other beneficial human skills that can be attributed to personal growth and development. Education is seen to be the foundation of people to gain knowledge and be trained for real-life situations. In addition, it inspires students to determine their perceived goals after graduation and also their transition from university to the labor market (Bednarikova, 2020). Education is believed to be one of the factors that guides students to their potential work careers upon graduation. Thus, in the Philippines there have been developments in educational policies, free tuition in state universities as such. Likewise, these education policies can create a path towards attracting the youth to pursue degrees in agriculture (Quijano-Pagutayao, 2020). In line with these government initiatives, there are also training centers that offer technical vocational courses that can meet the skill acquisition needed by the youth in future employment opportunities (Tiraieyari, 2018). A study in Malaysia uncovers that university students are likely disposed to volunteer in extracurricular activities that would help local communities.

The Philippines is a country where agricultural extension has always been so challenging given the several factors particularly the inadequate number of technologists in the country. According to Manalo (2014), an alternative extension system will be a good idea, since a lot of farmers from remote areas of the country have been difficult to reach. The Read, Surf, and Text for your Parents Campaign have been created to mobilize a resource available in the community. These particular resources include the youths wherein they will become infomediaries that search farming information for their parents through online surfing. Also, schools will serve as a venue that will facilitate this agricultural extension campaign in a cost-effective manner. With this campaign, young people will be able to realize the importance of agriculture and can somehow help to lessen the tendency of youths to leave rural areas in the future.

With the new initiatives of the government to have sustainable food security in the growing influx of urban settlers from rural areas have introduced urban agriculture. There are about fifty four percent (54%) of the world’s population that occupies the urban area (Tiraieyari, 2018). As mentioned by Macaranas (2016), the Human Capital Theory suggests that education increases a person’s productivity and his potential earnings. He also notes that, Philippines is an agriculture-rich country with a robust labor force but the agriculture sector has

not attained its full confidence to cater a decent standard of living to the marginalized. The youth are not fixated on being employed in the agriculture sector because it poses a low income and high risk sector. It wouldn't attract much of the youth because of its expected low returns, that would make them vie for employment opportunities in the industrial and services sector instead of the agriculture sector.

The education programs in accord with the field of agriculture have registered low participation among the youth in Africa. A study presented by Haruna in 2019, pointed out that lecturers in the field of agriculture with the collaboration of the school management should highlight the implication of school farms to the youth/ students to gain practical skills, also the government should boost its funding and offer scholarships for students to preserve the interest and increase youth choice and involvement in agricultural education programs towards their chose agriculture career. The youths have a vital role in society, it is essential for them to learn the dynamics of food, population, environment and socio- economic development to have a sustainable future.

In Africa, they are known to have a large youth population wherein 36% of it were employed. Only if human capital investment measures were taken, it would be an asset for the continent's development as it will provide the young people employment and income. And that in turn will increase the productivity of the agricultural sector in particular. It will also ensure that farming can be sustained from one generation to the next due to the advantages of having an income in this sector (Maina et al., 2015).

The student organizations in relation to agriculture participation can be helpful for the youth to see various opportunities in agriculture. According to Mukembo (2015), 74.5% of the students indicated that their parents are very supportive of their participation in the Young Farmers Club to pursue career preparation in agriculture. By that, it could be the means to emphasize the importance of engaging the youth in agricultural setup to contribute to the sustainability of human capital for the future's agricultural sector. As stated by Susilowati (2014), Education has a huge impact on the youth opportunity to work in agriculture. The higher the educational attainment of the person, the higher the opportunity to be involved in agriculture. Additionally, agriculture-related education in the United States provides awareness of the variety of career opportunities available in the agricultural sector. According to Mukembo et al. (2014) agricultural education in the United States offers vocational training for those students who want to become agricultural producers or for those who are to pursue a career in any of the agricultural fields.

Farmers' participation in planning and decision-making, a lack of incentives for those who participate, and a lack of capable organization were all factors that contributed to farmers' participation (AREF 2011). One study of AFS employment of youth is important because the rural nonfarm employment literature has pointed to the ease of access, low entry requirements, and barriers to entry of AFS jobs in rural areas, which are of potential interest for addressing the pressing need of youth employment. Youths are heavily involved in nonfarm jobs as wage workers in cities and most rural zones, with the exception of the hinterland (where in fact a small share of youths live). They discovered that secondary education helps both men and women get paid jobs. Preparing youths for wage work, rather than just farming or self-employment, is a critical need, with education playing an important role.

According to O'Connor, any society's educational system is an elaborate social mechanism designed to instill in the people who are subjected to certain skills and attitudes that are deemed useful and desirable in the society. As a result of the importance of education, some people believe that if one stops learning, he or she ceases to exist, even if they are still alive. People employed in agriculture are older than their average of 50-year-age, and have poor levels of education (NIS, 2020). The population's actual agricultural awareness situation is global and is becoming more complex (Foresight, 2011; United Nations System, 2010). Increased knowledge of agricultural systems is needed to promote policies for establishing and keeping current ones in place (Kovar and Ball, 2013). The younger generation is disengaged from farming due to the current schooling practices. The modern education system has inspired younger generations to leave the country, where many go into urban work, while young people receiving a degree typically stay in cities, rather than stay in rural areas (Kimaro et al., 2015).

The unemployment rate increases significantly among the illiterate and decreases among those who have completed at least four years of school (Mehrotra et al 2012). In developed countries, progress in industries such as agriculture has a greater effect on reducing poverty than those that are more labor-intensive industries. Potential for learning of emerging technology relies on emerging innovations. By implementing an extension

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and other facilities, a farmer will benefit from profitable technology adoption. The transition of labor has improved farming technology and is favorable to farmers who are more open to new ideas. Higher quality of life would also support increased spending in education, which also has a positive impact on the overall agricultural economy (Long et al., 2016).

An emphasis should be paid to rural education to enthuse folks to return to their hometowns (Fuglie, 2018). The physical condition of the elderly labor force is deteriorating as they mature, they lack the ability to complete the agricultural mission of hard physical labor effectively. Older jobs are less likely to respond to developing industries because they are slower to adapt new knowledge, research, and technology than their younger peers. Enterprises' new product growth and technical advancement are also affected. The aging of the labor force is further detrimental to improving labor efficiency and economic growth in the light of rapid advancement of research and technology, increased advancement of education, and increasingly fierce competition. Education is crucial in transforming people's minds. The formal education system must highlight the importance of agricultural entrepreneurship. One issue with the basic education system is that it has been focused on training students for college for decades.

Young adults seeking higher education choose to engage in programs that would lead to high paying jobs (PSA, 2015). Today's generation of young people has more "human capital" than the past generation. However, the oversupply of secondary and tertiary graduates on other hand, and the rapid advancement of job-displacing technologies in virtually all industries. This suggests that the current generation, more than any previous one, clearly does not fit the human resource principle (Durham and Solway eds., 2017).

The youth acknowledge the role of parents in their motivation to be involved in the agriculture sector (Musa, 2019). In Africa, parents that have experience in working in farms are less likely to advise their children to work in the agriculture sector because of the risks it entails and the low returns it yields (Amegnaglo et al., 2014). Parents still have doubts on the perception of agriculture as a vocational subject. Conversely, in the US, parents are encouraging their children to learn agriculture in school and afterwards be involved in the agriculture sector. Along with this, young individuals who have previous experiences in farming (whether their parents or family members) have a higher possibility to be involved in the agriculture sector (Musa, 2019). As a result of the study of Musa, she concluded that parents have an important role to the young people's aspiration towards the agriculture sector. In a study by Anyidoho in 2012, he discovered that there is a negative correlation between the level of education and the intention to take up farming as an occupation. He adds that people that aspire to be farmers have little to no formal education, as compared to students who continue towards tertiary level would aim to have white-collar jobs and professional occupations. Furthermore, higher levels of education foresaw the likelihood of opportunity in a career outside farming and the rural areas (Lindsjö et al., 2020).

As for the study of Francis and company in 2015, in the factor of youth doubt, most young people have no interest in agriculture, which is not within their own visions for their future. This is frequently expressed by their parents. People invariably associate agriculture with backbreaking work, low input, 365 days a year for little or no return. Another study based on the conclusion and results of Dayat and others in 2019 demanded that young farmers have a high participation in family businesses. They also claimed that family support plays a significant role in determining the future of rural youth. Parents play an important role in transforming their children into farmers. Respect, socialization, and inheritance are all part of a parent's role. The respect wherein it is the critical factor in growing the new generation of family farmers. Parents instill in their children the care, sympathy, and attitude of respect for their parents' work as farmers. Farmers' children are frequently seen assisting their parents in their work and are involved in agriculture. They recognized that in agriculture socialization support has been a learning process and sharing the knowledge and skills of parents to their children.

According to the study of Tolamo in 2012, the majority of the respondents did not classify their parents' occupation since the students came from the same village of Ga-mothiba in South Africa. One of the reasons behind it is that students perceived their parents' occupation as not as decent as the other sectors. Also, an average of 81.25 % of the respondents indicated that their parents do not own farming land. With that, youths could not make themselves be involved in agriculture or at least make a living out of it. Additionally, youths are becoming unaware of the opportunities that the agricultural sector may bring; and that is something that could still be turned around by having universities and private sectors to provide support in the outspread of agricultural information. In relation to this, the study of Byun in 2012 suggests that higher levels of parental

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education can be associated with higher educational aspirations of the youth. The conclusion drawn from the study is that the higher the parents' educational attainment, the higher possibility that the youth will aspire to achieve a greater level of education. The rural youth is motivated to seek better employment opportunities outside their home communities.

2.4. OPPORTUNITIES OF MIGRATION

Migration is one of the factors considered by most rural youths in the Philippines, rural to urban migration (Manalo et al., 2013). For the past decades, the Philippines have observed a growing number of youth migration from rural to urban areas. Manalo adds that there are tendencies of outmigration in the Philippines due to the inauspicious labor condition for the agriculture sector. In relation to this study, the researchers have discovered through the focus group discussions and interviews conducted that the children of farmers think of themselves so low, the interviewees also mentioned that they would not opt to be farmers in the future, and they would rather focus on finishing their studies. The study concluded that most farmers urge their children to prioritize education rather than on farming to have better chances in their employment opportunities in urban areas. Moreover, the youth would also value better paying jobs domestically or if given the chance abroad but these were mainly in the scope of rural areas in the Aurora and Albay Provinces.

Urbanization is an issue faced by many developed countries, particularly in the Philippines. Urban migration puts a burden on infrastructure, including higher crime and deteriorating living standards (Tacoli, 2011). Young rural people are now well-integrated in all levels of society. More than 90% of the world's labor migrants are motivated by the absence of employment opportunities while the rest are attracted by the promise of economic opportunities throughout prosperous cities.

In a study conducted by Bravo in 2017, the role of urbanization has led to the declining share of agriculture in the national economy and a minute reduction in employment in the agriculture sector in the Philippines. The study discovered that urbanization has caused the economy to shift from the primary (agriculture) to tertiary (services) sector. The evidence of this occurrence is the declining share in the agriculture sector in the country's Gross Domestic Product (GDP) and Gross National Product (GNP). With this labor productivity in the agriculture sector has also declined to some extent. Urbanization has managed to decrease the total farm areas and parcels due to the evolving demand in urban lands. Lastly, this yielded to limitations of agricultural activity which triggered the fears in domestic food production.

Government plays a vital role in providing the people various access, incentives, and programs to strengthen the youths' work and enthusiasm towards agriculture. According to Susilowati (2014), despite the current rural to urban migration trends, the number of young people who are good at farming and have been into the city life are continually increasing to going back to rural areas and shifting their priorities into agriculture. Policies such as loans and tax benefits have facilitated the youth to go back to their hometowns, and that has been very helpful for them to establish agriculture-based businesses. As stated by Jieying Bi (2014), Training programs in relation to the enhancement of the youths' farming skills and farm management have also been provided by the policies.

The study of Bagson et al., (2013) revealed that 61% of the youths turned into migrating because of the cultural and economic factors and are said to be willing to participate in agriculture in Ghana. Unlike elders who are not capable of doing agricultural work and also due to the responsibilities to their families. In the sectors of agriculture and services, more than 90% of the youth are involved in employment. But according to the study of Lwanga et al. (2013) the rate at which the youth from the rural areas consider leaving the agricultural sector than of the youth from the urban areas who are involved in the service industry.

In South Africa, approximately 60% of the respondents of the study of Cheteni (2017), are not participating in any of the agricultural programmes. This only implies that the majority of the respondents were literate and are capable of influencing their perception of information received for agricultural activities as well as their decision to migrate to urban areas. Since educated people tend to accept some sort of awareness, therefore, youths are more eager to discover new ideas and knowledge in the urban areas.

Activities that generate revenue, such as those dependent on Temporary or permanent factory work migration (Li et al. 2013, Peou, 2016). Many people in northeastern Thailand begin farming in their late 40s or 50s, after working in industry for a while (Rigg et al., 2014). And young people who stay in rural areas in Thailand are steadily receiving non-farming income for themselves (Rigg et al., 2019). Push factors include, for example, the

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difficulty in obtaining property, the desire to be self-sufficient from their parents, the desire of farming parents to see their children in non-farming jobs (Rigg et al., 2016) or the general small viability of farming (Rigg et al., 2016). (Manalo and van de Fliert, 2013). Labor preferences for non- all adults and youth are reasons for labor out-force migrants from rural to urban areas (Moya et al. 2015; Briones 2017).

Around six hundred thousand youth migrated from rural to urban areas only in 2011 (RGOB, 2012b) Rural-to-urban migration, resulted in reduced agricultural production (UNICEF, 2016) and has been correlated with rising unemployment and hunger. Across the country, Landlords are struggling to find agricultural workers (Gil Gulati), worries have been raised as farmers are having decreased interest in agriculture as the youth workforce reduction is cause for concern for the sector's feminization. The broad discrepancy in urban and rural growth exists between eastern and western regions. The rural economy is unable to keep pace because of a lack of mobility, equitable and appropriate policies, as well as oppressive agricultural policies (Long, 2014; Liu and Li, 2017; Tu and Long, 2017; Tu et al., 2018).

Rural aging represents not only previous shifts in fertility and longevity, but also the effects of migration. Recently, With the growth of labor markets and the loosening of geographical migration limits, young people from many parts of rural China have moved to urban areas to search for jobs, leaving behind a disproportionately elderly rural population and labor force (Cai et al., 2012; Li and Zhao, 2010). In South Korea, which has experienced a rapid aging phenomenon, which is particularly extreme in the agricultural sector. The average age of a Korean farm manager rose from 59.9 to 68.3 between 2003 and 2015, according to the Farm Household Economic Survey (FHES). Rapid industrialization may justify the rapid ageing of Korean farmers. Since Korea has a competitive edge in agriculture, rural-to-urban migration has been particularly extreme.

2.5. THE IMPORTANCE OF INCOME TO THE YOUTH

The Philippines Department of Agriculture has finally acknowledged the value of agripreneurship, as embodied in the Philippine Agriculture (PA) 2020 programme. Strategic roadmap for rural development seeks to provide "far-based, market-driven entrepreneurship" for impoverished small farmers (Santiago, 2014). Technical transitions such as technological advances and cost-cutting investments are largely net labor-saving investments. Mechanization of agriculture and other manual labor, as well as automation of clerical, communications, sales, and service-sector tasks, is expected to accelerate in the coming years; about half of all currently existing practices can be automated using currently available technology (ILO, 2017b). In principle, labor-saving innovations can shorten working hours while retaining jobs by work-spreading (as predicted by Keynes, 1930). The agri-food is the biggest employer of the workforce and has the greatest potential to foster sustainable economic development and youth employability (Chicago Council, 2018, 44). The Philippine government's efforts to encourage agribusiness are timely. Amid all the initiative, output from 13 million hectares of farmland increased only slightly, to only 87 million tons in 2012 The amount of agricultural production decreased from $802 million to $799 million (Philippine Statistics Authority [PSA], 2013).

Cuadrado, in his study in 2011 took a new approach to resources, having the main drivers as labor push and labor pull. He devoted “labor push” as the improvements of agricultural technology in relation to Engel’s law release of resources from agriculture and “labor pull” as the improvements of industrial technology that can attract labor out of agriculture. The study was based in the United States which concluded four main results. First, both labor push and labor pull channels are important in the country’s recovery from World War I and World War II. Second, in the twentieth century, most countries had growth in their GDP per capita together with the enhanced structural changes including countries that have relatively low agricultural employment. Thirdly, the variations in relative prices imply improvements in productivity in the non-agricultural sector which drove the specific structural change. Lastly, the non-agricultural gave more importance to countries that have experienced less structural changes. The main driver for recovery that the US relied on the most was the labor push because agriculture productivity assisted in the country’s structural transformation.

In another study, US farming is widespread as a family business, but over time the number of family-owned farms have been constantly declining due to sudden social and economic changes (Utsugi, 2012). With these rapid changes in the US, young people cannot acquire inheriting their family farm or of being exposed to farming practice through their families. Additionally, the youth also considers the average salary of farmers, like in the US it is relatively very low even though this requires very hard work and long hours.

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With the basic wage being a barrier for the youth to choose a path in agriculture, they also weigh the option of starting their own, like in organic agriculture, however the capital needed in this field is very expensive, this was the reply of one of Utsugi's interviewee. There are financial hurdles for those individuals wanting to start a business in agriculture.

In the result of the survey that was conducted by Utsugi, the main challenge for the youth in Brattleboro to start in organic agriculture was their financial concern, in terms of compensation level (wage) and for other capital (to start their own businesses). Capital includes investments, equipment, lands, and other resources (seeds). In line with this, the factor of land availability comes into play. Since available land is scarce, the youth are hesitant that they might not be able to find appropriate land to start up in organic agriculture.

Agriculture is not considered to be the type of sector and industry for the young people to deliver the status and the life that they desire and expect in the 21st century. Also, agriculture is regarded as a marginalized and disadvantaged sector that goes beyond living standards to people's sense of pride (Afande et al., 2015). With that, higher amounts of income derived from either agricultural works or enterprises significantly affect the agricultural involvement of the youth as Ahaibwe et al., (2013) studied. This implies a much more rewarding agriculture venture in terms of profitability will highly encourage the youth to get involved in the sector.

Boateng said that colleges are responsible for increasing the number of graduates who are unemployed by 14.5 percent between 2012 and 2015. However due to financial factors that necessitate financial capital, those scholars have little desire to become agricultural entrepreneurs (2014). Other studies focused on young people whose parents were farmers' willingness to get involved and eventually take over the family farm. They identified internal factors (e.g., birth order, gender, and labor market conditions, Cavicchioli et al., 2018) as well as external factors that influence children's and their families' perceptions and beliefs (Morais et al., 2017, 2018). The youth also expressed other concerns about how long it takes farmers to realize quick profits from farming. This is due to the lack of 'direct' wage labor arrangements in smallholder farming. One of the girls' sentiments about agriculture said that she would rather find jobs that will provide a monthly salary for her rather than being in a farm that would take more than a month to wait for crops to mature and get ready to be harvested. In result they don't want to end up being a farmer in their place (Josephine, FGD Results in Muwi's study in July 2012).

New research revealed that GDP growth in the agriculture and construction sectors was to blame for rising rural incomes. Higher job options will further encourage the pay "pushing" of jobs into non-agricultural sectors. According to Foster and Rosenzweig (2010), an increase in a farmer's education and wealth has a positive impact on technology use in the community. In Zimbabwe, men and women are constantly migrating from rural to urban areas. This has been attributed to the allure of having high incomes in urban areas, as well as the lucrative life and high standard of living (IFAD, 2010). With advancements in the agriculture and food industry, small farmers might lose out to the big companies in the market.

For the youth, the reason they are reluctant to participate in the agriculture sector is due to the non-competitive wages along with high physical demands the sector offers the labor force (Mibey, 2015). Seen in the study of Magagula in 2019, in Africa, the emergence of the fourth industrialization in relation with the agriculture sector headed the youth to seek for better growth opportunities (professionally) in the non-agriculture related sectors (Magagula et.al, 2019). It is expected that there would be a lower participation of the youth which tends to harm the long-term future of the agriculture sector. Contrary to a study conducted in Indonesia, conducted through a survey, most of the young generations seem to have a fairly good perception of income in agriculture; almost 55.83% or 67 out of 120 respondents answered (Widiyanti, 2018). They've concluded that the term "fairly good" means that the income received in the agriculture sector would already be adequate to consume the basic necessities and secondary needs (education).

The impact of the income support policy on technological performance is uncertain, as Zhu and Lansink point out that the subsidy has a contentious income influence. If the income effect of the subsidy induces farmers to invest in facilities or developments, the income subsidy would have a positive impact on farm productivity. If the income effect decreases farmers' investment motivations, the income subsidy would have a detrimental impact on technological production.

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One of the modern resources made available to help in the agriculture processes is the Information and Communication Technology (ICT). Together with this evolution in modern technologies, there are emerging issues being uncovered with this ICT. Despite the issues surrounding the digital age and its effectiveness to different interventions, ICTs have been making significant contributions in the agriculture sector since at least the last decade or so (Panganiban, 2019). Emergence of the ICT, required global demand for youth to be able to understand and design different equipment to be more efficient and effective in the agricultural processes. Some of the developing countries needed the youth as an essential resource and instrument of growth in the agriculture sector, with these engagements integrating a business approach in agriculture (Düerkop, Bolliger, and Scheeve 2010). The study notes that the youth has a vital role that can contribute toward agricultural development through ICT (Manalo, 2019). The youth became the main provider of information through the ICT initiative of Short Message Service (SMS) which started infomediary campaigns in the Philippines. The study concludes that engagement of the youth will be beneficial to agricultural development.

2.6. SYNTHESIS

Different studies have shown the impact of the youth to the agricultural workforce. The youth can be the prospective potential workforce of the agriculture sector to be productive and be able to adapt to the changes in technologies. The youth population have been aiming to earn higher degrees (higher educational attainment) and seek to settle for high paying and earning jobs. With the insurgence of the aging farmer workforce, an average of 57 years old, the labor productivity in the agriculture sector would decline over time. Although some studies would suggest that age does not necessitate the labor productivity output of an individual, the elderly will have more experience, have better knowledge, and skills than the youth. Some studies have shown that the youth have been taught in school not to have the mentality of being a farmer as a future career (in Africa). As seen in the Philippines, the Visayas region in particular, there happens to be a decrease in its agriculture employment from 2014 towards 2018.

Training and education are part of a life-long process. They must understand that changes in education programs and holding seminars for improvements in the food industry are not sufficient. Education is required for a person to be well organized in the food industry, but not enough for the knowledge to be applied efficiently. Low levels of human capital in the agrarian sector, with most of the rural population having only primary education or less are the key reason for low productivity and weak competitiveness of the sector. Urgent institutional reforms are crucial for the agrarian sector to achieve sustainability in the long term, and not become the black hole of Philippine economy.

Parents play an important role in their children's future aspirations. Most of the studies confirm that in Africa, parents tend to have a negative connotation on the occupations in the agriculture sector. The parents of the youth disclosed that the agriculture sector offers laborious work, high risk but low returns, and only taken as a vocational subject. Contrary to these statements, in the US, parents would support their children to pursue their agricultural endeavors given the experiences that their parents underwent in managing their own farmlands. There is a great responsibility among the parents to determine the future of the youth. As parents attain higher levels of education, it equates to the youth's strong determination to pursue, as well, higher degrees of education. The more educated the youth, the more that they strive for job opportunities away from their communities into urban areas. As some of the literature suggests, there is a negative correlation between the level of education and the intention to take up farming as an occupation.

Migration is a major problem faced by agricultural sectors around the world due to improved living rational employment in urban areas, that urges people residing in rural areas to pursue their education in hope for better working opportunities. In developing countries, Urbanization is a major issue addressed as this puts a burden on infrastructures, contributes to higher crime rates and triggers food production problems. To prevent the continuous decline in labor towards the agricultural sector, the government establishes programs and training, such as loans and tax benefits for the retention of the youth in their hometown but studies revealed that the majority of literate people do not participate in agricultural activities, rather, they prefer high paying jobs in urban areas. Most farmers are aged 40-50 years old as they only go back to farming after retiring in the industrial sector.

Studies have shown that it was difficult for farmers to make loans and capital for their farms, as it is becoming hard for them generate profit to pay debts and climate change that heavily affects them to produce crops which it decreased the agricultural production of the Philippines from $802 millions to $799 millions

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according to PSA in 2013. A result of a study considered sudden social and economic changes in family-owned farmland brought about the decreasing participation of the young people's tendency to practice farming. This can be related to the fact that the youth tend to join the urban setting because companies would offer job opportunities along with higher wages compared to the agriculture sector.

2.7. RESEARCH SIMULACRUM

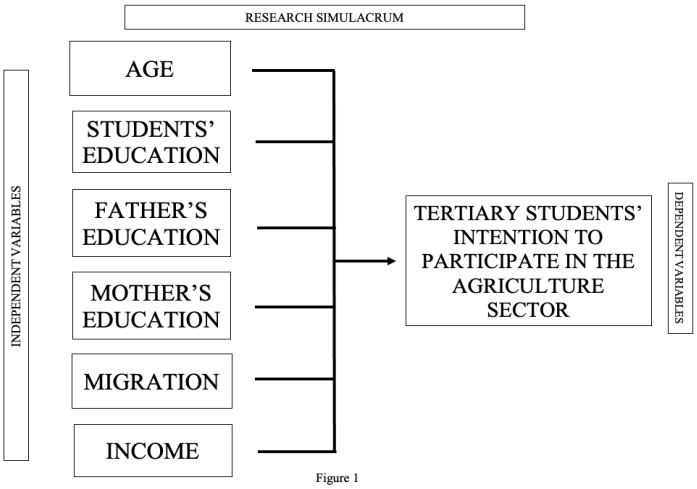

Figure 1

Figure 1 shows the display of the research simulacrum or the conceptual framework, the foundation of the study. The research simulacrum directs the flow of the study in terms of determining the relationship between the dependent variable (Tertiary Students' Intention to Participate in the Agriculture Sector through establishing their own agriculture business or continuing their family business) towards the six independent variables (age, students' education, parent's education, migration, and income) of the study. With this, the study suggests the following hypothesis in its null form; 1. There is no significant relationship between Tertiary Students' Intention to Participate in the Agriculture Sector and the age, 2. There is no significant relationship between Tertiary Students' Intention to Participate in the Agriculture Sector and the students' education, and 3. There is no significant relationship between Tertiary Students' Intention to Participate in the Agriculture Sector and the father's education, 4. There is no significant relationship between Tertiary Students' Intention to Participate in the Agriculture Sector and the mother's education, 5. There is no significant relationship between Tertiary Students' Intention to Participate in the Agriculture Sector and migration, and 6. There is no significant relationship between Tertiary Students' Intention to Participate in the Agriculture Sector and income.

III. METHOD

3.1. STUDY DESIGN

To examine the tertiary students' intention to participate in the agriculture sector in Visayas, Region 8, the research design of this study can be classified as a Quantitative Research design. The researchers used systematic investigation by gathering quantifiable as well as descriptive data, requiring the conduct of surveys to determine the insights from the target respondents with regards to the issue of the study. Along with other studies that have been conducted previously by Bednarikova, Bavorova, Ponkina in 2020 that have used the similar design which determines the Tertiary Students' Intention to Participate in the Agriculture Sector.

3.2. SUBJECTS

The researchers collected primary data and the target respondents of the survey are the youth who reside in the Visayas, Region 8 in the Philippines must be attending University or Tertiary students pursuing an agriculture-related degree, preferably Third and Fourth Year students. The method used by the researchers is the convenience sampling wherein the technique helps define the specific parameters that fit the study and choose conveniently which respondents would take part in answering the online survey questionnaire.

3.3. STUDY SITE

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The scope of the study focuses on the Philippines, in the Visayas region . The research will center on one of the regions of the Philippines, that is the Visayas region, mainly the Region VIII (Eastern Visayas).

3.4. INSTRUMENTATION/DATA MEASURES

The online survey questionnaire consists of a consent form answered by the chosen participants before proceeding in the next step of the succeeding portions of the survey form. This includes the collection of some personal information (profiling) of the respondents that can help contribute to the study. Questions from the survey were evaluated and derived from the various studies incorporated in the review of related literature of the study, includes questions related to status, family background, income, location and such, which measures the independent variables (Age, Students' Education, Father & Mother's Education, Migration, Income) to achieve the objectives of the study. The researchers compiled the data using Microsoft Excel, which were also used in succeeding test, tables, and models presented together with the Gretl software/program for further analysis of the data gathered for the study. For the survey questionnaire, the researchers are still seeking permission derived from the study conducted by Bednarikova, Bavorova, Ponkina in 2020 on "Entrepreneurial Intention of Agriculture Undergraduates in Russia".

3.5. DATA COLLECTION PROCEDURE

The study conducted a survey to determine the factors that influence the Tertiary Students' intention to participate in the agriculture sector in Visayas. The dissemination of the survey was executed through various digital online platforms (emails and social media posts). The survey questionnaire includes questions relating the independent variables; age, students' education, parent's education, migration, and income to the dependent variable; Tertiary Students' Intention to Participate in the Agriculture Sector. The questions included in the survey were derived from the study of Bednarikova, Bavorova, Ponkina in 2020.

3.6. ETHICAL CONSIDERATIONS

As the study suggests, the researchers seek to retrieve primary data from conducting online surveys. The survey questionnaire was made available in the digital platform to cater the target respondents of the study. Before answering the survey, the participants were given a copy to read the consent form before proceeding in answering the survey questionnaire. The consent form includes the purpose, aims and objectives of the study for the participant's knowledge. The form also comprises the terms and conditions before the voluntary participation in answering the survey. This ensures that the answers collated in the survey will be kept strictly confidential and participants will remain anonymous in the duration of the study. The participants have the option to ask for the results and findings of the study.

3.7. VARIABLES OF THE STUDY

The variables included for the study would be beneficial in determining its relationship with each other. The dependent variable of the study would be the Tertiary Students' Intention to Participate in the Agriculture Sector. The study would help identify the factors affecting the steady decrease of the dependent variable, tertiary students' intention to participate in the agriculture sector through establishing their own agriculture business or continuing their family business. Along with this, the independent variables of the study are the age, students' education, father & mother's education, migration, and income. These independent variables would pave a way to determine its relationship with the dependent variables. The age variable will establish the maturity level of the people involved (youth) whether to engage and/or participate in the agriculture sector through establishing their own agriculture business or continuing their family business. Education as a human capital, for both the student and their parents, this justifies if possessing high educational attainment would be an opportunity for the student to develop the agriculture sector or would be motivated to seek a different career path other than agriculture. Migration determines the youth's decision to remain and be employed/ involved in the agriculture sector or move to urban areas to find high paying jobs opportunities. Lastly, income, as a resource endowment, helps explain if having sufficient financial support would be enough for the youth to continue or pursue its endeavors in the agriculture sector. These independent variables aim to establish its relationship with the tertiary students' intention to participate in the agriculture sector (dependent variable).

3.8. DATA ANALYSIS/MODE OF ANALYSIS

The econometric model utilized in the data analysis of the study aims to determine the relationship between the dependent and independent variables. The study follows the linear regression model and the Ordinary Least Squares (OLS) method derived from different studies. Derived from the studies of Nxumalo & Oladele (2013), Ohene (2013), and Pelzom & Katel (2017), where $\hat{y}_i$ = Tertiary Students' Intention to Participate in the

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Agriculture Sector through establishing their own agriculture business or continuing their family business (TSIPA), the dependent variable of the study.

$$TSIPA = \beta 0 + \beta_1(AGE) + \beta_2(STUDENT'S\ EDUCATION) + \beta_3(FATHER'S\ EDUCATION) + \beta_5(MOTHER'S\ EDUCATION) + \beta_5(MIGRATION) + \beta_6(INCOME) + e$$

The succeeding x_n variables as the independent variables; x_1 = Age; x_2 = Student's Education (SEduc); x_3 = Father's Education (FEduc); x_4 = Mother's Education (MEduc); x_5 = Migration (MIG); and x_6 = Income (INC). The model observes the following hypothesis; the Tertiary Students' Intention to Participate in the Agriculture Sector positively has an impact on age; Tertiary Students' Intention to Participate in the Agriculture Sector positively has an impact on student's education; Tertiary Students' Intention to Participate in the Agriculture Sector positively has an impact on father's education; Tertiary Students' Intention to Participate in the Agriculture Sector positively has an impact on mother's education Tertiary Students' Intention to Participate in the Agriculture Sector positively has an impact on migration; and Tertiary Students' Intention to Participate in the Agriculture Sector positively has an impact on income.

IV. RESULT AND DISCUSSION

The main objective of the study is to identify and evaluate the factors that affect the decision of the tertiary students' to participate or pursue a career in the agriculture sector in Visayas, Region 8 which will assess some of their personal aspects (age, students' education, parent's education, migration, income) to consider a future career in the agricultural sector. Additionally the study aims to provide effective recommendations and solutions that would help engage the labor force to pursue a career related to the development of the agriculture sector which is highlighted in the study to encourage the youth also to increase its awareness of the benefits considering the job opportunities under the agricultural sector.

The study aims to collect and utilize primary data through gathering responses from the survey questionnaire adopted by the study. The survey instrument used for the study was derived from the study of Bednarikova, Bavorova, Ponkina in 2020 that used similar variables in this study. The researchers utilized the convenience sampling technique to help define the specific parameters that fit the study and to choose conveniently which respondents would take part in answering the online survey questionnaire. The target survey respondents are the youth who reside in the Visayas, Region 8 in the Philippines must be attending University or Tertiary students pursuing an agriculture-related degree. The online survey was distributed through the digital platform (email, social media) to the specified parameters of the study.

$$TSIPA = \beta 0 + \beta_1(AGE) + \beta_2(STUDENT'S\ EDUCATION) + \beta_3(FATHER'S\ EDUCATION) + \beta_5(MOTHER'S\ EDUCATION) + \beta_5(MIGRATION) + \beta_6(INCOME) + e$$

The econometric model utilized in the data analysis of the study aims to determine the relationship between the dependent and independent variables. The study follows the linear regression model and the Ordinary Least Squares (OLS) method derived from different studies. Derived from the studies of Nxumalo & Oladele (2013), Ohene (2013), and Pelzom & Katel (2017), where ŷi = Tertiary Students' Intention to Participate in the Agriculture Sector through establishing their own agriculture business or continuing their family business (TSIPA), the dependent variable of the study.

Table 1. Profile of Respondents n = 110	**Frequency**	**%**		**Frequency**	**%**
Gender			***Education**		
Male	41	37%	**First Year College**	64	58%
Female	69	63%	**Second Year College**	7	6%
	110	100%	**Third Year College**	22	20%
			Fourth Year College	17	15%
				110	100%
***Age**			**Course**		
18	13	12%	BS Agriculture	50	45%

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19	29	26%	Horticulture	18	16%
20	19	17%	BS Agribusiness	17	15%
21	23	21%	Agronomy	12	11%
22 and older	26	24%	Crop Science	5	5%
	110	100%	Agriculture Engineering/ Agriculture Technology	3	3%
			Forestry	2	2%
			No Answer	3	3%
					100%

Source: Survey Results of Authors
**Measurement of the independent variables (Age and Education) of the study*

Depicted in Table 1, there is a higher proportion of female respondents (63%) than male respondents (37%). For the age of the participants, the age group with the most respondents are the 19 years old at 26%, followed by the 22 and older age group pegged at 24% and the least from 18 years old (12%). While the current year level with the most respondents come from 1st Year College which is 58% and 20% from the Third Year College. As seen in Table 1, most of the courses/degrees the respondents are taking up are BS Agriculture, BS Agriculture Major in Horticulture, and BS Agribusiness – 45%, 16%, and 15%, respectively.

Table 2. Survey Questions Results (Introductory)

Is your family involved in the agriculture sector?	**Yes** (70) – 64%	**No** (40) – 36%	
If yes in the previous question, does your family own or borrow land?	**Own land** (39) – 56%	**Borrow land** (31) – 44%	
***Do you plan to be an employee, to establish your own agricultural business, or continue your family business after graduation?**	**Employee** (62) – 56%	**Establish a business** (42) – 38%	**Family business** (6) – 5%

Source: Survey Results of Authors
**Measurement of the dependent variable (TSIPA) of the study*

In the Introductory part of the survey (seen in Table 2), out of 110 respondents, 70 have answered that their family is involved in the agricultural sector. Of which that responded yes, 56% own land while the rest of the 44% borrow land. As to the respondents intention to participate in the agriculture sector through establishing their own agriculture business or continuing their family business, only 38% and 5%, respectively chose to be self-employed and the remaining 56% preferred to be an employee at an agriculture business upon their graduation.

Table 3. Survey Questions (on Parent's Education & Employment Status, Migration, and Income)

***Father's Education**	**No education** (1) – 1%	**Elementary** (43) – 39%	**High School** (41) – 37%	**Tertiary** (20) – 18%	**Non-Tertiary** (0) – 0%	**Post-Graduate** (5) – 5%
***Mother's Education**	**No education** (2) – 2%	**Elementary** (23) – 21%	**High School** (53) – 48%	**Tertiary** (18) – 16%	**Non-Tertiary** (0) – 0%	**Post-Graduate** (14) – 13%
Current employment status of father?	**Business Employee** (0) – 0%	**Government Employee** (8) – 7%	**Self-Employed** (22) – 20%	**Unemployed** (35) – 32%	**Others** (45) – 41%	
Current employment status of mother?	**Business Employee** (3) – 3%	**Government Employee** (13) – 12%	**Self-Employed** (12) – 11%	**Unemployed** (52) – 47%	**Others** (30) – 27%	

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Please indicate the name and region of your parental municipality.	**Rural** (44) – 40%	**Urban** (66) – 60%		
***Do you want to migrate out of your parental municipality after completing university?**	**Yes** (19) – 17%	**Probably Yes** (33) – 30%	**No** (47) – 43%	**Probably No** (11) – 10%
	Yes (52) – 47%		**No** (58) – 53%	
***How important is income level for you?**	**1 (Not Important)** (0) – 0%	**2 (Somehow Important)** (0) – 0%	**3 (Important)** (10) – 9%	**4 (Very Important)** (100) – 91%

Source: Survey Results of Authors
**Measurement of the independent variables (Father's & Mother's Education, Migration, Income) of the study*

As observed in Table 3, questions relating to parent's education, most of the participants answered that the highest educational attainment of their father falls between elementary and high school with rates of 39% and 37%, respectively. In addition; the current employment status of their father, majority of which are unemployed (32%) and 41% chose others (includes farmer, fisherfolk, driver, construction workers). In relation to the mother's education, the highest educational levels achieved were between elementary and high school, too with the rates 21% and 48%, respectively. The employment status of their mother also has the same result as to the father's employment, unemployed (47%) and the choice of "others" with 27% that comprises housewife, Overseas Filipino Worker (OFW), and farmer as well.

Out of the 110 respondents, 66 participants (60%) said that they're from urban areas and the rest are from the rural areas. 47% of the respondents said that they want to seek migration out of their municipality after completing university to seek more opportunities, explore other places, and to be more knowledgeable of the agricultural sector. While the remainder of 53% (58 respondents) prefer to stay in their parental municipality because they wish to set up their own business in their hometown and also support their parents in the future, while being hopeful to develop the agriculture sector in their municipality. Table 3, as well, recognizes that income level is very important for the 91% of the respondents.

Table 4. Ordinary Least Squares (OLS) Multiple Regression Between Intention and Independent Variables

OLS, using observations 1-110
Dependent variable: TSIPA

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	0.352005	0.605018	0.5818	0.5620	
AGE	−0.0435403	0.0368627	−1.181	0.2403	
SEduc	0.0121897	0.0424984	0.2868	0.7748	
FEduc	0.205081	0.0436026	4.703	<0.0001	***
MEduc	−0.205054	0.0420047	−4.882	<0.0001	***
MIG	0.0810225	0.0911607	0.8888	0.3762	
INC	0.0405062	0.154207	0.2627	0.7933	

Mean dependent var	0.436364	S.D. dependent var	0.498204
Sum squared resid	20.63221	S.E. of regression	0.447563
R-squared	0.237385	Adjusted R-squared	0.192961
F(6, 103)	5.343596	P-value(F)	0.000078
Log-likelihood	−64.03375	Akaike criterion	142.0675
Schwarz criterion	160.9709	Hannan-Quinn	149.7348

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Source: Survey Results of Authors

As depicted in Table 4, the study follows the econometric model using the OLS Multiple Regression model tested between the six (6) independent variables and the dependent variable of student's intention. With the first independent variable age (AGE) of the study, it shows a negative relationship between the student's intention to participate in the agriculture sector through establishing their own agriculture-related business. Although it indicates a negative relationship, it only has a weak effect on the student's intention; for every increase in Age, there is a corresponding 4% decrease on student's intention to participate in the agriculture sector through establishing their own agriculture-related business. As one ages, the likelihood of the student's intention to participate in the agriculture sector through establishing their own agriculture-related business diminishes. This result can also be seen in the study led by Bezu in 2014, *out 599 respondents only 9% of youth wished to work in the agriculture sector while the majority 91% intend to work non-agricultural employment, brought about by the development and expansion in the industrial and services sectors seen in Ethiopia (Bezu et. Al, 2014).* Most of the respondents of the survey were in the ages 19 and 22 and older, 26% and 24%, respectively. As the youth ages, they tend to look and aim for higher degrees and pursue job opportunities that yield high earning jobs which some of them do not recognize as sustainable income when establishing their own agriculture-related business as opposed to seeking employment.

For the independent variable on the student's education (SEduc), it shows a weak positive relationship between the student's intention (dependent variable). This means that with every increase in a student's education, there is a 1% increase on student's intention to participate in the agriculture sector through establishing their own agriculture-related business. The bulk of participants of the study came from First Year and Third Year College Students, 58% from First Year Level and 20% from the Third Year Level. This must take in consideration that the age and education level of the survey respondents are mismatched. For instance, there are respondents in the age range of 22 and older, but are still in the First Year College Level. The weak positive relationship between the student's education and dependent variables can be rationalized through their background, knowledge, and awareness of the importance of the agriculture sector as explained by the respondents in the survey. A study in the Philippines indicates that the education policies in the Philippines create a path towards attracting the youth to pursue degrees related to agriculture (Quijano-Pagutayao, 2020).

The independent variable on father's education (FEduc), it also depicts a positive relationship and notes that the independent variable is significant. This explains that with each increase in father's education (highest attainment), there is a 20% increase on student's intention to participate in the agriculture sector through establishing their own agriculture-related business. Most of the respondents have answered that the highest educational attainment of their father falls between Elementary and Highschool, 39% and 37% respectively. These figures however can be supplemented by the current employment status of the participant's father, wherein about 41% have selected the choice Others; this includes farmer, fisherfolk, driver, construction worker, etc. Some of these specific employment status can be measured as self-employment due to the nature of the job, which explains the significant, positive relationship of both the independent variable (FEduc) and the dependent variable. As the study of Bednarikova et al. in 2020 suggests, *"Having a self-employed father enables a sharing of experience and may raise the perception that it is not difficult to establish a firm"*. This supports the result of the study of the relationship between the father's education and the student's intention to participate in the agriculture sector through establishing their own agriculture-related business.

Conversely, the independent variable on mother's education (MEduc), illustrates that the variable is significant and has a negative relationship with the dependent variable. It can be expounded that for each increase in mother's education (highest attainment), there is a 21% decrease on student's intention to participate in the agriculture sector through establishing their own agriculture-related business. The negative relationship between the two variables show that mother's would likely affect the student's intention to participate in the agriculture sector as an employee of an agriculture-related business. The study in 2020 reveals that mothers express the importance of education for their children to land in good job opportunities, in the same way it decreases the intention of students for self-employment (Bednarikova et al., 2020). This validates the highest educational attainment of mother's ranging from Elementary, High School, and College; 21%, 48%, and 17% respectively. While most of the current employment status of mother's are either housewives and/or unemployed. With this, mother's opt to encourage their children to look for job opportunities instead of being self-employed.

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The independent variable on migration (MIG) displays a weak positive relationship with the dependent variable. As seen in Table 4, an increase of migration intention can result in an 8% possibility of the student's intention to participate in the agriculture sector through establishing their own agriculture-related business. In the results of the study, most of the respondents, 60% live in urban areas and the 40% are situated in rural areas. With this, the respondents were asked concerning their migration intention upon graduation (seen in Table 3), results convey mixed responses but majority have opted to stay in their current residence, about 53% chose not to migrate and 47% want to migrate out of their parental municipality. These results explain the insignificance, weak relationship of the variable on migration to the student's intention to participate in the agriculture sector through establishing their own agriculture-related business. The reasons for which participants opt to stay in their current residence; desire to stay with their families, establish a business in their hometown, support their parents in the future, and for the development of agriculture in their place. While for the respondents that wanted to migrate out of their parental municipality; explore and travel to other places within and outside the country, more opportunities outside their current residence, be more knowledgeable on the agriculture sector, and seek for independence. This occurrence can be observed, too, in the 2014 study conducted by Susilowati that *"despite the current rural to urban migration trends, the number of young people who are good at farming and have been into the city life are continually increasing to going back to rural areas and shifting their priorities into agriculture".*

Income (INC), the independent variable of the study, notes its weak positive relationship as well, with the dependent variable. This can be observed as the income level increases, then a 4% increase can be ascertained on the student's intention to participate in the agriculture sector through establishing their own agriculture-related business. It is very important for the youth to have high income levels, as shown in Table 3, the rate of "4" corresponds to very important – 91% and 3 measured as important – only 9% of the respondents. As pointed out by Utsugi in Brattleboro in Vermont, USA, *"the main challenge for the youth to start organic agriculture depended heavily on their financial concerns, in terms of compensation level (wage) and for other forms of capital (to start their own businesses)" (Utsugi et al., 2012).* However, there is a weak positive relationship between the Income and dependent variables. The latter portion of the survey elaborates the urge in the financial, resources, and capital support for students to be able to participate in the agriculture sector.

V. CONCLUSION

5.1. SUMMARY

The agriculture sector is one of the economic drivers that contribute to the growth of the Philippines in relation to the country's Gross Domestic Product (GDP). The Philippines continues to suffer a decrease in its GDP share percentage due to the decline of the employment rate in the agricultural sector. With which, the research was able to determine the factors affecting the tertiary students' intention to participate and choose the career path towards the agriculture sector. The study focused on the Visayas region of the Philippines, given that the data suggests a decrease in the labor participation of the youth in the region and the said sector. The study focused on the youth, in the Tertiary level pursuing an agriculture-related degree. As discussed, the tertiary students' intention to participate in the agriculture sector was measured through intent to establish their own business or continuing their own family business in agriculture (self-employment).

Evaluating the intention of the tertiary students to participate in the agricultural sector in Region 8, through a Quantitative Research design, which required the conduct of a survey questionnaire to the target respondents in addressing the issue of this study. Provided the variables explored in the study, the OLS Multiple Regression model was the tool utilized to analyze the six independent variables in relation to students' intention which is the dependent variable of the study. With regards to Age, showing a weak negative relationship towards student's intention to participate in the agriculture sector through establishing their own agriculture-related business or continuing their family business. As for the student's education, the relationship between the student's education and its intention shows a weak positive relation, it's indicative that as education barely increases the student's intention (dependent variable). However, the independent variable on father's education shows significance and a positive relationship with the dependent variable. In contrast to the mother's education, it is observed that the variable is significant but has a negative relationship to the dependent variable, resulting in the mother's educational attainment is high then a decrease in the student's intention to establish their own agriculture-related business or continue their family business will be the outcome. Migration and income as the independent variables both present a weak positive relationship towards the dependent variable, when there is an increase in migration and income, there is a corresponding slight increase in the students' intention to

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participate in the agriculture sector through establishing their own agriculture-related business and continuing their family business (self-employment).

As these issues arise relating to the agriculture sector, the study uncovered the effects of the various factors concerning the decline rate of the labor force of the youth in the agriculture sector in the Visayas region. This research provides and recognizes the issues surrounding the decrease in the labor participation of the youth in the agriculture sector and offers policy recommendations to address these problems arising in the study. With this, these can help in formulating and crafting policies and programs to increase the awareness and agricultural literacy among the youth.

5.2. CONCLUSION

The study was able to attain the research objectives, to identify and evaluate the factors that affect the decision of the tertiary students' to participate or pursue a career in the agricultural sector which was related in terms of their age, students' education, parent's education, migration, and income, the independent variables of the study, to consider a future career in the agricultural sector. The study rejects the null hypotheses and follows the following alternative hypotheses; 1) There is a weak negative relationship between Tertiary Students' Intention to Participate in the Agriculture Sector and Age, 2) There is a weak positive relationship between Tertiary Students' Intention to Participate in the Agriculture Sector and Students' Education, 3) There is a significant positive relationship between Tertiary Students' Intention to Participate in the Agriculture Sector and Father's Education, 4) There is a significant negative relationship between Tertiary Students' Intention to Participate in the Agriculture Sector and Mother's Education, 5) There is a weak positive relationship between Tertiary Students' Intention to Participate in the Agriculture Sector and Migration, and 6) There is a weak positive relationship between Tertiary Students' Intention to Participate in the Agriculture Sector and Income.

5.3. POLICY IMPLICATION

The findings of the study can support policymakers in the process of designing and developing programs to increase the awareness and participation of the youth in the agriculture sector. As the study suggests, a higher proportion of students taking up agriculture-related degrees vie to seek employment opportunities rather than establishing or continuing their family business in agriculture. This can be an avenue for lawmakers to enhance its support for the development of agriculture businesses through resources, capital, and financial aid to increase participation in the agriculture sector. While developing business opportunities for agriculture, the government may also provide more employment opportunities for graduates of agriculture-related degrees. Advocating the agriculture sector as a competitive career destination for the youth, competitive in a way that all the sectors (agriculture, industry, and services sectors) are equally important for economic development.

The education system plays a crucial role in influencing the intention of students to enroll and take up agriculture-related courses/degrees. For instance, not solely focused on the tertiary level, subjects relating to agriculture may be integrated with the curriculum of the primary and secondary education levels to promote awareness and agriculture literacy among the youth. This initiative is similar to the study of Rayfield and Croom that, *"middle school programs can be an important place for students to begin to make decisions about their life and career goals" (Rayfield and Croom, 2010).* At a young age, students are given the opportunity to discover and be educated of the importance of agriculture which they may continue exploring upon stepping into the high school level. It can be observed that most of the colleges/schools offering agriculture-related degree programs come from state universities, commonly located in rural areas and the Visayas and Mindanao regions of the country. As the findings of the study suggest, students that enroll in agriculture-related degrees are those individuals that are aware and interested in the said university degrees. The Higher Education Institutions (HEIs) and the Commission on Higher Education may also diversify the access of these degrees and programs to be offered in urban areas; of which top universities of the country may adopt these said programs, to promote awareness and the significance of the agriculture sector of the Philippines.

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