

Feeding the future: knowledge and perception of the Filipino youth toward agriculture

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Feeding the Future: Knowledge and Perceptions of the Filipino Youth Towards

Agriculture

ABSTRACT

Cognizant of the critical role the youth plays to sustain, develop, and build a sustainable, resilient, and inclusive agricultural industry – this study was conceptualized to establish a thorough understanding of the determinants of the Filipino youth's intention to enroll in agricultural degree programs. In particular, this research was undertaken to assess the younger generation's agricultural learning experiences and explore their perception of the agricultural industry to evaluate how these different factors affect in shaping their uptake of agricultural courses. This research utilized a case study approach in the local context of General Santos City, Philippines.

The key findings of this study reveal that while the youth report to have high levels of exposure to agricultural information, this has not been effectively translated to inherent knowhow as they only attained average scores in the assessment of their agricultural knowledge. Limited knowledge was also realized in terms of their familiarity towards agricultural professions. It was further discovered that the majority generally held positive economic, social, and personal perceptions towards the industry. However, they expressed reservations in considering if the employment opportunities in the sector were profitable, if the society will hold them in high regard once they engage in the sector, and if they had the suitable skills and know-how to engage in the sector.

Statistically, age, social participation, and personal perceptions were found positively statistically significant ($p < 0.05$) while economic perceptions were negatively statistically significant ($p < 0.05$) in determining their intention to enroll in agricultural programs and ultimately engage in agriculture. Thus, it is inferred that intervention programs, starting early

in the curriculums of the youth, along with social programs that highlights capacity-building, are necessary to pique their interest towards the industry and entice them to engage in its professions.

Keywords: agriculture development youth perceptions social survey

INTRODUCTION

Deemed as the fount of civilization, agriculture is regarded to be at the core of human existence as it provides the most basic anthropological and physiological needs of humankind (Pierre and Appel 2011, Federico 2008). In the Philippines, agriculture is officially recognized as the nation's economic backbone (Republic Act 11321 2019). With more than 30% of the country's land area considered as arable, more than half of the country's populace is reported to be living in rural spaces and are further inferred to be involved in agriculture (The World Bank 2020). Given its significance, the growth of the agricultural industry is considered as a key component for the nation's overall development (The World Bank 2020). Concerns, however, are raised as a downward trend on the industry's indicators have been observed in recent years.

In 2020, it is reported that the agricultural industry contributed only 10.2% towards the Philippines' Gross Domestic Product Output (Philippine Statistics Authority 2020). As presented in Figure 1 below, it can further be observed that, alarmingly, the latest 3 (2018-2020) years were the lowest recorded figures for the industry's GDP contribution values (The World Bank 2020).

Figure 1.

Accordingly, this declining industry growth is attributed by Briones (2021) to the slow development of its factors of production- including the decrease in labor involvement- as well as the weakening total factor productivity. Exploring this, it is thus argued that the ageing agriculture demographic and the lack of youth interest pose as a great threat to the sustainability of agricultural production (Lumen 2020).

In detail, it is reported that the average age of a Filipino Farmer is 57 years old (Lugtu 2022). With farmers predominantly past their prime, subsequent fears are realized as further research infers that older farmers often obtain lower yields with lower technical efficiencies

and lower rates of technological adoption (Cabangbang and Quicoy 2019, Balogbog 2020, Castriciones 2020, Diaz, et al. 2021). Furthermore, with the current labor demographic, it is believed that the country may encounter a critical shortage of agriculturists in the next 13 years (BusinessMirror 2021). It is thus posited that the growth and the development of agriculture is only attainable if a nation is able to tap the potentials of its resilient and vigorous young workforce (UNFAO, 2017).

The youth are considered as important stakeholders in the development process, given their great assets of resilience, resourcefulness, and perseverance (Udemezue 2019). They are further identified to be one of the key players to sustain agriculture with their energy, vitality, and innovative skills (Som, et al. 2018, Afande, et al. 2015). As such, the vital role of the Filipino youth in the development of Philippine agriculture is now becoming more evident. In the Philippines, ‘youth’ is defined as individuals aged 15-30 years old (Republic Act 8044 1995). According to the country’s latest statistics, this youth demographic dominates the country's population at 29.31% (Philippine Statistics Authority 2017). However, despite their potential in numbers, concerns are also raised about the youth’s lack of interest in agriculture.

Globally, it is reported that the youth hold a general disinterest towards the sector as it is believed that it is unable to meet the “kinds of lifestyles young people need, expect, and desire in the 21st century” (Udemezue 2019, 905). In detail, studies indicate that most youth see agriculture as a poor man’s activity, for someone who has not finished school, or as a last resort for academic underperformers (Mulema, et al. 2021, Zidana, Kaliati and Shani 2020, Anyidoho, Leavy and Okyere 2012, Njeru 2017, Chinsinga and Chasukwa 2017). Chipfupa and Tagwi (2021) also reports that the youth perceive agricultural careers as an arduous job that offers minimal incentive. Even further, agriculture careers are often seen as lowly, dirty, and back-breaking jobs, which further leads to the younger generation foregoing agricultural

careers as it is not ‘attractive’ (Muthoni 2017, Zidana, Kaliati and Shani 2020, Udemezue 2019).

In the Philippine setting, research by Canlas and Pardalis (2009) reported that a 30.1% decrease has been recorded on the youth’s participation in the sector from 1998-2006. Likewise, in the University of the Philippines Los Baños, the country’s leading university for agriculture, a sharp decline in the share of agricultural students to the total university population is observed from 51% in 1980 to only 4.7% in 2012 (Quismundo 2012). Furthermore, most farmers in the Philippines are found to be discouraging their own children to take part in the industry by claiming that they shall not experience the physical and economic difficulties they have faced while working in the industry (Palis 2020). Farmer-parents further consider education as a steppingstone for rural out-migration (Manalo IV and van de Fliert 2013).

Consequently, studies also establish that most of the children of Filipino farmers are not interested in taking up agricultural professions after experiencing and seeing first-hand the economic hardships in the sector (Orbeta Jr. and Abrigo 2009 Palis 2020). To them, it will be better if they sell their parents’ farmlands and use the money they can earn to take-off towards different careers, in cities or abroad (Manalo IV and van de Fliert 2018). While these studies infer the negative view of the youth who are already exposed to the sector, there is insufficient research available in terms of exploring what the general Filipino youth first thinks about the industry. While youth perceptions have also already been explored by some researchers, highlighting the fact that the youth around the world are not homogenous (Mulema et al. 2021), understanding from the local contexts and considering local social norms is thus deemed highly important to offer tailored responses.

As such, this research was conceptualized to develop a thorough understanding of the relationship shared between the agricultural sector and the young people to further identify

variables which may be tapped to entice the local youth to engage in the industry and pursue careers in agriculture.

As the process of career building is often posited to commence with an individual's decision to undertake a higher education degree related to the industry they aspire to be part of (Nyamwange 2016, Adinkrah and Fosu-Ayarkwah 2020), the selection of a college program to enroll in is seen as a vital starting point in the youth's career progression as they begin to discern a future profession for themselves (Murcia, Pepper and Williams 2020).

Guided by the Social Learning Theory of Career Decision-Making (SLTCDM) by Krumboltz (1979), Social Cognitive Career Theory (SCCT) by Lent et. al. (1994), and the Unified Theory of Acceptance and Use of Technology (Venkatesh, et al. 2003), this study hypothesizes that an individual's socio-demographic characteristics, learning experiences, and perceptions of environmental conditions can significantly affect a youth's career choice or their intention to enroll in agricultural degree programs.

This study is, thus, set to:

1. Explore the youth's exposure to agricultural information, their knowledge levels on different agricultural principles and issues, their social participation, and their experiences in the Philippine agricultural sector;
2. Explore the youth's perception of agriculture and agricultural careers; and
3. Analyze how the different factors established above, affect the Filipino youth in choosing their future careers.

METHODOLOGY

Study Locale

This study was conducted in General Santos City, South Cotabato, Philippines from June-September 2022. The city belongs to the 12th administrative region of the country, more commonly known as SOCCSKSARGEN (GOVPH 2022), which is reported to be the 4th top producer of agricultural goods in the Philippines in 2021 (Philippine Statistics Authority 2022). City of General Santos was specifically selected as it is considered the center for trade and commerce of the region and is classified as a highly urbanized city. At the same time, it is also reported to have a significant agricultural base to support its local food supply (GOVPH 2022). Given its perfect balance of urbanity and an agricultural economy, this locale is found to have the most ideal mix of rural and urban employment opportunities and career prospects.

Data Gathering and Methods

This study adopts a descriptive case study approach which offer a lens through which the issues of youth and agriculture can be explored to offer illustrative insights. An extensive literature review was conducted to craft a questionnaire to be utilized for the study. Guided by related literatures, instruments were adopted and adapted¹, then tailor-fitted to meet the objectives of this research. Once established, the questionnaire was pilot tested.

The pilot test was posted online through a secured social survey website and a call for Senior High School pilot study respondents was published. The link was opened to accept responses for 24 hours. From the pilot test, the Cronbach's Alpha (for questions that had Likert Scales) was calculated to establish instrument reliability. Using the Statistical Package for the Social Sciences Software to analyze the responses, it was established that the Cronbach's Alpha

¹ Philippe et al. (2017), Inegbedion & Islam (2020), Mutinda et al. (2021), Omotesho et al. (2017) Magagula & Tsvakirai (2020), Pelzom & Katel (2017), Njeru, L.K. (2017), Vihari, M.A et al (2020), Zidana, R (2020), Mulema, J., et al (2021)

of the instrument was at 0.69, which indicates that the items form a scale that has reasonable internal consistency reliability, consequently implying the reliability of the questionnaire.

After establishing such, the researcher contacted different school principals and teachers in the locality (both private and public senior high schools) and sought for their assistance in the distribution of the survey link. The survey link was also posted publicly online through different social networking sites and was further disseminated online through local contacts who knew SHS students.

School and local contacts were informed about the inclusion-exclusion criteria of the research, specifically that the respondents must be (1) a resident of General Santos City, (2) currently enrolled SHS students or have recently graduated SHS students or an incoming SHS student, and (3) over 18 years old. The online survey questionnaire was opened to respondents from 01 June 2022 to 21 July 2022. The online instrument was able to gather 153 responses from 153 unique online users. However, 46 sets of responses were found to not meet the inclusion criteria of this study. Ultimately, 106 response data sets were utilized in this research.

Figure 2 below exhibits the socio-demographic characteristics of the survey respondents. From the 106 yielded responses, 98 respondents were aged 18-20 years old and 8 were 21-24 years old; 59 of respondents identified themselves as males, 39 females; 3 regarded themselves as non-binary, and 5 respondents preferred to not say their gender. Furthermore, it is observed that the majority were Roman Catholic; most of them were enrolled in public SHSs; and most of them were taking up the STEM SHS academic track, with the TVL track also not far behind. The majority of the respondents also reported to live in urban areas; and only 25 respondents stated that either of their parents are employed in the agricultural industry.

Figure 2.

Key Informant Interviews were also undertaken to gather qualitative insights to substantiate the survey outputs. Purposive sampling was employed wherein professionals

working in the agricultural industry, most especially those who were deemed to have been involved with the youth, were interviewed.

Data Analysis

Descriptive statistics were first utilized to present the quantifiable results of the online survey questionnaire. A thematic analysis was also employed to the answers gathered from open-ended questions.

A multiple linear regression analysis was also employed to further analyze which of the multiple predictors or independent variables are determinant/s to an individual's career choice using the IBM Statistical Package for the Social Sciences (SPSS). The empirical model of this study is presented below.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 \dots + \mu_i$$

Where:

Y = Intention to Enroll in an Agricultural Course

β = Coefficients to be estimates

X1 = Age

X2 = Gender (0 = male, 1=female)

X3 = Religious Affiliation (0=Roman Catholic, 1=Islam, 2=Others)

X5 = Senior High School Track (0=Non-TVL, 1=TVL)

X7 = Father's Occupation (0=Not Related to Agric, 1=Related to Agric)

X8 = Mother's Occupation (0=Not Related to Agric, 1=Related to Agric)

X9 = Social Participation (0=No, 1=Yes)

X10 = Prior Experience (0=No, 1=Yes)

X11 = Exposure to Agricultural Information (0=None, 1=Yes)

X11 = Exposure to Agricultural Career Information (0=None, 1=Yes)

X13 = Level of Knowledge Regarding Agriculture

X13 = Level of Knowledge Regarding Agricultural Careers

X14 = Level of Economic Perception Regarding Agriculture

X15 = Level of Social Perception Regarding Agriculture

X16 = Level of Personal Perception Regarding Agriculture

μ_i = 5% Error term

Study Limitations

This research was limited to youths who can legally give consent (18-30 years old) in General Santos City, South Cotabato, Philippines. Additionally, this research was also limited to the use of online data gathering tools due to proximity concerns. Lastly, with the COVID-19 pandemic pushing academic institutions to shift to online modes of teaching, this research was limited to use non-probabilistic sampling techniques.

RESULTS AND DISCUSSION

I. Youth Agricultural Learning Experiences and Knowledge

Goemans (2014) argued that the youth's access to information and knowledge accumulation is crucial for addressing the main challenges currently faced in modern agriculture. As such, this research began with establishing the youth's current level of information engagement concerning the sector and their level of knowhow towards agricultural constructs.

Probed about their exposure to agricultural information, the majority (78%) of the respondents reported that they have been introduced to agricultural concepts; while 22% of them claimed that they have not been. From those who were exposed to agricultural topics, 68 respondents inferred that they have been made familiar to technical agricultural information, while 62 revealed that they have been exposed to non-technical information. This infers that there is information available for the youth about agriculture and that agricultural concepts are not foreign to them.

Figure 3

As to their sources of information, the majority of the respondents referred to 'Classroom lectures' (n=67) as their main source of information; which implies the critical role the academe plays in agricultural information dissemination.

'Stories shared to me by people I know' ranked as the second most common source of agricultural information. This is found to corroborate with the report of Goemans (2014), where they argued that agricultural knowhow, in many developing regions, are still communicated informally. This further infers that informal communication plays an almost equally vital role with formal setups, in shaping an individual's knowledge level. This compellingly leads to the understanding of the important roles parents, guardians, and acquaintances play in building knowledge and perceptions towards industries, careers, and professions (Esters and Bowen

2005). Notably, several youths in the locality (n=29) are also found to be proactive in searching for information regarding the sector on their own, which signals interest. Figure 4 below exhibits the local youth's other sources of information.

Figure 4

To assess their current level of knowledge towards agricultural constructs, questions that require a true or false response were posed in the questionnaire, aggregate ratings are presented in Table 1 below.

Table 1

It can be inferred from the table above that most respondents are knowledgeable of common agricultural concepts such as how farming and livestock management are part of the agricultural industry, how agriculture plays an important role for the Philippine economy, and on Climate Change constructs, as exhibited by the high knowledge ratings at 2.98, 2.79, 2.77, and 2.73, respectively.

However, when asked about technical agricultural questions (sources of rice and pineapples) and the concepts of food security and food safety, respondents yielded only a medium level of knowledge with 2.06, 1.86, 2.21 and 2.24 average ratings, respectively.

Ultimately, it was found out that the youth respondents only have a medium level of knowledge, with an overall rating of 2.33. This finding came as a surprise, given their previously established high level of exposure to information. This implies their high exposure to agriculture information is not directly translated to agricultural knowledge. Thus, it is rationalized that their current knowhow is an indicator of low interest and low mental prioritization, which leads to their poor information recall (Wade and Adams 1990).

Furthermore, it is interesting to note that while the respondents are highly knowledgeable of the industry's production aspects, it is counterintuitive that they only exhibited medium ratings on the industry's social issues. In detail, while they had high ratings

for ideas about the general agriculture function (crops and livestock production), the role the industry plays in the economy, and Climate Change; they recorded only medium average scores on the questions posed pertaining to the sources of locally prominent products like rice and pineapples. This alarming finding is similar to the findings of the study of Boleman & Burrell (2003) where some student respondents believed that milk comes from grocery stores, instead of cows; and from the study of Luckey et al. (2013), where some students believed that cottons and leathers are not agricultural products.

Medium knowledge levels were also recorded for the statements regarding different social topics relating to agriculture; mirroring the findings of Syeda, et al. (2021). Considering that agriculture is a very wide industry that encompasses different sectors, the pressing need for the newer generation to realize that there is a social science aspect of agriculture is advocated for (DeWalt 1988, Krishna and Kumbhare 2019).

Moving forward, in exploring the youth's exposure to information specifically on agricultural careers and job opportunities, 58% of the respondents claim to have been made aware of possible occupations in the industry, while 42% revealed that they were not given any kind of information regarding this matter. This implies that the majority (by a slight margin) of the young people in the city are made aware of agricultural career opportunities.

Similar to their sources of information on agriculture, 'Classroom lectures' (n=40) and 'Stories shared to me by people I know' (n=40), also took the lead as their main sources of information regarding agricultural careers. Interestingly, 27 respondents also stated that they research agricultural career information on their own. Figure 5 below exhibits the local youth's other sources of agricultural career information.

Figure 5

However, when prompted if they are able to confidently name and describe one job in the agricultural sector, only 24% of the respondents answered yes, and 76% of them

perceptively stated no. This is similar to the previous findings on the local youth's knowledge sources and rating towards agriculture as a whole, wherein their exposure to information is found to not have been effectively translated to cognitive knowledge. These disparate answers are then again rationalized by deliberating that the industry insights presented to them, lacked to have lasting impacts which led to poor recall or that they are still unsure of their ideas; then again supporting the views of Wade & Adams (1990).

Furthermore, out of those who responded that they were confident to describe one career in the agricultural sector, most (34%) identified that being a farmer is a primary industry career opportunity. Other leading answers also revolve around the production tasks and professions in the industry. This data alarmingly sets out that most of the youth are aware only of professions in the production aspect of agriculture. While correct, this exhibits the lack in knowhow of the youth towards the complex chain the agricultural industry operates and the vast opportunities for employment it entails. These also further mirror the results of the study of Secretario (2021) which reveals that the majority of the Filipino students investigated still see agriculture as a field that corresponds to 'just planting'. Figure 6 below presents other agricultural careers the respondents know of.

Figure 6

To investigate their state of current engagement with the industry, respondents were asked about their current social participation and hands-on experiences. When asked if they were acquainted with anyone employed in the sector, the majority of the respondents (57%) answered positively, while 43% answered no. This implies an average level of social participation. As it is established that a population who actively partakes in social programs are more likely to meet different types of people who they can learn from (Vihari, et al. 2020), this data is thus inferred as an opportunity the locality can explore.

However, mindful of other interpretations, it can also entail a negative effect once the people who are working in the industry who are supposedly the source of knowledge and insights do not share a favorable view of the sector. This is established in the study of Palis (2020) wherein it is the farmer parents themselves who discourage their children to go into farming; and the study of Chachere et al. (2018), where social participation played as a negative determinant to the youth's attitude towards agriculture.

Thus, it is rationalized that it is important to develop the agricultural system itself to ensure that the ones who are already engaged and employed within it can share positive insights that may serve as sound encouragement to the younger generation.

Furthermore, when asked about their prior experiences, only 40 students (37%) claimed that they have had practical exposure to agricultural activities while 66 respondents (63%) answered that they have not, which infers a significantly low practical participation in the industry. This finding is rather troubling, considering that low practical experience is found to negatively affect their interest in the industry Luckey (2012). As such, the need to expose the younger generations to the practical side of the sector is realized to ensure that the younger generation can develop a deeper sense of connection, familiarity, and ultimately interest in the sector.

From all these, it is established that there is a low level of agricultural literacy among the youth in the region; even though they have established that they were exposed to information. Findings further infer that they have average levels of social participation and low levels of practical experience.

II. Youth Perception of Agriculture

According to the study of Magagula & Tsvakirai (2020), perceptions are seen as a critical determinant for a person's inclination towards specific professions. Word association

is a tool used in psychology and sociology to establish an individual's conceptual structures, by their spontaneous and unrestricted thought process (Hovardas and Korfiatis 2006). As such, this study preliminarily investigated the views of the younger people towards agriculture as a concept by analyzing the main words they associate with it. Figure 7 below presents the most attributed words to agriculture².

Figure 7

It can be observed from the figure above that the majority of the youth reported that they immediately thought of the words 'Farmers' and/or 'Farming' (42%). This corroborates with the study of Secretario (2021) that states that most Filipino youth only know of 'just planting' as a career in the sector. While these views are correct – given the definition of agriculture³, it is deemed that there is a need to push for the holistic view of the sector, emphasizing that agriculture encompasses the whole food system which includes activities upstream of farms⁴, downstream of consumers⁵, and everything in between⁶ (Glover and Sumberg 2020). Other words were also reported by the respondents at very low levels of frequency, such as the words 'Plants' (9%), 'Nature' (8%), Food (7%), and Economics (5%), 'Interesting' (1%), 'Amazing' (1%), 'Underappreciated' (1%), and 'Hard-work' (1%).

Probed to explain their word attributions further, three main themes were established from their responses. First, the respondents deem agriculture as a productive undertaking which supplies the society with its physiological needs. This infers that the youth see the sector as a critical player for sustaining the prerequisites of the current and future generations, most especially in alleviating hunger, as with the study of Mendoza (2022). To cite:

² The biggest and most prominent texts are the most frequently answered, while the smallest and least prominent texts are the least mentioned.

³ "The science, art, or practice of cultivating the soil, producing crops, and raising livestock and in varying degrees the preparation and marketing of the resulting products" (Merriam-Webster Dictionary, n.d.)

⁴ e.g., input supply, plant breeding

⁵ e.g., further value-adding, waste disposal

⁶ e.g., policymaking and regulation

“I associated the term "cultivation" to agriculture because I believe that the study and the whole process of it involves cultivating lands which mainly affects the growth of plants and livestock. Moreover, cultivation is an important factor to the production of agricultural goods, it's the foundation for most of our products such as cotton, rice, paper, and so forth.” (Respondent 96303734)

“Since agriculture is also the process of producing food, I immediately thought the word "crops" is associated with it” (Respondent 96133504)

“When I hear the word 'agriculture' the first thing that comes to my mind is the word 'farmer' because I remember being told as a child that they are the one responsible for the production of rice here in the Philippines. Basically, when I talk about agriculture, I often associate it with farmers planting rice and crops such as bananas and pineapples.” (Respondent 96142010)

Second, most respondents also attribute agriculture to the economy. This infers that they are aware of the role the industry plays in economic development and how the sector can be an effective instrument to eradicate poverty, similar to the findings of Mendoza (2022).

“Since I live in the Philippines where agriculture is relevant, I immediately think of the word ‘economy’ because through agriculture I think the country's economy could grow” (Respondent 96133635)

“Agriculture is the primary source of food; primary source of materials to create new products; primary source of employment for the Filipinos” (Respondent 96193497)

“Farmers are the backbone of our society and Agriculture is the backbone of the economy.” (Respondent 97431044)

Lastly, the youth also attribute the role agriculture plays in keeping a healthy ecosystem. This implies that they are also cognizant of how the sector can play a vital role in keeping the sustainability of different ecosystems and the whole planet, as with the results of the study of Mendoza (2022).

“Because when agriculture is said, I immediately think about the world, the animals, and the people that breathe.” (Respondent 96197794)

“There are many Important things and uses in Agriculture. Agriculture provides us food from the natural resources that we harness. Agriculture is a business that is productive through centuries, and we get money and wealth through it. But now we have to also think about protecting and preserving the Land in which we will get our food and basic needs.” (Respondent 96200313).

These three major themes identified are considered valuable findings, as it implies that the youth have a certain degree of awareness as to the critical roles the agricultural industry plays in alleviating hunger, eradicating poverty, reducing economic inequalities, ensuring sustainable environments, and consequently how they can be at the forefront of addressing all these once they engage in the sector. These all, thus, could be tapped by policymakers to draft programs which highlight the role of the agricultural industry across these different sectors.

When asked further why they think they had their certain associations, the youth respondents' answers varied. In analysis, three themes of their sources of associations were also identified, namely: Social-embeddedness, Environmental Observations, and Educational Discourses. For Social Embeddedness, respondents pointed to cultural upbringing and general stereotypes.

“It is a notion in my community that when it comes to agriculture, the word farming is always associated with it” (Respondent 96135748)

“I think I would always think of farming when it comes to agriculture because I always hear it when I was young” (Respondent 96133233)

For environmental observations, respondents attributed their perceptions to what they have experienced, seen, or observed growing up.

“The words I have mentioned above (farming) are the first to come to my mind because my father works in the agriculture sector, and he often shares that his work involves farming and livestock” (Respondent 96133499)

“My father is a farmer. He usually plants rice, that's why whenever I read or see the word ‘agriculture’, crops come into my mind (Respondent 96136093)

Educational Discourses is the last theme identified, wherein most respondents attributed their perceptions towards what they have learned in formal academic settings.

“The reason as to why I first associate the word "farming" in agriculture is because I've grown to connect those two words together. As shown throughout the years from textbooks in school” (Respondent 96228053)

“This is what we usually learn about, especially because our topics usually focus on agricultural crops when we talk about agriculture” (Respondent 97426657)

From these qualitative statements, it is clearly understood that their general views of the sector are deeply rooted from the community and society that surrounds them, their family, and the environment they live in, and in their scholastic discussions.

To quantify their perceptions further, Figure 8 below presents the perceptions the youth hold towards agriculture considering economic themes.

Figure 8.

From their responses it could be inferred that the majority recognize that there are employment opportunities in the industry. However, the majority are neutral when probed about the possible profitable career options for professional or licensed agriculturists, and on their view regarding income earning opportunities in the sector for the youth. From these, it is understood that while the youth in the locality are cognizant of employment prospects in agriculture, they are unsure if these opportunities could translate to financial security.

In a brighter light, the majority of the respondents still perceive the industry as an important economic driver. They also further believe that agriculture plays a critical part in rural development, and food security. These are in line with the findings of Secretario (2021) which reports that the majority of their respondents still see agriculture as a key player in alleviating hunger and poverty. These are also very important findings which corroborate previous qualitative statements that indicate how the sector is still seen as an effective instrument to eradicate poverty.

Moving forward, the majority of the respondents are also found to hold favorable opinions considering the social constructs that surround the industry as presented in Figure 9 below.

Figure 9.

From the figure above it could be established that most of the youth disagreed that the agricultural industry is fit only for men, the uneducated, the underachievers, the old, and the poor. These are all in stark contradiction with the findings of reviewed literature wherein they claim that the youth view agriculture as a practice dictated by gender, educational attainment or its nonfulfillment, adulthood, or a person's economic standing.

However, even with these positive social perceptions, the respondents still do not think that agriculturists are respected and valued by the Filipino society, and most were neutral when

asked about how they think the society will perceive them once they engage in agricultural careers.

These findings lead to the understanding that while the local youth see agricultural careers in a positive social light, there are doubts about how the general society might think of them once they engage in it; inferring that there are still disparities in this outlook across different demographics and individuals.

These doubts are attributed to common Filipino social constructs; or how agricultural courses are treated as inferior to other degree programs, and how students taking up agricultural subjects are treated as second-rate citizens (The Manila Times 2013). As such, it is rationalized that while the respondents, themselves, generally view the sector as a positive undertaking, there are still hesitations considering the respect and admiration they can gain if they pursue a career in agriculture.

Therefore, it is inferred that there is a need to shift the predominant cultural and social narratives in the locality through the provision of a more comprehensive information-sharing through formal and informal means. Also, a more appropriate representation of industry players is deemed necessary to harmonize the society's views (Secretario 2021).

Exploring their personal perceptions, Figure 8 below exhibits the responses of the local youth towards constructs that mine how much they deem themselves to fit in the sector.

Figure 10,

It could be inferred that the majority of the respondents agreed that engaging in agriculture is an acceptable lifestyle for them, mirroring the findings of Magagula & Tsvakirai (2020); and they further perceive those already engaged in the sector as admirable individuals. Most also expressed interest with high agreement levels when probed about different agricultural professions. However, the majority of the youth also worryingly claimed that they do not think that they are equipped with the right knowledge and skills to engage in agriculture.

This is found to mirror the prior findings wherein their knowledge towards agricultural constructs is only at average levels, and their prior experiences, significantly low. This ultimately implies that while they generally hold positive personal views of the sector, they are unsure if they are capable of fully taking part in the industry, with their current level of knowhow and practical abilities. Thus, the role of education and capacity building are then again realized to come into critical play.

Figure 9

Acknowledging all the perceptions held by the local youth towards agriculture, it is understood that establishing and strengthening programs that push for a more favorable economic, social, and personal view of the industry are necessary to not only further improve the younger generation's perception towards the sector, but to also consequently effectively usher them towards their productive and impactful involvement with agriculture.

III. Determinants of Agricultural Career Choice

Career decision making is argued to be a significant marker of a person's life; and this process is established to begin when a person decides upon what to pursue for their undergraduate degree aligned to an industry they see themselves to be part of (Nyamwange, 2016; Adinkrah & Fosu-Ayarkwah, 2020). Considering the intricacy of this process, several theories have been established on Career Decision-Making, which served as the theoretical bases of this research.

To ensure optimum model quality, a Pearson Product Moment Correlation Coefficient was employed to test for collinearity among the independent variables. Consequently, variables with significant ($p < 0.05$) and positive collinearities were removed. The utilized research model was found to result with an R-square value of 0.22. This value infers that 22% of the variation of the intention to enroll can be explained by the variations in the independent

variables. Given that the value is above zero, it implies that this model has practical significance.

Exploring the youth's intention to enroll in agricultural undergraduate programs. Students were posed with the question if they already had a set college course in mind. From this query, it was established that 84% had already decided on which career path they ought to take, and 16% were not. Additionally, out of the 84% who were decided, 76% identified courses which are not related to agricultural sciences while only 8% referred to courses which may fall under the Colleges or Schools of Agriculture. This implies that even though the majority of the local respondents hold an average level of knowledge and medium to high levels of perception towards the agricultural industry, most still do not consider agricultural courses as an active choice in selecting college courses and life professions. Investigating this, Table 2 below presents the results of the Multiple Linear Regression.

Table 2

From the Multiple Regression Analysis, it can be inferred that the youth respondents' age, social participation, economic perceptions, and personal perceptions are statistically significant ($p < 0.05$) to a youth's intention to enroll in tertiary agricultural programs.

Age yielded as a positive significant variable with the student's intention to enroll ($p < 0.05$), infers that as the youth gets older, their chances of engaging in the sector also increases. This can be attributed to the fact that older individuals may have higher rates of exposure to agricultural information and/or experiences in the sector (Mulema, et al. 2021). This further allows them to realize the opportunities present and the benefits they entail (Adeyanju, et al. 2021). This finding corroborates with the Social Learning Theory of Career-Decision Making (Krumboltz 1979), the Social Cognitive Career Theory (Lent, et. al. 1994), and the Unified Theory of Acceptance and Use of Technology (Venkatesh, et al. 2003), as all theories posit the

significant influence of socio-demographic characteristics of individuals as they make decisions on their future career paths.

Social Participation is also found to play a positive significant role in the local youth's intention to enroll ($p < 0.05$). This implies that the more socially involved a youth member is towards people who are working in the agricultural sector, the more likely they are to enroll in agricultural programs. For instance, individuals who have role models, friends, or have someone they know engaged in the agricultural sector, have higher chances of enrolling in agricultural courses as they are made more aware of the opportunities in the sector. These findings are similar to the results of the studies of Vihari, et al., (2020) and Vasava, et al., (2015), which report that social engagement increases the chances of an individual to engage in the agricultural industry. This finding further corroborates with the Social Learning Theory of Career-Decision Making (Krumboltz 1979) and the Social Cognitive Career Theory (Lent, et. al. 1994), as both theories emphasize the impact of learning experiences on career decision-making.

Personal perceptions were also found to be positively statistically significant ($p < 0.05$) to a youth's intention to enroll in tertiary agricultural programs. This indicates that those who recorded high personal perception ratings are more likely to enroll in agricultural courses; and who find agricultural professions as admirable and those who deem that they have what it takes to pursue an agricultural course and careers are more disposed to walking in the agricultural career path. As such, it is then again realized that empowering the youth by equipping them with the right knowhow and skills and by providing them an encouraging socio-environment, to positively impact their view of the sector are necessary to increase in youth engagement (Inegbedion & Islam, 2020; Okiror & Otabong, 2015).

Lastly, it was found that economic perceptions also played a statistically significant role in determining a youth respondent's intention to enroll ($p < 0.05$). However, surprisingly,

it is found negatively related to their intention to enroll. This means that for every unit decrease in their economic perception, the more likely they are to enroll in agricultural bachelor's degrees. To simplify, this suggests that the more the respondents believe that there are limited employment opportunities, income-earning activities, and feasible career options in the sector, the more they are inclined to engage in the agricultural industry. This is considered as a unconventional and surprising finding as it goes against the studies of Magagula & Tsvakirai (2020), Vihari, et al., (2020), and Chachere, et al., (2018), which report that the higher the economic perceptions held by their youth respondents, the higher is the youth's engagement in agriculture.

This disparity is attributed to the different local context the youth of General Santos City may be in. Given that the data gathering was conducted while the Philippines is facing a major shift in national governance and a decrease in agriculture contribution, the uncertainty for agriculture among the youth in an economic sense may be higher. It is likely therefore that those who are aware of this, recorded low economic ratings even though they have already intended to enroll in agricultural programs.

This view is supported by a Key Informant who was interviewed. The Key Informant has previously worked as a faculty member of the College of Agriculture of a local State University and who is now serving in the Local Government Unit's Agriculturist's Office; with their background, they stated: "Being once in the academe, I have interacted with students. I noticed that it is the sons and daughter of farmers who will [choose] agriculture as their [college] course. And most times, it is these students who have seen the difficulty [in the sector], but they still choose to enroll [in agriculture] to help their parents."

Additionally, this finding also raises the possibility that those who are intending to enroll may possibly have more conservative economic perceptions to manage expectations. Consequently, it is also hypothesized that those who had low economic perceptions towards

agriculture may further deem such as a challenge which is why they also seek to be part of the industry to provide solutions. This supports the findings of Afande, Maina and Maina (2015), as they have established the youths as risk-takers.

This point is also discussed by one Key Informant interviewed in this study. The Key Informant, who is a youth agricultural entrepreneur herself and who was one of the winners of the Department of Agriculture's National Young Farmers' Challenge Fund 2021 imparted that, "Farming. That is the only job the youth initially see in agriculture. The youth nowadays are not aware of the bigger scale of the ongoing food insecurity...", she further stated, "but I still chose it [as a profession] because I wanted to try to become a solution to the ongoing food crisis.", she also noted, "As a youth myself, I already see the opportunity in agriculture and in agribusiness, because it is not only me that will benefit from it, but also our customers, and our local economy; and I am happy to be an instrument for the progress of our local economy by providing opportunities for employment in the locality". Given these probable implications, future studies can be explored to ascertain this view.

Overall, as the three types of perceptions were found statistically significant to affect youth career choices, this is found to support the ideas within the Social Cognitive Career Theory (Lent, et. al. 1994) and Unified Theory of Acceptance and Use of Technology (Venkatesh, et al. 2003), which both emphasize the influence of individual perceptions on career decision-making.

SUMMARY AND POLICY RECOMMENDATIONS

Evidence from the survey attest that the majority of the youth respondents have been exposed to technical and non-technical agricultural information through both formal and informal means. However, it is inferred that this information exposure has not been effectively translated to inherent knowhow as the respondents exhibited only an average level of agricultural knowledge. Limited knowledge was also realized in terms of their familiarity towards agricultural professions, highlighting that they only predominantly referred to production-based employment such as being a ‘farmer’. These are particularly relevant findings, considering that most studies ascertain that exposure to agricultural information subsequently leads to higher agricultural literacy (Luckey et al. 2013, Jean-Philippe, et al. 2017). As such, there is a compelling need to look back at the methods and approaches on how agricultural information is extended to the youth to ensure higher engagement, absorption of information, and literacy rates.

Average social participation rates were also found among the youth. Circling back to their high regard towards their informal sources of agricultural information, this finding is considered as an opportunity that can be tapped to promote agricultural information-sharing. It was also revealed that the youth had low levels of industry hands-on experience. As such, approaches on how the practical agricultural skills can be built on the local youth is recommended to also be explored.

Through a preliminary word association test, it was apparent that the youth highly attribute the term ‘agriculture’ to ‘farming’. Upon further analysis, it was also established that they associate agriculture to be an important economic player, and a vital factor for environmental sustainability. Thus, it is understood that the youth have the potential to realize the critical role they can play in developing the industry, the nation, and the world, when they engage in agriculture.

In exploring their perceptions towards economic constructs, the majority of the youth deem that there are vast employment opportunities in the sector; however, the majority also claim that there are limited job options and low income-earning prospects once they become agriculturists. These contradicting findings are particularly troubling as it exhibits the youth's low awareness of viable and feasible agricultural careers, and how agricultural workers are professionalized in the Philippines.

From a social lens, it was also established that the youth hold a rather positive perception towards the sector. They believe that the sector is not restricted to men, the poor, the underachievers, and the uneducated. However, it was also found that respondents predominantly think that agriculturists are not well respected by the Filipino society. This inconsistency, then again, sheds insight to the different social constructs across different demographics and individuals in General Santos City.

In considering their self-efficacy, the younger generation are found to mostly agree that agriculture is an acceptable lifestyle for them; however, it is also particularly troubling that most of the respondents deem that they are not personally qualified to engage in the sector with their current knowhow and skills. The latter finding is found to corroborate the previous data that the youth in the locality has low knowledge and low rates of prior experiences.

Quantitatively, it is important to note that only a small fraction of the respondent population signified their intention to enroll in agricultural degree programs, this infers that most respondents still do not consider agricultural courses as an active choice in selecting college programs and life careers.

Through a Multiple Linear Regression Analysis, it was established that 'Age' yielded to be a positive significant socio-demographic factor that affects an individual's intention to enroll. Moreso, while social participation and personal perceptions were predictably found to pose a positive significant relationship with the respondents' intention to engage in agricultural

curriculums- economic perceptions were found to share a negative relationship. This is a rather unconventional finding as it negates all other previous research, and goes against common sense, where one expects that it is those who deem an industry economically viable who are more inclined to engage in its undergraduate degrees.

Nonetheless, it is hypothesized that this relationship emerged due to higher awareness of the current unfavorable economic standing of agriculture in the Philippines, the respondents' conservativeness of economic perceptions, and a display of the youth respondent's risk-taking behavior. This general premise can be an important subject for further research.

Taken all together, these results establish support towards the different Career Decision-Making Theories utilized. As such, it is inferred that intervention programs from the joint efforts of different industry stakeholders are highly necessary to pique the interest of the youth towards the agricultural industry and entice them to engage in its professions.

While academic sources were established to already be available for the intellectual enrichment of the youth regarding agricultural constructs- strengthening and developing the academic curriculum ensuring that it provides a holistic view of the industry; and further highlighting the different employment and entrepreneurial opportunities the sector entails, must be a priority so that the youth can consider agriculture as an empowering and a viable career choice.

Programs that push for experiential learning should also be established and enhanced to build the practical capacity and develop the confidence of the youth to engage in the industry, supplementing the intellectual gains they attain from the curriculum strengthening, which can address the significant low personal perceptions. Also considering that age plays a significant factor in determining the local youth's career choices, these interventions are further suggested to be employed early in the youth's academic journey before they make ultimate career decisions.

Furthermore, a more accurate representation of agriculture is deemed critical to ensure that the whole of society can shift from the demeaning and prejudiced views of agriculturists, which may effectively lead to industry appreciation and interest in engaging.

Lastly, while this study focused on how the local youth perceives the industry, the researcher also acknowledges the need to strengthen the entire agricultural industry to ensure that the youth realize the genuine benefits, potentials, and opportunities within the sector. Mirroring the views of Secretario (2021), it is acknowledged that building the knowledge and positive perceptions of the youth towards agriculture should not be the end goal, rather it should be considered only as the first step to ensuring agricultural development. As such, it is necessary for the industry stakeholders to build an inclusive, sustainable, and resilient agricultural industry through the provision of appropriate policies, support, and assistance; to consequently lead the youth to choose, out of their own volition, to engage with the agricultural industry.

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Tables:

Table 1. Knowledge Level Ratings of Filipino Youth towards Agriculture (n = 106)

Statement	Ave. Rating	Description	Std Error
Agriculture involves farming	2.98	High	0.01
Agriculture involves taking care of animals/livestock	2.79	High	0.04
Agriculture plays a key role in the Philippine economy	2.77	High	0.05
Rice comes from a grass	2.06	Medium	0.09
Pineapples are picked from trees	1.86 ^(r)	Medium	0.07
I know about Climate Change; and if asked, I can easily define it	2.73	High	0.05
I can define Food Security; and if asked, I can discuss at least one issue related to it	2.21	Medium	0.08
I know about the concepts behind Food Safety; and if asked, I can discuss at least one issue related to it	2.24	Medium	0.07
Mean of Means	2.33	Medium	-

Table 2. Multiple Regression Analysis Summary for Socio-demographic, Knowledge, and Perception Variables in Predicting Youth Intention to Enroll

Variable	B	SEB	β
Age	.043	.022	.193*
Gender	-.020	.045	-.046
Religion	0.037	.032	-0.124
SHSTrack	-.054	.060	0.092
FatherOccup	-.076	.071	-.115
MotherOccup	-.117	.151	-.084
SocialParticipation	.120	.055	.225*
Experience	-.006	.062	.011
AgricInfoExposure	.045	.068	.069
AgricCareerInfoExposure	.053	.059	.098
AgricKnowledge	.022	.109	.021
AgricCareerKnowledge	.085	.069	.137
EconomicPerception	-.117	.057	-.328*
SocialPerception	.022	.051	.045
PersonalPerception	.130	.064	.316*

Note $R^2 = .22$; $F = 1.765$; $p=0.05$

* = $p<0.05$

Figures:

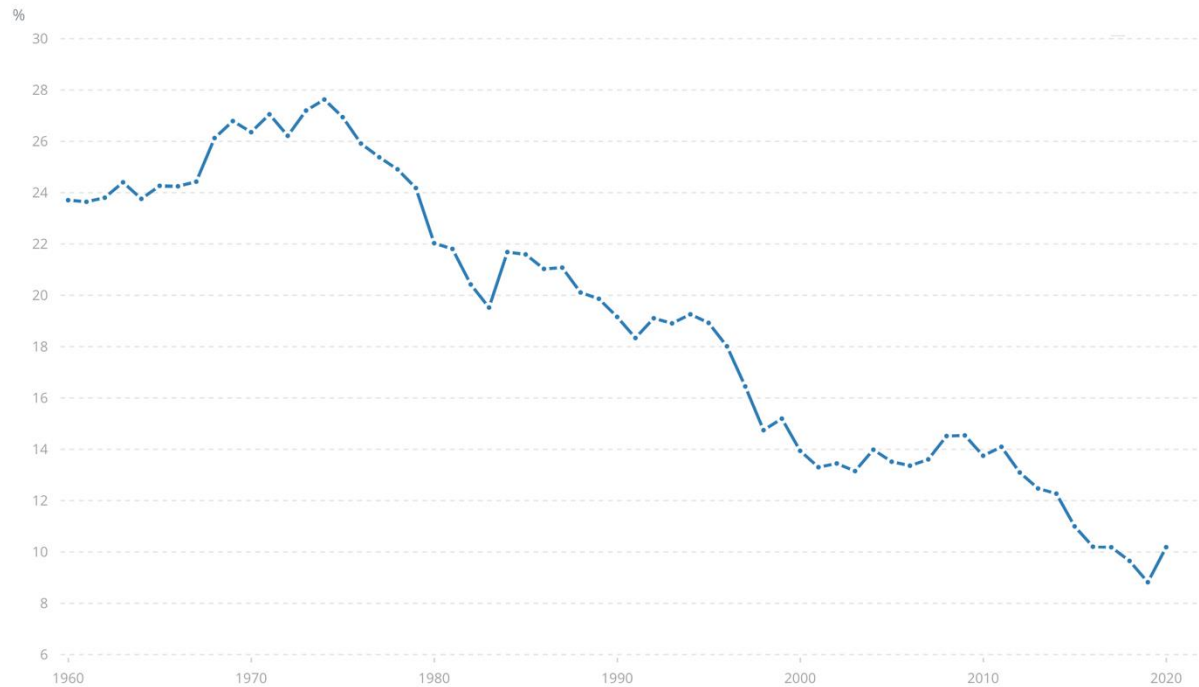


Figure 1. Gross Domestic Product Share of Agriculture in the Philippines from 1960-2021

(The World Bank 2020)

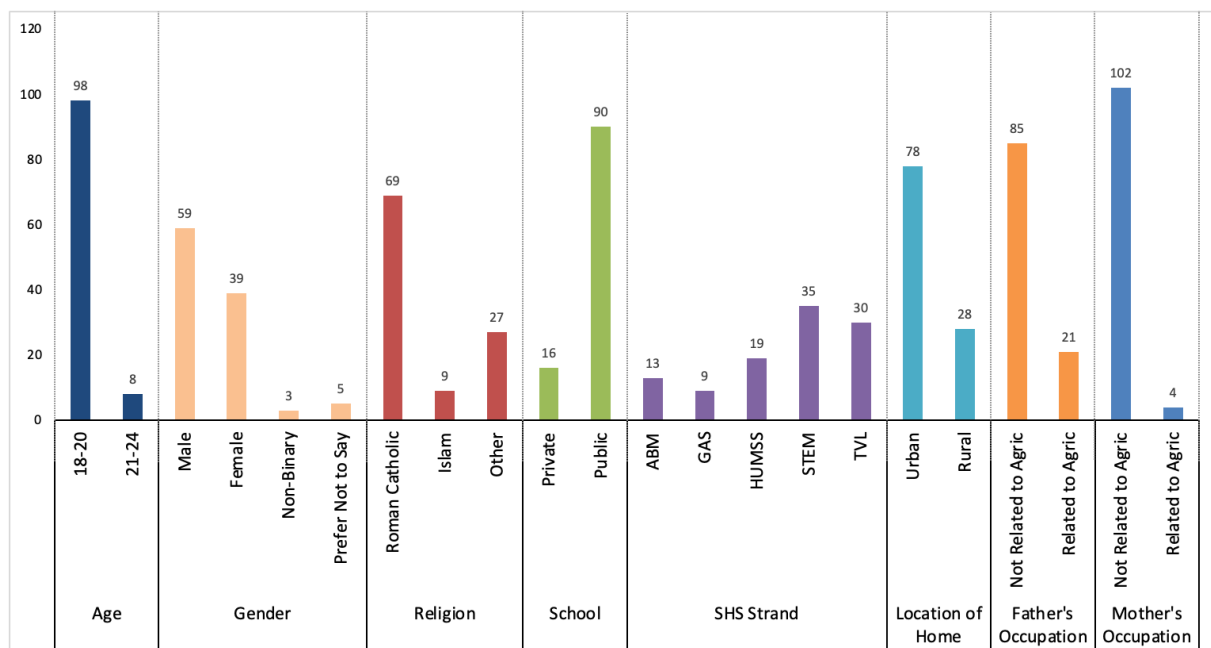


Figure 2. Socio-demographic Characteristics of Survey Respondents

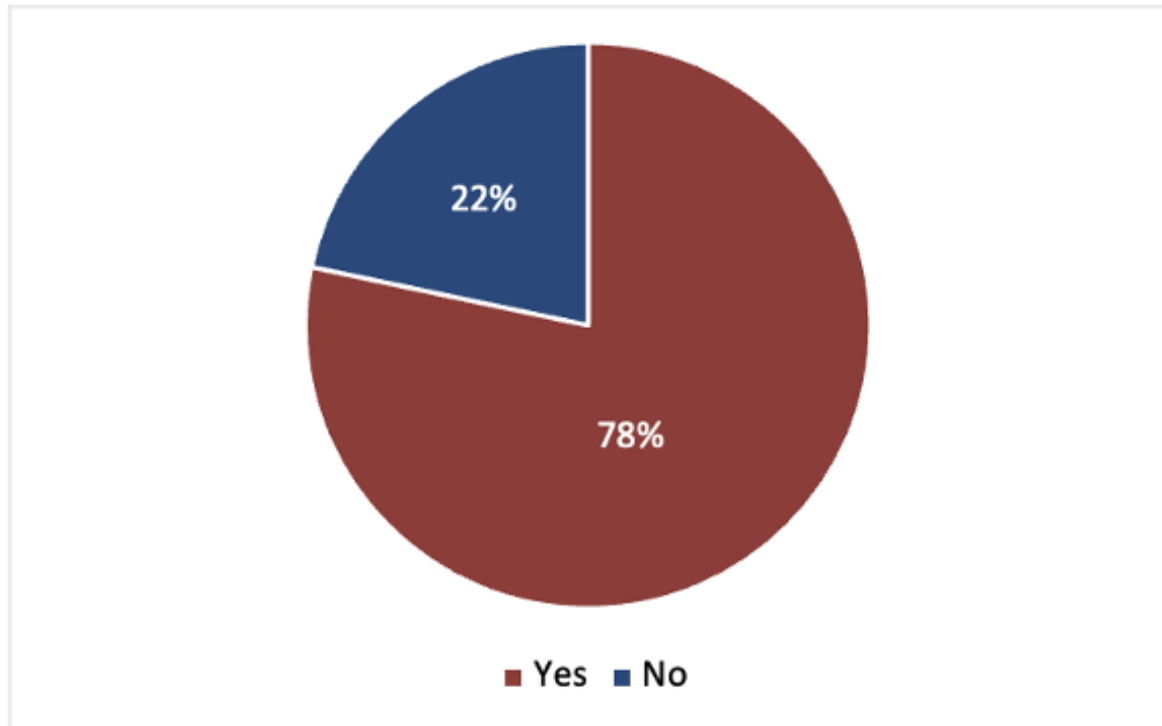


Figure 3. Rate of Exposure to Agricultural Information

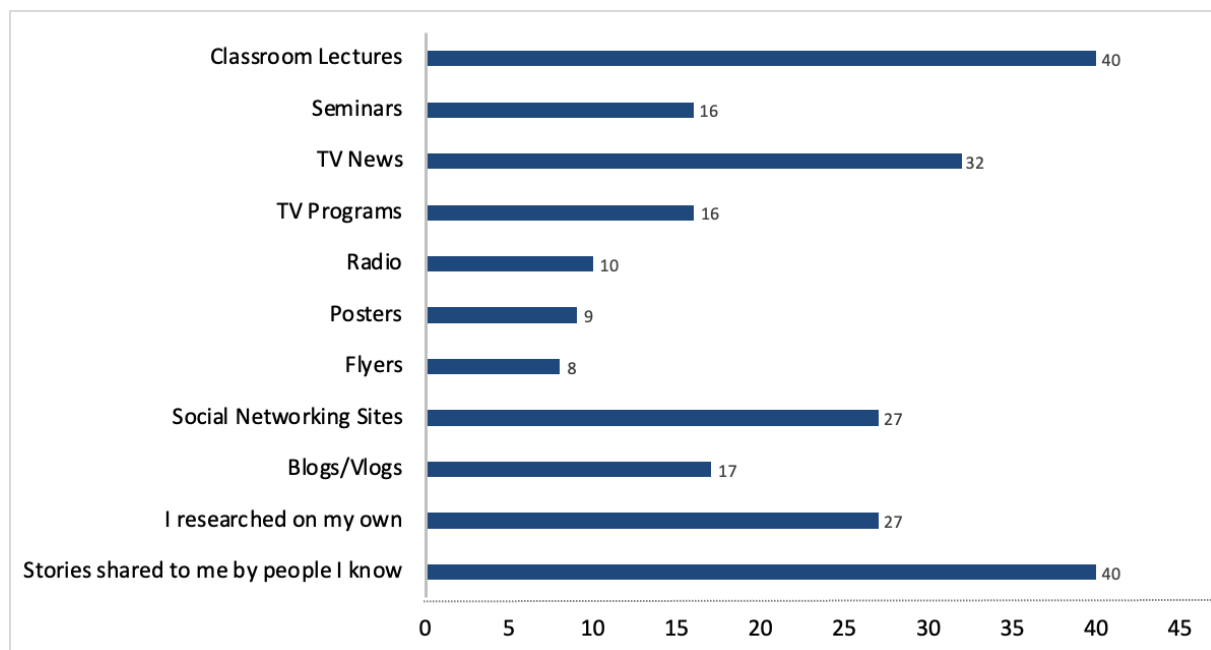


Figure 4. Sources of Agricultural Information (Multiple Response)

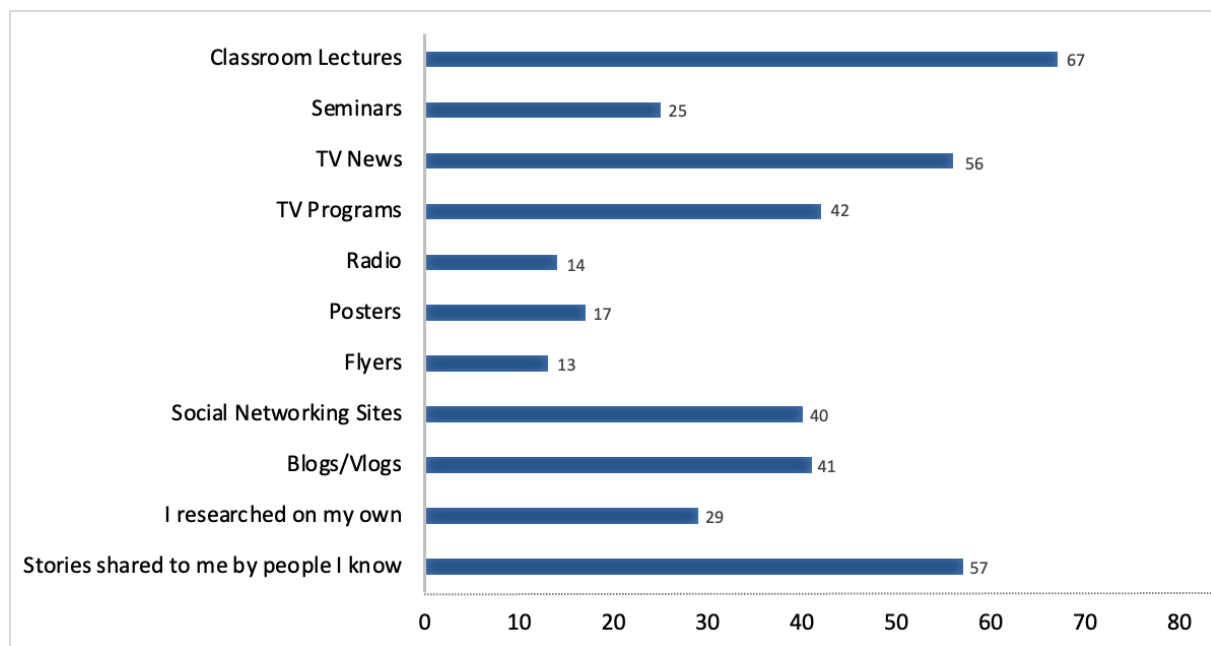


Figure 5. Sources of Agricultural Career Information (Multiple Response)

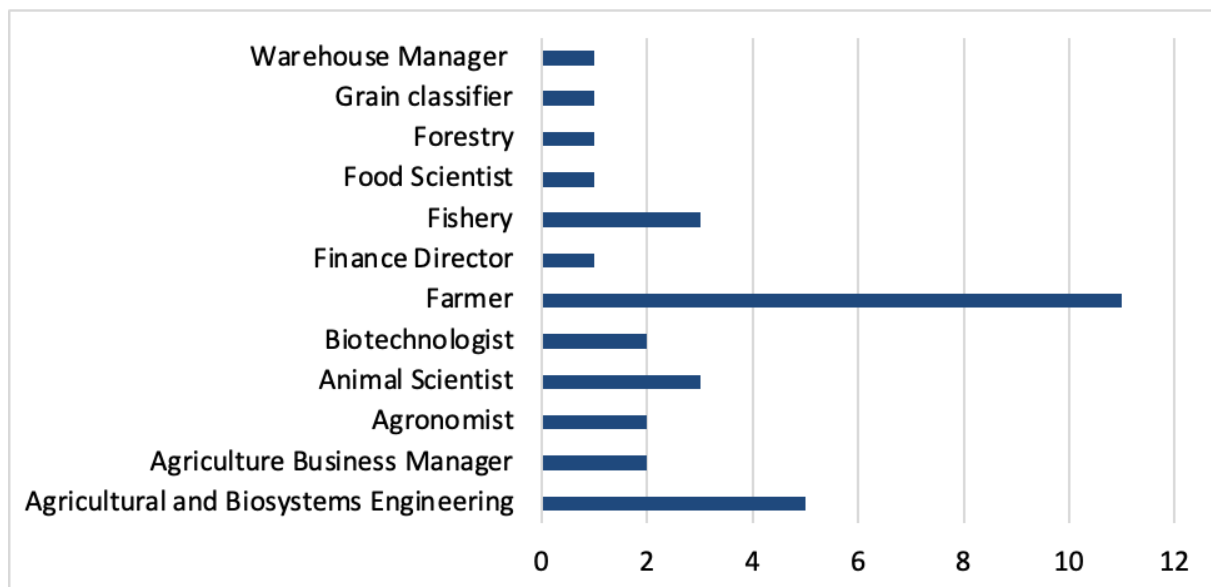


Figure 6. Agricultural Careers the Filipino Youth are Aware of

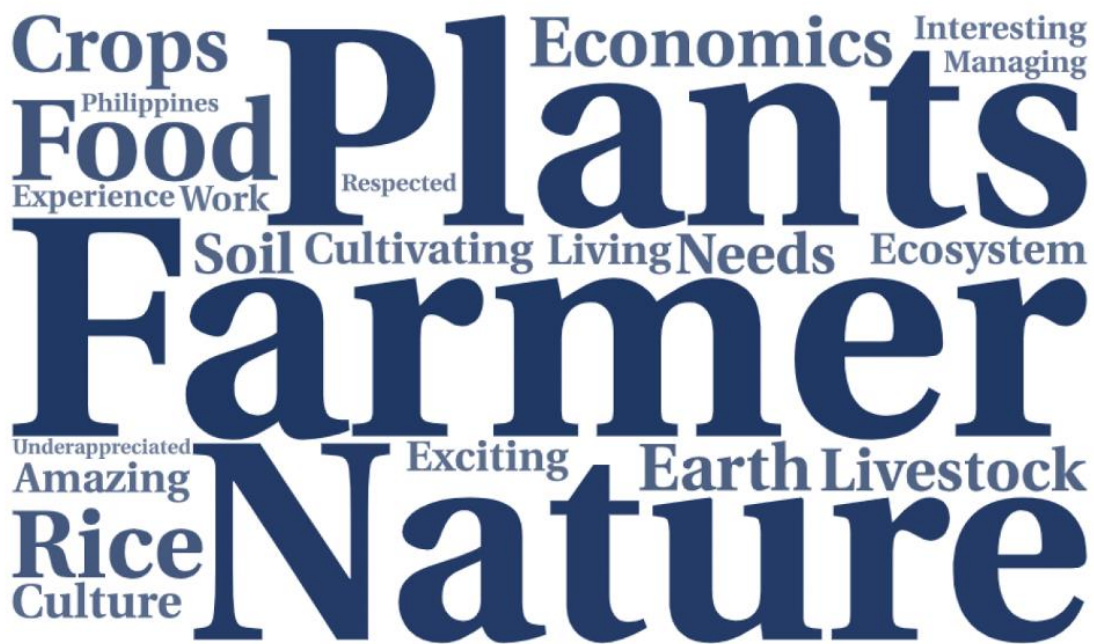


Figure 7. Words the Filipino Youth Associated with Agriculture

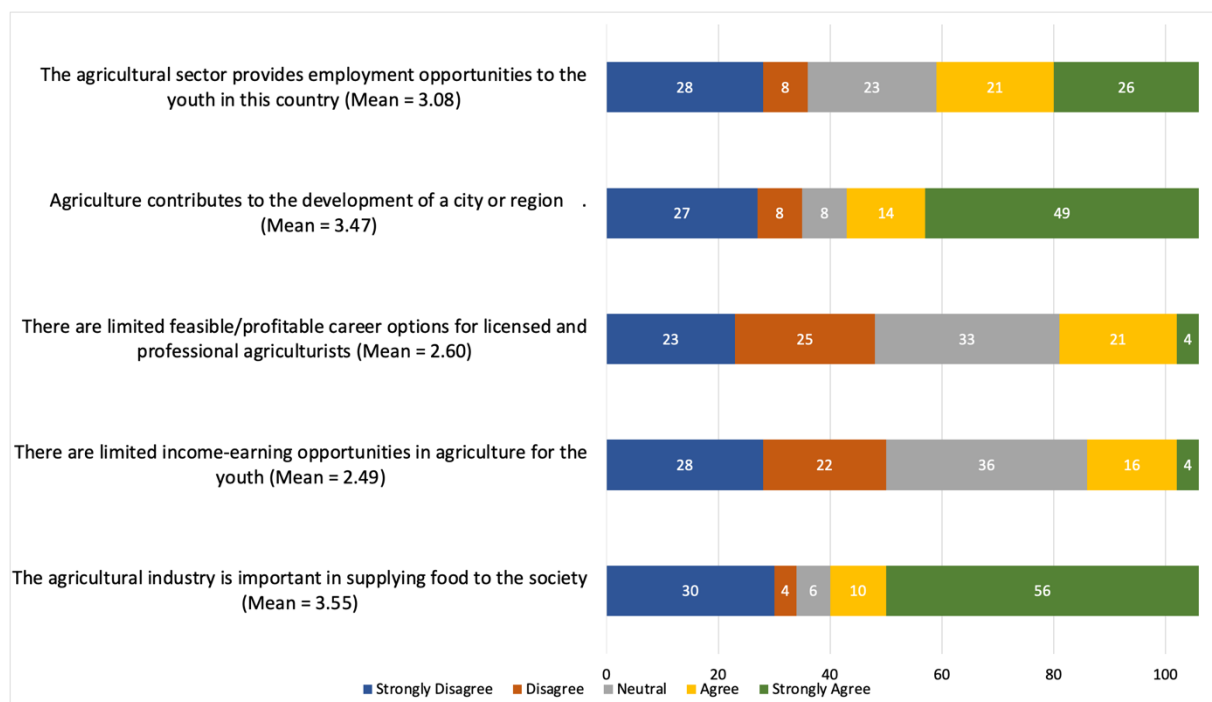


Figure 8. Economic Perceptions of the Filipino Youth Towards Agriculture

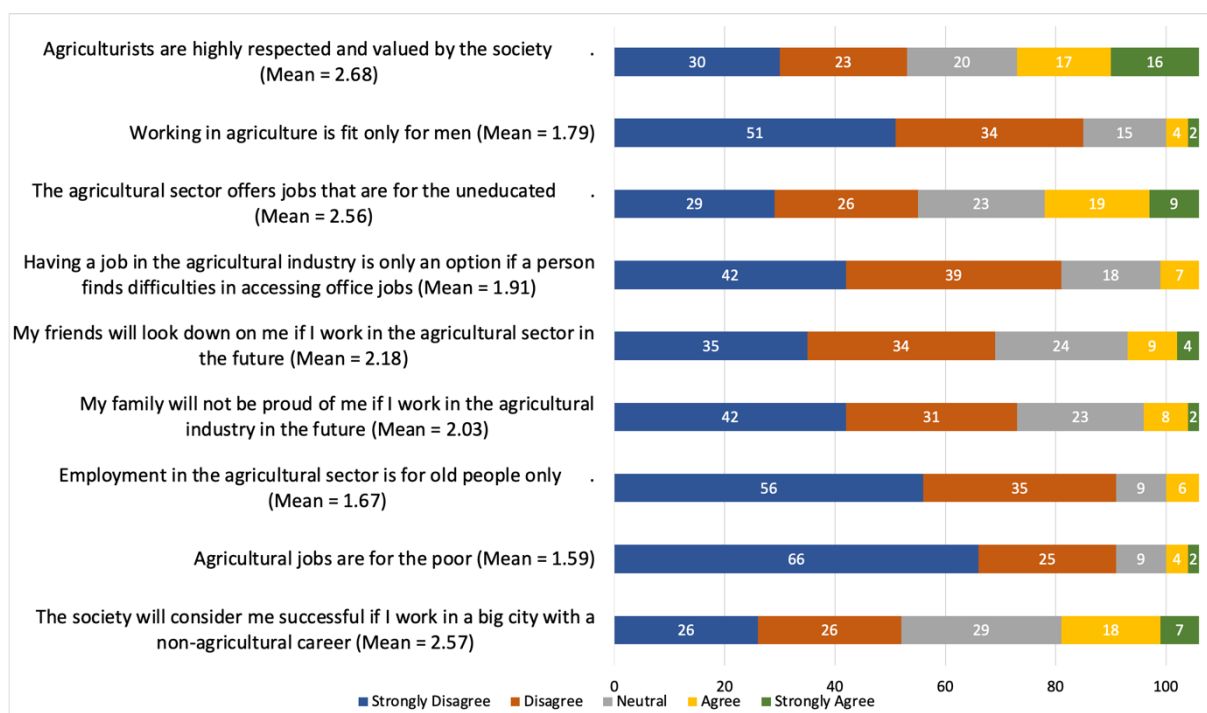


Figure 9. Social Perceptions of the Filipino Youth Towards Agriculture

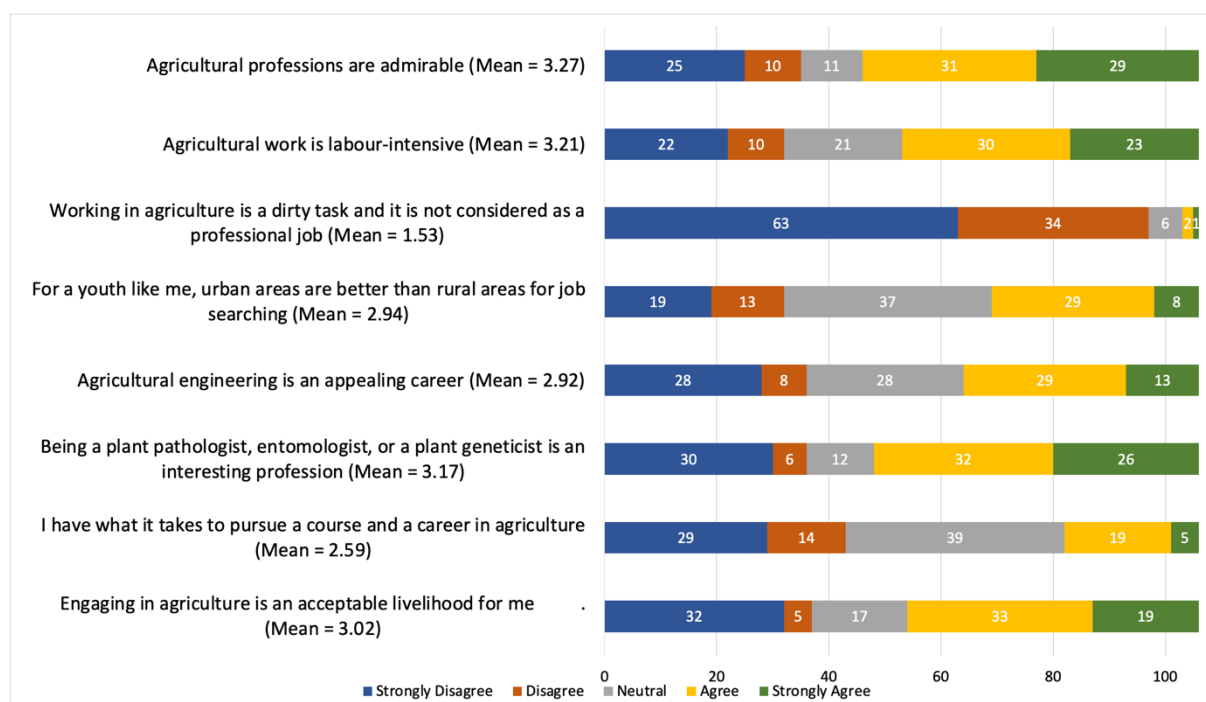


Figure 10. Personal Perceptions of the Filipino Youth Towards Agriculture