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**Research Article**

# Farmers' Aspirations, Happiness, and Sugarcane Production in the Visayas, Philippines

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**ABSTRACT**

Aspirations are long-term ambitions in one's life. Farmers aspire to achieve happiness in their faming activities. Happy farmers are satisfied individual that can easily increase their sugarcane production. The study aims to measure the aspirations of the farmers and its correlation to the level of the production of sugarcane crop in the Philippines. Descriptive method was employed in the study. The instrument used was the validated survey questionnaire used by the group of Oñal on their study in 2021. The 320 sugarcane farmers were randomly identified at the seven locations in the Visayas area of the Philippines. Analysis of Variance (ANOVA) shows that there's a significant difference in the production of sugarcane among location with an average of 50-64 Tons Cane per hectare (TC/ha) (alpha = 0.05). Furthermore, a significant differences in terms of farmers emotional well-being (happy farmers) indicates a high production of >65 TC/ha (alpha = 0.05). Relatively, the degree of farmers' happiness have weak to moderate correlation with sugarcane production (alpha = 0.01). Considering that farmers degree of happiness indicates a weak to moderate correlation with productivity, interventions that enhance farmers' well-being such as; stable pricing, affordable credit, and efficient milling may indirectly contribute to improved yields.

***Keywords***: *Aspirations, Happiness, Sugarcane farming, Sustainable agriculture, Farm productivity, Agricultural policy, Farm financing*

## Introduction

Aspirations are long-term ambitions, which are key in achieving per individual life (Cherry, 2024). Individual aspiration are largely determine by their environment and that individual may adjust their level of aspirations in response to their environment.

Aspirations of rural poor populations play a significant role in shaping their farm activities. The poor people and those who are expose to

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natural calamities are have a tendency to suffer from aspiration failure (Nandi and Nedumaran, 2021). Filipino farm workers have a healthy psychological well-being, however it does not change their struggle to survive (Ancheta et al, 2023).

Despite of those phenomena, farmers always aspired to be happy especially on their farming activities. Farmers are among the happiest professional in the world. Their love for the land, sense of community, physical activity, connection to the cycle of life, independence, financial stability, and connection to food all contribute to their happiness and job satisfaction.

Happiness is the ultimate goal of everyone working and earning wealth. Xiang et al (2023) found out that the adoption of agricultural green production technology considerably increases the happiness of Kiwi growers in China. Agricultural green production technology refers to organic fertilizer substitution, green pest control technology, and water saving irrigation technology. The mediation-effect model theory was utilize on their study.

Relatively the study of Liu et al (2024) which investigate the impact of technology adoption on farmer well-being, measured in happiness and life satisfaction. The adoption of agricultural mechanization services (AMS) indeed increases the absolute income of farmers which allowed them to have more time of their to leisure activities. The theoretical framework model that focuses on three key channels, namely: absolute income, relative income and leisure effect was used on the study

Innovations employed in farming are usually done by integrating the existing sugarcane production technologies. The main purpose is to increase production and the sustainability of the sugarcane industry that indirectly affect the happiness of farmers (Priyanka, et al, 2019).

Innovations usually used advance production technologies to increase the production, including the sugarcane crop. Misra and Bhatt (2020), projected that there will be an increase of production from 100 to 110 per hectare if the average sugar recovery be at 10.75% or about 520 million tonnes of sugarcane be produced in India which could enhance the aspiration of the farmers.

Adoption of technologies are instrumental in bridging the gap between agricultural research and practical farming. It is the catalyst for disseminating knowledge, technology and best practices. Traditionally the indicators of success of agricultural extension services are measures through yield increase or adoption of technology hence improving also the positive feeling of the farmers

The group of Abhijeet in 2023, concluded that the utilization of technologies can be assessed through environmental, social and economic indicators. Integrating those three factors, agriculture will be more sustainable and equitable that could change the people in the community most especially the farmers in redirecting their aspiration.

Economically sugarcane industry is one of the major dollar income industries in the Philippines. Despite the striving actions to produce more farmers' momentum on production could not be realize until this time.

On the production side, the Philippine raw sugar production for 2025 is projected to reach a volume of 1.85 million metric tons because of the improvement of weather conditions that could directly cater the expansion in harvest area (Pelonia, 2024). Relatively, as of February 2, 2025, the total raw sugar production in the country is 1,922,586 metric tons with a total tonnage of 21,490,581 or an average of 55.334 tons per hectare (SRA, 2025) way below the targeted 75 tons per hectare.

Outside the country, it is noteworthy that sugarcane productivity in Eastern Brazilian Amazon showed a significant increase from 2012-13 to 2021-22 (Cardoso et al, 2024).

Back in the Philippines, the vast plantation are located in Regions 6, 7, and 8 specified as follows: 207,909 hectares for Region 6; 57,663 hectares for Region 7; and, 10,200 hectares for Region 8, respectively. The total area of the three regions is 275,772 hectares or 71.01% of the total area of sugarcane plantation in the Philippines (Balita, 2024).

This study aims to contribute an idea on the aspiration of sugarcane farmers in the Philippines. This will add also ample information to the pool of knowledge in understanding real situation of the farmers specifically in the sugarcane industry.

### *Objectives*

The general objective of the study is to measure the degree of aspiration of the farmers with the sugarcane industry in the Philippines. Specifically, it aims to;

a. Gather data on the production sugarcane farmers in seven location;
b. Re-calibrate the effect of aspiration of sugarcane farmers with their production
c. Correlate sugarcane production with the degree of happiness of sugarcane farmers in the Philippines

## Theoritical Framework and Related Literature

In economics, happiness is often portray as utility. In psychology, it referred as subjective welfare. Figure 1 link between the adoption of agricultural green production and farmers' happiness.

I. Represents the three components dimension of agricultural green production.
II. Represents the direct effect of adopting agricultural green production on farmers' happiness
III. Represents the mediation effect of adopting agricultural green production on farmers' happiness.

The light orange color represents the four mediating variables.

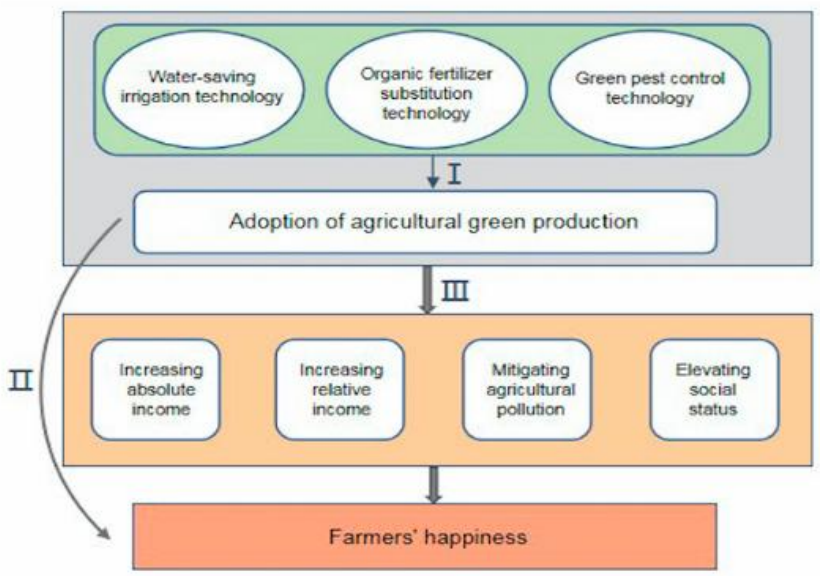


*Fig 1. Theoritical model of the study of Xiang et al (2023)*

## Methodology

The descriptive correlational study was used in this study. It focuses on the sugarcane farmers' areas, farm profile, sugarcane production in tonnage in correlation with the farmers emotional well-being at the 7 locations of the Visayas, Philippines, among others.

### *Research Environment*

Area planted to sugarcane were chosen as the study environment. There are seven provinces in the Visayas where majority of the sugarcane crops are planted to sugarcane. For this study only six provinces is included namely: Negros Occidental, Negros Oriental, Capiz, Iloilo, Cebu, and Leyte. As of Crop Year 2021-2022, the total area cultivated with sugarcane for the above-mentioned provinces was 271,622.89 hectares and produces 15,581,054.06 tons of cane with an average of 57.63 tons per hectare.

Specifically, the study covered the following location, namely: CEB for Cebu province; LEY for Leyte; ILO for Iloilo; CAP for Capiz; Bayawan for Negros Oriental; San Carlos and Victorias for Negros Occidental. For the seven location,

the total area is 93,354.03 hectares and had produced a total of 5,073,484.90 tons or an average tonnage of 54.35 per hectare.

***Distribution of the Respondents***

The respondents of the study were the sugarcane farmers in the Visayan area, Philippines. Employing the *Slovins* formula, out of 18,539 (Crop Year 2021-2022, Planters Directory) sugarcane farmers from the seven locations covered by this study, the sample size of 320 farmers were selected randomly as the actual respondents. The number of respondent was determined by computing the percentages viz-a-viz to the total number of sugarcane farmers per location. The percent distribution of the respondents per location is shown on Figure 2.

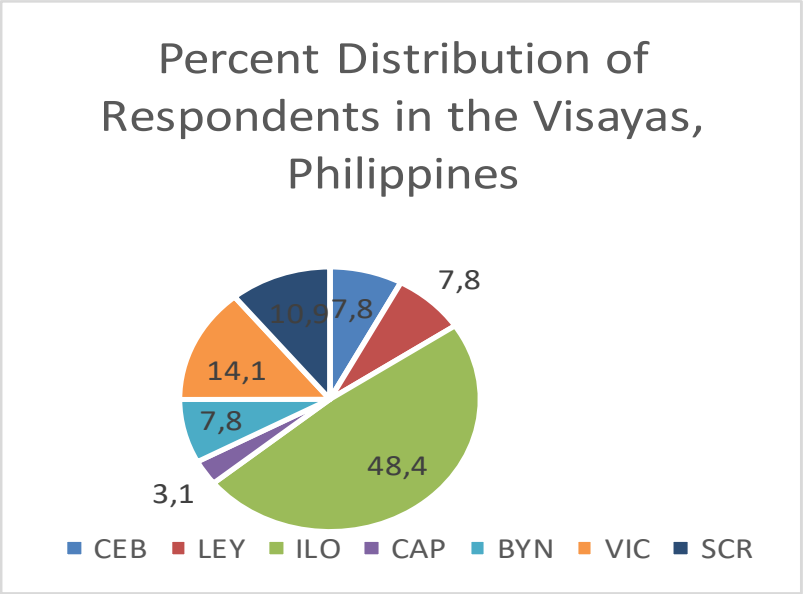


*Fig 2. Distribution of respondents at seven location in the Philippines*

***Research Instrument***

The instrument used to gather data was the validated document use by Oñal, et al (2021). It includes the farmers' profile, farm profile, age, farming experiences, and level of production among others.

***Data Gathering Procedure***

*Instrument Preparation*

The researchers had personally prepared the questionnaire/instrument. The instrument had undergone the reliability and validation tests in 2021, yet.

*Distribution of Instrument and Gathering and Data*

The researchers had done the actual orientation on how to fill-out the questionnaire with the field enumerators. The researchers had personally distributed the instrument per location.

Thereafter, data gathering started with the assistance of agricultural enumerators at the different location.

*Retrieval of Instruments*

The researchers had personally retrieved the instruments from the enumerators others were send thru public courier.

*Encoding and Statistical Analysis*

Upon retrieval of the questionnaire, the researcher had tallied and analyzed the data using the Statistical Package for Social Sciences (SPSS) software under the closed supervision and guidance of the statistician.

The procedure is presented on Figure 2.

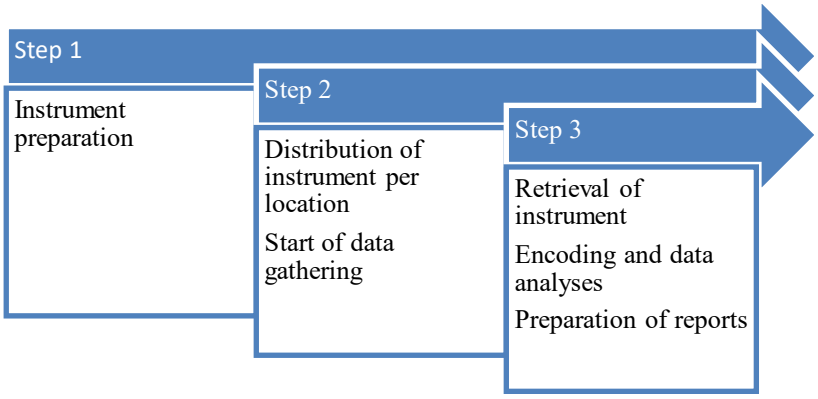


*Fig 3. Data gathering procedure*

### *Statistical Tool*

In the analysis of data, the following statistical tools were used in accordance with the nature of the specific objectives.

Frequency and percentage was use to describe the profile of the sugarcane farmers' and of the farms including the sugarcane production.

Likert's scale was use in defining and describing the degree of happiness and production.

The mean was used to determine the volume of production of sugarcane, as well as the aspiration of the farmers on the sugarcane industry in the Philippines measured by the degree of happiness.

One way Analysis of Variance (ANOVA) was used to determine the difference in the production of sugarcane, when respondents are grouped according to location of farm.

Pearson r Moment Correlation was utilized to determine the significant relationship between the aspiration of the farmers on the sugarcane industry in the Philippines, and the direct effect on the total volume of production of sugarcane.

## Results and Discussions

### *Farmers Profile*

Figure 4 revealed the farmers and farm profile at the seven location in the Visayas in terms of gender, age, level of education, number of years in sugarcane farming, average size of land holdings, and sugarcane production.

The findings reveal that out of 320 farmers involved in the study, there were more male (f=223, 69.7%) than the female (f=97, 30.3%).

Furthermore, the findings revealed that the majority of the farmers were old-aged or 51 years old and above (f=164, 51.2%), followed by medium age farmers or those between 36-50 years old (f=118, 36.9%), and young farmers or those with age of 35 years old and below (f=38, 11.9%), respectively.

As to the educational attainment, majority of the farmers were in secondary level (f=151, 47.2%) and the least were those that have a vocational attainment (f=12, 3.8%).

The study of Mavaliya et al (2025) on influenced of sugarcane farmers knowledge on some variables indicates that the age and level of education has no significant impact on the knowledge of farmers.

The findings is related with the work of Gallen (2015) which is using Danish matched employer-employee data, the paper estimates the relative productivity of men and women and finds that gender "productivity gap" is 8 percent implying that just under two thirds of the residual wage gap can be accounted for by productivity differences between men and women.

The productivity gap was measured by estimating the efficiency units lost in a firm-level production function if a worker is female, holding other explanatory covariates such as age, education, experience, occupation, and hours worked constant. Furthermore, both mothers and non-mothers were paid less than the male but the (low) relative pay of mothers is completely explained by productivity for women without children.

In India women perform a crucial role in agricultural either directly or indirectly starting

from producing, processing and ultimately marketing of agricultural produce (Mallick & Anshuman, 2023).

Furthermore, Hyland, et al (2020) found out the global picture of gender discriminations especially on law that affects women's economic opportunity. They had find a positive correlations between a more equal laws pertaining to women workforce and more equal labor markets outcomes such as higher female labor participation and a smaller wage gap between men and women.

In the Philippines, employment in agricultural sector by gender in the year 2019 was 28.70% male and 13.60% female.

For the number of years in sugarcane farming 38.4% have been in sugarcane farming for more than 20 years, while only 26.5% have been doing it for 10 years or less.

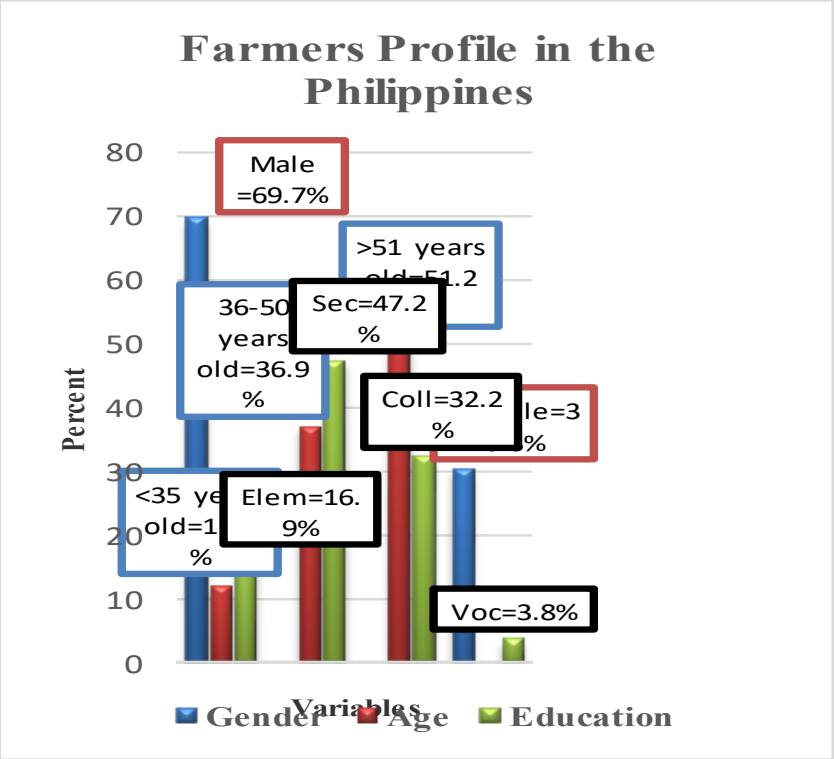


*Fig 4. Farmers profile in the Philippines*

***Farm Profile***

Table 1 For the number of years in sugarcane farming, most of the farmers were considered as experience once or old farmers with 20 years and above (f=123, 38.4%), and a few belonged to new breed of farmers or those that have been in the farming for10 years and below (f=85, 26.6%).

For size of the farm holdings majority of farmers own a smaller area of 25 hectares and below (f=223, 69.7%) and the least number of farmers are those owning a large farm with an area of 51 hectares and above (f=21, 6.6%)

The sugarcane production is considered low with <49 tons per hectare (f=172, 53.8%) and least farms had a medium production which ranges from 56 to 64 tons per hectare (f=60, 18.8%).

The findings on Table 2, implies that the farmers at the seven location in the Visayan area were majority male, aged 51 years old and above, secondary level, old timer in sugarcane farming with more than 20 years, and had a small landholding area of 25 hectares and below. Majority of the farms have a low production with an average of less than 49 tons per hectare.

The result of the study of Mavaliya et al (2025) implied that landholding of the sugarcane had a positive influenced on their farming knowledge.

In connection with this finding, a study of Gallen (2015) which is using Danish matched employer-employee data, the paper estimates the relative productivity of men and women and finds that gender "productivity gap" is 8 percent implying that just under two thirds of the residual wage gap can be accounted for by productivity differences between men and women. The productivity gap was measured by estimating the efficiency units lost in a firm-level production function if a worker is female, holding other explanatory covariates such as age, education, experience, occupation, and hours worked constant. Furthermore, both mothers and non-mothers were paid less than the male but the (low) relative pay of mothers is completely explained by productivity for women without children.

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In the Philippines, employment in agricultural sector by gender in the year 2019 was 28.70% male and 13.60% female

*Table 1. Farm Profiles at the different location in the Visayas, Philippines.*

| Variables | Number of Farmers | Percentage |
|---|---|---|
| **Average Size of Land Holdings** | | |
| 51 ha & above | 21 | 6.6 |
| 26-50 hectares | 76 | 23.8 |
| 25 ha & below | 223 | 69.7 |
| | | |
| **Land Topography** | | |
| >25 degrees | 60 | 18.8 |
| 6-24 degrees | 209 | 65.3 |
| <5 degrees | 51 | 15.9 |
| | | |
| **Average Production** | | |
| >65 TC/ha | 88 | 27.5 |
| 50-64 TC/ha | 60 | 18.8 |
| <49 TC/ha | 172 | 53.8 |
| **TOTAL** | **320** | **100.0** |

***Degree of happiness of farmers with the Philippines sugarcane industry***

The data in Figure 5 shows if how farmers feel with the sugarcane industry in the Philippines in percent. Out of the total 320 farmers-respondent, 79.94% (F=243) had signified that they are happy with the present status of the industry. On the other hand, 24.06% (F=77) had indicated that they not happy.

The result co-relates positively with the study of Soetikno et al (2023) which revealed that the level of happiness of farmer-participants in Tegal Bedug village is average. Among others, one of the factor that made them happy is when they already achieved their targets both in farming and in their family needs.

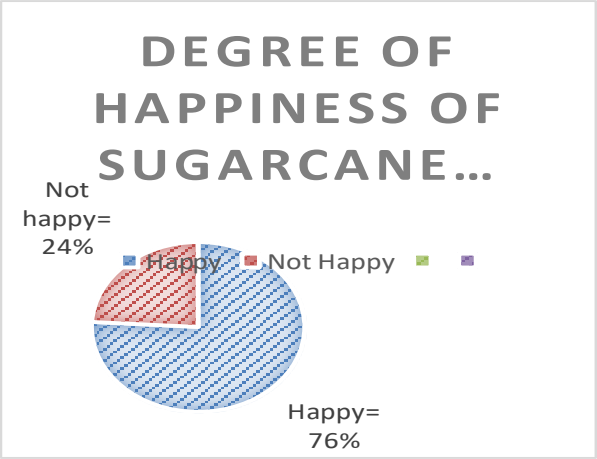


*Fig 5. Degree of happiness of farmers with Philippine sugarcane industry*

***Specific responses of the degree of happiness of farmers regarding the Philippine sugarcane industry***

The data in Table 2 shows the mean analysis on the degree of happiness of farmers regarding the sugarcane industry in the Philippines. The responses are categorize as "happy" with a mean of 3.14 while for "not happy" the mean is 3.03. For both categorize they are best described as "sometime" or average only.

Topping the reason given by farmers under the "happy" category, is the availability of laborer on their major operations in the farm (m=4.30). While the "good price of sugar" rank number 5 (m=2.07). Results shows that supplementing the adequate number of laborer per farm operation will make the farmers happy. This could be attribute to the problem on the scarcity of machineries needed on critical farm operations and could directly affect the production.

The findings could best relate to the study of Oñal et al (2022) indicating that there is a strong relationship between the number of farm workers and the farmer productivity.

Still on the challenge of farm laborer, the group of Singh (2022) found out that scarcity of laborers in most of the farm operations as well as high cost in hiring were great factors in sugarcane farming. Those findings is also parallel with the study of Devi and Chintalapudi (2024) which shows that primary challenge of sugarcane farmers includes shortage of farm laborers and low production.

The study of Verma et al (2025) indicates that among the production constraints in the production of sugarcane in India the availability of labor is very prominent.

Reza, et al (2016) had found out on their study that almost 50 percent of the cost in sugarcane farming is spend in the hiring of laborer. It indicates that sugarcane is a labor-intensive crop in Bangladesh and on average 90-110 man-days labor is needed per acre of sugarcane production.

In the Philippines, the total number of agricultural and industrial workers directly employed in the industry is about 700,000. Over and above, the total workers mentioned there is an additional 70,000 more or less seasonal plantation workers who are augmenting the laborers in sugarcane plantation and estates nationwide. Relatively, the latest survey mentioned by Crisostomo in 2018 indicates that sugarcane farms have 32,000 laborers, which is second to the banana plantation with 49,866 workers. Moreover, the agriculture sector has a share of 24.3% in the country's total employment (PSA, 2019).

The number 1 reason under the "not happy" category on why most of the farmers are not happy is due to the "erratic or low sugar price" (m=4.63). While the "in-adequate capital financial resources was rank number 5 (m=2.21). Erratic or low sugar price will affect the farmers' income that could lower also their household budget thus affecting their way of living, respectively.

The payment mechanism is a determinant in the price of sugar. The findings of Pandey and Devkota (2020) revealed that delay and non-transparent of payment mechanism for the sugarcane produced and poor access of farmers to agricultural loan are challenges to sugarcane production in Nepal.

Some of marketing constraints on sugarcane production at Uttar Pradesh in India were low price of sugar, price fluctuations and commission (mill shares) charges.

On rank number 2, reason that is the "in-efficient mill operations", the study of Priyanka et al (2019) concluded that the integration of innovations like the efficient mill operation or of processing plant system ensured the increase in production.

*Table 2. Mean of reasons on the degree of happiness of farmers with the sugarcane industry in the Philippines*

| | Farmers Reasons | Mean | Rank | SD | Description |
|---|---|---|---|---|---|
| | **Happy** | | | | |
| 1 | Good price of sugar | 2.07 | 5 | 1.25 | Rarely happy |
| 2 | Adequate capital/financial resources | 2.26 | 4 | 1.13 | Rarely happy |
| 3 | Availability of laborer on major farm operations | 4.30 | 1 | 1.22 | Always happy |
| 4 | Mill operations if efficient | 3.38 | 3 | 1.29 | Sometimes |
| 5 | Not specified | 3.71 | 2 | 1.44 | Often happy |
| | **Mean** | **3.14** | | | **Sometimes** |
| | **Not happy** | | | | |
| 1 | Erratic/low sugar price | 4.63 | 1 | 0.78 | Always sad |
| 2 | In-adequate capital/financial resources | 2.21 | 5 | 1.15 | Rarely sad |
| 3 | Scarcity of laborers | 2.55 | 3 | 1.02 | Sometimes |
| 4 | In-efficient mill operations | 3.44 | 2 | 1.12 | Often sad |
| 5 | Not specified | 2.34 | 4 | 1.26 | Rarely sad |
| | **Mean** | **3.03** | | | **Sometimes** |

***Difference on the volume of production of sugarcane in the Philippines when group by farmers' degree of happiness***

Table 3 indicates the production of farmers when group according to their degree of happiness which is classified as high or >65 TC/ha (M=2.47). Happy farmers produces an average >65 TC/ha as well (m=2.49) while farmers that are not happy have an average production of 50-64 TC/ha (m=1.93). The result implied that positive feeling of farmers can be attributed to the corresponding increase of production. This shows that happy people are more productive because of their eagerness to progress.

*Table 3. Production mean and standard deviation of farmers' degree of happiness regarding the sugarcane industry in the Philippines.*

| Degree of Farmers Happiness | Production Mean | SD | Description |
|---|---|---|---|
| Happy | 2.49 | 0.77 | High Production |
| Not happy | 1.97 | 0.93 | Medium Production |
| **Mean** | **2.47** | | **High Production** |

The data in Table 4 presents the difference on sugarcane production in the Visayas, Philippines when grouped by farmers' degree of happiness using the One-way ANOVA. It further revealed that there is a significant difference on sugarcane production in the Visayas, Philippines when grouped by farmers' degree of happiness with an average production 50-64 TC/ha (m=1.80). The happy category had an average production of >65 TC/ha (m=2.37,

alpha=0.01) while the not happy category had a lower production average of <49 TC/ha (m=1.24, alpha=0.01).

This means that sugarcane production in the Visayas, Philippines when grouped by farmers' degree of happiness are not comparable.

*Table 4. Analysis of Variance of sugarcane production in the Philippines when grouped by farmers degree of happiness*

| Farmers Degree of Happiness | Mean | F | Sig | Description |
|---|---|---|---|---|
| Happy | 2.37 | 13.22 | 0.001 | High production |
| Not happy | 1.24 | 23.70 | 0.001 | Low production |
| **Total Mean** | **1.80** | | | **Medium production** |

***Difference on sugarcane production in the Visayas, Philippines when group by location***

The data in Figure 5 presents the difference on sugarcane production in the Visayas, Philippines when grouped by location using the One-way ANOVA. It further revealed that there is a significant difference on sugarcane production in the Visayas, Philippines when grouped by location (F=2.816, p=0.011, alpha =0.05).

This means that sugarcane production in the Visayas, Philippines when grouped by location are not comparable.

The results relates to the finding of the study by Oñal et al (2022) found out that there's a significant difference in the level of productivity of sugarcane farms also when grouped as to the location (alpha =0.05)

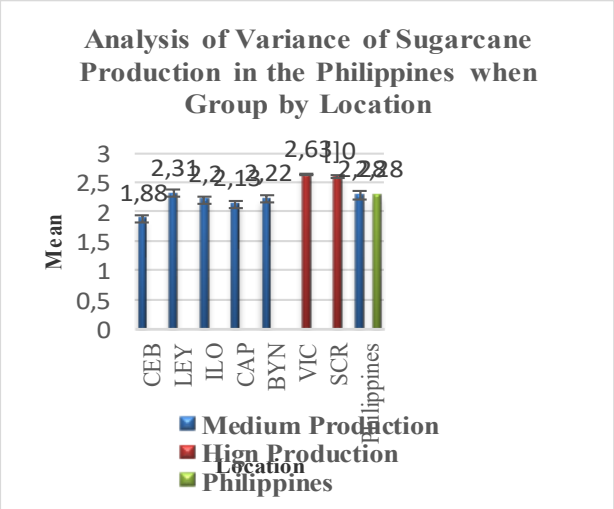


*Fig 5. ANOVA of sugarcane production in the Philippines when group by location*

***Relationship between the degree of happiness of farmers regarding the Philippine sugarcane industry and volume of production***

The data in Table 5, showed the relationship on the degree of happiness of the farmers regarding the Philippine sugarcane industry and the volume of production in different location in the Visayas using Pearson's r. It could be deduced from the data that there is a weak to moderate relationship between the farmers' degree of happiness regarding the sugarcane industry in the Philippines and production (r=0.26, alpha=0.001). Therefore, positive emotional well-being of farmers regarding the sugarcane industry in the Philippines had attributed positively on the volume of production

Liu et al (2024) clearly indicate on their investigative study that utilizing the AMS had a great impact on the happy feeling and life satisfaction of farmers due to the increase in production measured by their absolute and relative income.

*Table 5. Correlation analysis between the degree of happiness of farmers regarding the Philippine sugarcane industry and volume of production*

| Variables Compared | Pearson r | Sig | Strength of Relationship |
|---|---|---|---|
| Farmers Degree of Happiness<br>Sugarcane production | 0.26 | <0.001** | Weak to Moderate relationship |

***highly significant*

## Conclusion

This study aims to determine the level of aspiration measure by farmer happiness at the seven locations in the Visayas, Philippines relative to their sugarcane production in tons per hectare.

There were 320 respondents involved in the study that covers 6 provinces within the 4 regions of the Philippines. Majority of the respondents were male, 51 years old and above, with secondary education, has been in sugarcane farming for more than 20 years and are tilling an average area of 25 hectares and below.

In general, the results revealed that majority of the farmers are happy because of the availability of laborer on major farm operation while the erratic or low sugar price is the number 1 reason why others are always sad.

The study indicates that on per location it realized a medium production of 50-64 TC/ha especially in 5 locations while 2 locations have a high production.

Generally, sugarcane production and the farmers' degree of happiness at the different locations in the Visayas, Philippine has a weak to moderate relationship.

Presenting the present status of the sugar industry in the Philippines, specifically in the area of Visayas, it has a medium production of 50-64 TC/ha.

Since the degree of happiness of farmers' had a weak to moderate correlation with productivity, interventions that enhance farmers' well-being; such as stable pricing, affordable credit, and efficient milling may indirectly contribute to improved yields.

## Conflict of Interest

No other group is involved in this study. No monetary contribution is given to this study.

### *Ethical Consideration and Data Privacy*

The researcher takes responsibility for securing the sanctity and confidentiality of all information/data generated through this instrument used. Data will be used for academic/research and in designing programs/projects for the industry.

The respondents agreed for publishing all generated data.

## Acknowledgement

Our sincere gratitude to the sugarcane farmers and the technical enumerator who were involved during the data gathering and processing of the same.

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