

## Aging Filipino Rice Farmers and Their Aspirations for Their Children

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**This study assessed the socio-demographic profile of Filipino rice farmers, their aspirations for their children, and the factors that influence such aspirations. Both quantitative and qualitative methods were used. Focus group discussions (FGDs), key informant interviews (KIIs), informal interviews, and intermittent field observations were conducted in 13 villages of 12 municipalities in three provinces of the country – namely Agusan del Norte for Mindanao, Iloilo for the Visayas, and Isabela for Luzon. A farmer household survey was also conducted among randomly selected 923 farmers from these three provinces. The majority of the farmers did not want their children to be rice farmers. Most of them aspired to their children's college education for they want them to work on non-farming jobs in urban areas or abroad. Logistic regression showed that age and number of children of farmers increase the likelihood that a farmer aspires for at least one of his or her children to be rice farmers. On the other hand, gender, tenure, and economic status of the province decrease that likelihood. The physical and economic hardships experienced in rice farming are the major reasons farmers do not like their children to follow their steps.**

Keywords: aging, aspirations, Filipino rice farmers, Philippine rice self-sufficiency, youth

### INTRODUCTION

The Philippines, a country heavily dependent on imported rice, has launched its Philippine Rice Self-Sufficiency Plan in 2009. This was later renamed in many forms, such as the Agri-Pinoy Food Staple Self-Sufficiency Program (FSSP) in 2010 (DA 2012). The program aimed to achieve rice or food sufficiency for the country and, at the minimum, reduce rice importation. It also intended to thwart the recurrence of the 2008 food crisis where people line up early in the morning to buy a cheaper and limited amount of rice (2 kg/capita/d) from government-allocated rice stores (Regalado 2010).

To date, rice self-sufficiency is still an elusive dream. The country remains a rice importer, even more so with the recurrence of the 2018 food crisis. This resulted in the implementation of the Rice Liberalization Act in early-2019. Commonly called the Philippine Rice Tariffication Law, its objective is to increase rice supply in the market by boosting rice importation (Briones 2019).

The country's insufficient rice production is exacerbated by the demographic changes in the agricultural workforce. Dr. Asterio Saliot, the then-Director of the Agricultural Training Institute (ATI), contends that the Philippines might reach a critical shortage of farmers in just 15 years because they are already aging – 57 years old on the average (IRIN 2013). This is in contrast to the younger age

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of 44, the reported average age of a Filipino farmer in the April 1971 Philippine agriculture census (Castillo 1979).

This aging phenomenon of farmers, however, is not unique to the Philippines. It is a global phenomenon. This is especially true among smallholder farmers in Asia (Rigg *et al.* 2019). The average age of farmers in Thailand is 52 years (Saiyut *et al.* 2017). In China, around a third of the farmers are more than 50 years old. In its three developed cities, Chinese farmers are 55 (Yang 2013). A similar aging trend was also noted in Indonesia, Korea, Vietnam, Africa, the United States, Japan, and the European Union (Jöhr 2012; HelpAge International 2014).

Focusing on rice farmers, Moya *et al.* (2015) found that the average age of Filipino rice farmers was 46 years old in 1966, increasing to 59 years in 2012. These findings, however, were limited only to Central Luzon rice farmers as their study was based on the Central Luzon loop survey of the International Rice Research Institute (IRRI) from 1966–2012. Also, many of the original sample farmers in 1966 were continually replaced over the years of the survey due to several reasons such as deaths, migration, and transfer of ownership.

This aging phenomenon of Filipino rice farmers needs further empirical evidence by including farmer respondents from Luzon, Visayas, and Mindanao. Moreover, there is already increasing preference or aspiration among the rural population, particularly the youth, to work abroad and engage in non-farm jobs (Asis 2006; Canlas and Pardalis 2009). So, the question now is: Who will be the future Filipino rice farmers?

Aspiration is defined as “hopes or ambitions to achieve something” (Copestake and Camfield 2010). It is viewed as multidimensional, multi-faceted, socially embedded, and usually formed through social interaction (Appadurai 2004). Considering that aspirations are socially determined, understanding people’s aspirations requires a careful analysis of one society’s culture (Ray 2003; Appadurai 2004).

The Filipino family, characterized by close family ties, is traditionally given more emphasis than individuals (Jocano 1997; Palis 2002; Hays 2008). The children are highly valued, reared, and nurtured with much personalized tender care resulting in the close parent-child relationship and sibling solidarity. Filipino children, on the other hand, are expected to obey parental authority as a sign of honor and respect to their parents, with emphasis on interdependence and “*utang na loob*” or debt of gratitude for their parents’ sacrifices in rearing them (Jocano 1997). The children’s respect for parental authority even extends through their adulthood, suggesting that Filipino children often value, if not constantly, the advice and decisions of their parents. This study argues

that Filipino parents would have a great influence on the aspirations, career, and future of their children, and this would determine whether they become the next generation of rice farmers or not.

As there is limited empirical evidence on the aging phenomenon of Filipino rice farmers and their aspirations for their children, this study attempts to fill that gap. It aims to a) determine the socio-demographic profile of Filipino rice farmers, b) explore the aspirations of Filipino rice farmers for their children, and c) assess the factors that influence the aspirations of the Filipino rice farmers for their children. Understanding the socio-demographic profile of Filipino rice farmers and their aspirations for their children can help the government formulate effective pro-poor policies and implement positive interventions to address the aforementioned issues and contribute to addressing the country’s food security or food staple sufficiency.

## MATERIALS AND METHODS

### The Setting

The study was conducted in three provinces of the country, one province representing each of the three big islands: Isabela for Luzon, Iloilo for the Visayas, and Agusan del Norte for Mindanao. It formed part of a bigger project on “Accelerating Philippine Rice Self-Sufficiency through Unified Training, Research, and Extension,” between PhilRice and IRRI from 2009–2012. The provinces and the corresponding municipalities and villages or *barangays* were selected based on the following criteria: the size of rice-growing area, presence of farmer field school Palay Check training implemented by the Philippine Rice Research Institute (PhilRice) and ATI of the Department of Agriculture (DA), accessibility, and – upon consultation with local agriculture officials – peace and order situation.

### Sampling, Data Collection, and Analysis

Both quantitative and qualitative methods were used. FGDs, KIIs, informal interviews, and field observations were employed to gather qualitative data from the three abovementioned provinces in 2009–2012. A farmer household survey was also conducted among 923 farmers who were randomly selected from the three provinces. In addition, some observations from an ethnography conducted in one village in the province of Agusan del Norte in 2011–2012 were also utilized. This ethnography village served as the pilot ethnography study of the bigger project, which this study formed a part of. A re-visit was conducted in 2013 and 2018 in Agusan del Norte where most informal interviews were conducted.

The household survey employed a three-stage stratified simple random sampling with unequal proportions in the first and second stratum. The first stratum was the municipality, the second stratum was the village, and the third was farmers. Farmer respondents were randomly selected from a list of farmers in each chosen village. Depending upon the number of rice-growing municipalities and villages per municipality (including cities), a range of 5–7 municipalities and 4–6 villages per municipality/city were randomly selected. And then, 10 farmers were randomly selected per village.

The FGDs conducted covered a total of 13 villages in 12 municipalities of the three provinces, with a total of 165 participants: 87 male and 78 female farmer participants (Table 1). These FGDs were conducted as part of the monitoring and evaluation activities of the bigger project, which this study was a part of. They were done in four municipalities and villages selected in each province from the household survey, except in Agusan del Norte where the ethnography village was included. In addition, two key farmer informants and two municipal agricultural officers were interviewed in each province.

**Table 1.** Number of FGD participants (2009–2012).

Province	Municipality	Village	Participants		Total
			Men mean (range)	Women mean (range)	
Agusan del Norte	4	5	5 (3–7)	8 (5–9)	64
Iloilo	4	4	7 (4–8)	6 (4–8)	52
Isabela	4	4	9 (6–10)	4 (2–6)	49
<b>Total</b>	<b>12</b>	<b>13</b>	<b>87</b>	<b>78</b>	<b>165</b>

The group size for each FGD varied, but it generally consisted of 8–16 farmers. The group was a mixture of men and women but, in Agusan del Norte, the majority were women. Each group was assigned one facilitator, a local interpreter, and one local recorder who took notes of farmers' responses. A tape recorder was made available in every session. The recorded FGDs were transcribed and translated from local to the English language.

Thematic analysis was used to analyze the qualitative data – from FGDs, KIIs, and answers from open-ended questions in the semi-structured survey questionnaire. Descriptive statistics and logistic regression analysis were used to analyze the quantitative data. Binary logistic regression was used to determine the factors that affect the aspirations of farmers for their children, *e.g.* whether to be rice farmers or not. The themes generated, including field observations in the three provinces and from the

ethnography village, were integrated into the discussion of quantitative findings.

## RESULTS

### Socio-demographic Profile of Filipino Rice Farmers

The overall average age of farmer respondents was 53 years, with Iloilo farmers significantly older than farmers from Agusan del Norte and Isabela (Table 2). The average age of farmers in the three provinces ranged from 50–59 years, whereas for individual farmers, the youngest was 16 years from Agusan del Norte and the oldest was 89 years from Iloilo. The average number of years they were engaged in farming was 25 years (range: 22–30 years). The average farm size was 1.3 ha (range: 1.0–1.43 ha). Iloilo farmers had significantly higher farm experience and farm size (1.4 ha), although these were statistically the same as those of Isabela farmers. Overall, male farmers (70%) exceeded women farmers (30%) and they were mostly married (85%). The average household size was five and the average number of children was four.

**Table 2.** Socio-demographic profile of Filipino rice farmers in three major rice-growing provinces: Agusan del Norte, Iloilo, and Isabela (n = 923, 2010–2011).

Variable	Agusan (n = 359)	Iloilo (n = 282)	Isabela (n = 282)	Total (n = 923)
<b>Age (years)</b>				
Mean	51.13 <sup>b*</sup>	58.50 <sup>a</sup>	50.13 <sup>b</sup>	53.07
Standard deviation	11.66	12.93	12.69	12.43
Range	16–83	26–89	24–87	16–89
<b>Education (years)</b>				
Mean	8.25 <sup>a</sup>	8.96 <sup>a</sup>	8.80 <sup>a</sup>	8.63
Standard deviation	3.04	3.40	3.20	3.21
Range	1–15	1–15	1–15	1–15
<b>Farm experience (years)</b>				
Mean	21.88 <sup>b</sup>	29.70 <sup>a</sup>	24.66 <sup>b</sup>	25.12
Standard deviation	12.87	15.95	14.27	14.36
Range	1–78	2–70	1–66	1–78
<b>Farm size (ha)</b>				
Mean	1.04 <sup>b</sup>	1.41 <sup>a</sup>	1.43 <sup>a</sup>	1.29
Standard deviation	.63	.80	.85	.76
Range	.13–3.25	.10–4	.15–4	.10–4
<b>Household size</b>				
Mean	5.05 <sup>a</sup>	4.48 <sup>b</sup>	4.18 <sup>b</sup>	4.61
Standard deviation	2.18	2.18	1.82	2.06
Range	1–15	1–13	1–14	1–15

<b>Number of children</b>				
Mean	4.49 <sup>a</sup>	4.45 <sup>a</sup>	3.46 <sup>b</sup>	4.16
Standard deviation	2.73	2.75	2.28	2.59
Range	0–22	0–15	0–12	0–22
<b>Gender (%)</b>				
Male	56.5	71.3	83.3	70.4
Female	43.5	28.7	16.7	29.6
<b>Civil status (%)</b>				
Single	3.9	6.0	5.0	5.0
Married	86.7	80.8	87.5	84.9
Widow/widower	7.5	12.8	5.7	8.7
Separated	1.9	00.4	1.8	1.4
<b>Occupation (%)</b>				
Rice farming as primary occupation	72.4	76.6	81.2	76.7
Rice farmers w/ secondary occupation	49.3	26.6	30.9	35.6

\*Means in a row with the same letter are not statistically significant at the 0.05 level of significance using t-test.

Most of the farmers had elementary education. The average years spent in school by the farmers was 8 years, an equivalent level of 2<sup>nd</sup> year high school before quitting. Around 77% of them had rice farming as the primary occupation, and 36% had secondary sources of income.

The overall percentage of farmers with ages 30 years old and below was 2.3%: 0.7% in Iloilo, 2.0% in Agusan, and 3.6% in Isabela (Table 3). For ages 40 years old and below, the overall percentage was around 18%, with the least in Iloilo at 10%, followed by Agusan at 17.6% and highest in Isabela at 26%. The majority of the farmers belonged to

**Table 3.** Frequency distribution of farmers' age in Agusan del Norte, Iloilo, and Isabela provinces.

Age	Agusan		Iloilo		Isabela		Total	
	n	%	n	%	n	%	n	%
10–20	2	0.6	0	0.0	0	0.0	2	0.2
21–30	7	2.0	2	0.7	10	3.6	19	2.1
31–40	54	15.0	26	9.2	63	22.3	143	15.5
41–50	115	32.0	50	17.7	75	26.6	240	26.0
51–60	105	29.3	82	29.0	73	25.9	260	28.2
61–70	52	14.5	61	21.6	40	14.2	153	16.6
71–80	23	6.4	54	19.1	20	7.1	97	10.5
81–90	1	0.3	7	2.5	1	0.4	9	1.0
<b>Total</b>	<b>359</b>	<b>100</b>	<b>282</b>	<b>100</b>	<b>282</b>	<b>100</b>	<b>923</b>	<b>100</b>

the 41–60 year -bracket, which was at around 54%: 47% in Iloilo, 52% in Isabela, and 60% in Agusan. However, for farmers with ages of more than 60 years, the overall percentage was 28%: Agusan at 21%, Isabela at 22%, and the highest in Iloilo at 43%.

### Aspirations of Rice Farmers for Their Children

Around 65% of the farmers wanted their children to stay away from rice farming, while only more than a third of them (35%) wanted their children to be rice farmers (Table 4). Most of the farmers in the three provinces did not want their children to be like them, as rice farmers: 73% in Iloilo, 72% in Isabela, and 53% in Agusan del Norte.

**Table 4.** Aspirations of farmers for their children in the three provinces.

Farmers' aspiration	Agusan (n = 359)		Iloilo (n = 282)		Isabela (n = 282)		Total (n = 923)	
	F	%	F	%	F	%	F	%
“I want my children to be rice farmers”	169	47.1	77	27.3	80	28.4	326	35.3
“I do not want my children to be rice farmers”	190	52.9	205	72.7	202	71.6	597	64.7

### Major Reasons of Rice Farmers for Wanting Their Children to Be Like Them

Around half of the respondents (46%) expressed the sentiment that at least one of their children should continue the management of their farms, making this the top reason for wanting their children to be rice farmers (Table 5). They noted also that rice farming ensures the food on their family's table (21%), is a source of family's income or additional income (22%), and is the only option for livelihood (23%) of their children since they have not obtained college and even secondary education.

### Major Reasons of Rice Farmers for Not Wanting Their Children to Be Like Them

Most farmers believed that their children would not have a future if they become rice farmers like them (73%) (Table 6). They expressed the opinion that rice farming is physically tiring and not economically rewarding. Although farming is their life, they wanted a college education for their children for them to have a stable job and income (32%). Importantly, according to parent farmers, their children were not interested in rice farming (21%).

**Table 5.** Major reasons for rice farmers wanting their children to be like them.

Reasons	Agusan (n = 169)	Iloilo (n = 77)	Isabela (n = 82)	Total (n = 326)
Someone to manage the farm and continue the rice farming tradition	48.2*	50.7	37.7	45.8
Rice farming is a source of income	21.9	18.2	23.4	21.3
Rice farming is the only livelihood option	23.2	24.7	28.6	21.4
Rice farming provides household food security	20.6	15.9	17.5	18.8

\*Multiple responses

**Table 6.** Major reasons for rice farmers not wanting their children to be like them.

Reasons	Agusan (n = 169)	Iloilo (n = 177)	Isabela (n = 176)	Total (n = 522)
No future in rice farming	64.4*	76.9	76.8	72.7
Children need to finish college education for better income and stable job	33.7	31.5	29.3	32.02
Children are not interested in rice farming	20.3	18.8	21.9	20.6

\*Multiple responses

**Table 7.** Logistic regression predicting farmers' aspiration for their children to become rice farmers.

Predictor	$\beta$	Wald $\chi^2$		Odds ratio	Average marginal effect
		$\chi^2_c$	p-value		
Age	0.035	24.949	0.001**	1.04	0.005
Gender	-0.518	9.513	0.002**	0.60	-0.060
Education	-0.117	0.373	0.542	0.89	-0.014
Total no. of children	0.091	8.286	< 0.004**	1.10	0.020
Farm size	0.018	0.114	0.736	1.02	< 0.001
Tenure					
Owner	0.024	0.018	0.894	1.02	0.003
Leaseholder	-0.385	3.315	0.069*	0.68	-0.042
Province					
Iloilo	-1.136	32.440	0.001**	0.32	-0.135
Isabela	-0.741	13.687	0.001**	0.48	-0.100

\*Significant at 10%

\*\*Significant at 5%

### Factors Influencing Aspirations of Farmers for Their Children to be Rice Farmers

Using binary logistic regression, Table 7 shows the variables considered as determinants affecting the likelihood that a farmer aspires for his children to be rice farmers or not. These variables include age, gender, education, number of children, farm size, tenure, and province. The age and number of children had a positive and significant influence on farmers' aspiration for their children to be rice farmers. Farm size, however, had a positive but not significant influence. On the other hand, gender, tenure, and province

had a negative and significant influence on farmers' aspiration for their children to be rice farmers. Education likewise had a negative influence, but it was not significant.

### DISCUSSION

The aging phenomenon of Filipino rice farmers is further established in this study where today's average age was 53 years, older than the average age of 46 in 1966 (Moya *et al.* 2015). Furthermore, more than 50% of the respondents

fell under ages 41–60, 28% with ages more than 60 years, and only 18% below 40 years old. This aging phenomenon of Filipino rice farmers is very apparent when compared to the age distribution in 1966 (Moya *et al.* 2015). Here, most of the rice farmers were younger: 53% were below 46 years old and 47% were above 46 years. In this study, 37% were below 46 years old and 63% were above 46 years. More so, compared with the general age distribution of farmers regardless of agricultural commodity, only about 15% were within the 55–64-year range and 7% were more than 65 years in 1971 (Castillo 1979). In this study, 24% were within the 55–64-year range and 16% were more than 65 years.

With the Filipino rice producers getting older, including those from our major exporting countries such as Vietnam and Thailand (Jöhr 2012; HelpAge International 2014; Saiyut *et al.* 2017), the country's continued dependence on rice imports would not guarantee us that another food crisis would be averted in the future. Complex biophysical, environmental, and natural factors such as pest infestations, extreme weather events, natural disasters, and climate change (Sebastian *et al.* 2000; Stuecker *et al.* 2018) could also contribute to the likelihood of a similar food crisis scenario in 2008. The 2007 major brown planthopper pest outbreak in Vietnam resulted in a loss of around 1 M tons of rice, causing the Vietnamese government to freeze their rice exports in 2008 (Heong *et al.* 2013). Thus, even though the Philippines may have the resources to import rice, the food crisis might happen again with limited rice supply from exporting countries.

As aspirations are socially and culturally embedded (Ray 2003; Appadurai 2004), farmers' aspirations for their children are to be linked with the Filipino culture, characterized by children's respect of parental authority and valuing parental advice and decisions (Almirol 1982; Jocano 1997; Palis 2002). Hence, farmers' aspirations for their children to do rice farming or non-farm jobs in urban settings or abroad could highly influence the country's state of food security or sufficiency.

With the real-life challenging experiences—physical, financial, and psychological—in rice farming, the majority of the rice farmers did not want their children to be like them. For them, rice farming is a strenuous job, and yet, it is not financially rewarding. Thus, they mostly believed that there is no future

As Manong Henry described it, "Rice farming is hard and a no-joke job (*mahirap at hindi birong trabaho*). It takes long working days, especially when preparing the land (*paghahanda ng bukid*) and irrigating the paddy field (*patubig*). And yet, the returns I get from rice farming is not even enough for the needs of my family. Thus, my family until now remains poor."

Tatay Isyo, a senior citizen farmer, further commented: "Rice farming is a difficult job because despite weather conditions, rain or shine, we farmers are still working on our respective ricefields" (*Ang pagsasaka ay mahirap na trabaho dahil umulan, umaraw, nagtatrabaho sa bukid*).

in rice farming as also reported by Tafere and Woldehanna (2012) and Verkaart *et al.* (2018).<sup>1</sup>

The hardship in rice cultivation is clearly depicted in our country's famous folk song, "Planting rice is never fun," or *Magtanim ay di biro*. A farmer is portrayed bending the whole day in planting rice; he or she could not even sit or stand and even rest for a little while. This was demonstrated by Aling Tasya, "My waist and back are painful, especially during and after transplanting the rice seedlings. I need to bear these pains so that I can provide some food for my family."

The poverty incidence in the country is highest in the agricultural sector at 34.3%, higher than the general population poverty incidence of 21.6% in 2015 (PSA 2015). The average annual income of rice farmers was Php 20,000 with an estimated monthly income of Php 1,667 (BAS 2012). But with the current rice liberalization policy, Briones (2019) projected that it will lead to a 1.8-percentage-point reduction in rice farmers' income that would make them worse off, implying the increase of poverty incidence in the agriculture sector.

Palis *et al.* (2015) found that Filipino rice farmers are trapped in the cycle of poverty since most of them have insufficient capital to commence rice cultivation. Like most of the farmer participants in the FGDs, they branded themselves as borrowers or *mangungutang*. With high input costs, they are forced to borrow money from informal lenders who charge them with high-interest rates, or traders who require them to sell their produce immediately after harvest with a low paddy price.

"Almost all of us borrowed money from informal lenders or from our frequent traders or buyers (*suki*)," quipped Manang Bella. She continued, "We rice farmers are always under the mercy and control of private money lenders who usually charged us with 20% monthly interest, and rice buyers or traders who usually dictate the price of freshly harvested rice (*palay*)."

Manong Ernesto continued, "At harvest, most of us immediately sell the fresh weight *palay* to pay off our debts. If our *palay* is still wet, especially during the wet season, buyers would still take out 5–7 kgs for every bag of fresh *palay* as *resiko*, equivalent to the amount lost if the grains were dried. There is nothing that we can do but we are forced to grasp the knife blade (*kapit sa patalim*)."

The risk associated with rice farming as a means of livelihood further discourage parent farmers to aspire for their children to be like them. The uncertainty in yield and income is real to them and they attribute it to unpredictable weather situations, unstable output price and input costs, and natural disasters like heavy rains, floods, and drought, including pest and disease infestations (Aditto *et al.* 2012; Palis *et al.* 2015; Bordey *et al.* 2016).

As narrated by Manong Roger: “Rice farming is like a gamble (*ang pagsasaka ay parang sugal*). When you have bad luck as you have not yet harvested your crops before a typhoon or continuous heavy rains, then you will lose (*'pag minalas ka kagaya ng hindi ka pa nakaani at may bagyo na o tuloy tuloy na lakas ng ulan, malulugi ka*). However, when you have good luck, like having a good harvest, then you have a higher profit (*'pag swertehin ka naman kagaya ng malaking ani, may malaki kang kita*).”

Manong Isko added further, “when you plant late or early due to weather or financial constraints, your farm would be the eating grounds of rodents. They cut your seedlings and outsmart you by harvesting your rice crop first before you do. Rodents are intelligent (*matalino ang mga daga*).”

Parent farmers wanting their children to go away from rice farming is further intensified when a farmer is a leaseholder because the land that he tills may be demanded back by the owner either at an agreed time or anytime. With no land of his own, his children will inherit nothing even if he works hard on the leased farm. Hence, leaseholder farmers prefer non-farming occupations for their children.

The non-farming jobs are seen to be better as these are placed on a higher level than doing farm labor (Leavy and Hossain 2014). As Tatay Berto recounted, “My grandson, a vocational graduate, worked in the Middle East. He gives monthly support to his parents. He already bought a rice field and his parents are managing it. My daughter’s family is no longer borrowing money to use as capital in their farm production. They have also improved their house.”

The preference of the rural population – both adults and youth – to work abroad and to do non-farm jobs result in labor out-migration from rural to urban areas (Asis 2006; Moya *et al.* 2015; Briones 2017). Unemployment, low wages, low profitability in farming, and lack of infrastructure facilities in the rural areas are some reasons people leave their villages and look for promising opportunities elsewhere (Paris *et al.* 2009; Man and Sadiya 2009). The challenges such as access to land, high costs of inputs, unstable and low market prices, and insufficient vocational agricultural education were also found to discourage the youth from farming (Tafere and Woldehanna 2012). More so, with the current low farm gate price of rice as an offshoot of the rice tariffication policy in the country (Briones 2019), it becomes harder now to convince the youth and adults in the rural population to go into rice farming and show that it can be a profitable venture.

The significant negative effect of gender on the aspirations of farmers for their children showed that the male parent farmers are less likely to aspire for their children to become like them. This is so because rice farming today is now a male-dominated means of agricultural livelihood as confirmed by Briones (2017), reversing

the trend in the 1970s and 1980s where there was more women participation in agriculture – the era called the feminization of agriculture (Castillo 1986; Agarwal 2011). As such, it is mostly the male parent farmers who experienced the physical, psychological, and financial hardships in rice farming.

The economic status of the province significantly and negatively influenced the aspirations of farmers for their children to be rice farmers as manifested by those in Iloilo and Isabela provinces. In 2009, poverty incidence among families in Agusan was 37%, higher than that in Isabela and Iloilo provinces with 23% and 20%, respectively (PSA 2015). Briones (2017) found that, since 2011, the proportion of agricultural workers has been declining, whereas that of industry and services has been increasing. For instance, bank density ratio has increased for all regions except in Caraga, where Agusan del Norte province belongs to. Thus, despite Iloilo and Isabela being top rice-producing provinces, more than 70% of the farmers from these two provinces did not want their children to be like them. This is attributed to the availability and accessibility of more non-agricultural opportunities in urban centers.

The age of farmers and the total number of children of a farming household, however, have positive and significant effects on farmers’ aspirations for their children to be like them. With farmers getting old, they wanted someone in the family to manage the farm and continue the rice farming tradition. As Ball and Wiley (2005) found, farmers with more children tend to aspire for at least one or more of their children to be like them. This is probably because, in a large family, the farmer cannot likely send all his/her children to school with his/her limited income. Rice farming is also viewed as a last resort and the only livelihood option for their children in the absence of college or even secondary education as they are already knowledgeable about this enterprise. Tadele and Gella (2012) found, however, that farming is viewed as a last resort means of livelihood and not an option.

Although rice farming is also viewed as a source of income and an activity that helps meet household needs, this is often true to those who have primary non-farming jobs where rice farming is only considered an additional source of income. It is remarkable to note that, on the average, only less than 20% of the farmers who aspired for their children to be like them mentioned that rice farming is their source of household food security. This is presumably because 75–80% of the harvest is sold for paying debts and 20–25% is stored for home consumption, including the rice to be given to children and other relatives. In turn, the stored paddy for household consumption does not often last until the next harvest and they again buy or loan milled rice from local stores (Palis *et al.* 2015).

## CONCLUSION AND RECOMMENDATIONS

This study has shown that Filipino rice farmers are indeed aging. Most of them do not want their children to be rice farmers because of the physical, psychological, and financial difficulties they encountered. Rice farming is labor- and capital- intensive and yet, income is low and uncertain. It is viewed that their children would not have any future in it and it, therefore, is considered the last resort. Instead, parent farmers dream that their children will have non-farm jobs, either in urban areas or abroad, to have a higher and more stable income and to get out of poverty.

Age and number of children positively influence farmers' aspiration for their children to be rice farmers, whereas gender, tenure, and economic status of geographic location have a negative influence. While education negatively influences farmers' aspiration for their children to be like them, it is not statistically significant. Related studies though have shown that education is seen as the only way for their children to land a better job and alleviate them from poverty. Perhaps, more geographic locations under various socio-economic classifications in the country can be considered in future studies. This could be one limitation of this study.

Considering the influence of parents on their children in the context of Filipino culture, children would more likely have a negative attitude towards rice farming. The Philippine government and agricultural institutions need to formulate on-the-ground strategies that will raise the motivation of farmers and their children to continue rice farming and, thereby, contribute to attaining the country's rice self-sufficiency goal. Some strategies to consider are the following:

- a) strengthening and aggressively implementing nationwide the 4H clubs and associated programs among the rural youths, with a focus on agriculture and entrepreneurship, currently spearheaded by ATI;
- b) providing college scholarships to the youth in pursuing agriculture-related courses. This would not be limited to students graduating with honors, as children of rice farmers who completed secondary education can also be beneficiaries;
- c) expanding and reassessing the technical-vocational-livelihood track strand of agriculture, as to whether  
i) agriculture courses be required or enhanced in the elementary and high school curriculum, or ii) additional path be found for agriculture as a science strand, perhaps embedded in the "STEAM" (instead of "STEM") strand – science, technology, agriculture, and mathematics like what the University of the Philippines (UP) Rural High

School of UP Los Baños is promoting; and

d) fostering farmers as certified seed growers, either as an individual farmer or a group of adjacent farmers at a sub-village level (*purok*), with financial, technical, and marketing support of the government. Many neighboring farmers normally belong to a certain kin group because of our inheritance system where farmland is equally distributed to children. For non-kin farm neighbors, a bond of camaraderie is usually formed since they spend most of the time on the farm, where spontaneous *huntahan* or conversation related to farming happened. In effect, farmers in the community would have easier coordination and be induced to be entrepreneurs singly or as a group. At the same time, certified seeds would be readily available in rice farming communities, thereby increasing rice production of the country.

Addressing food security with increasing importation through the rice tariffication law would be putting the country at risk: both for the country's rice supply requirements and the livelihood of the Filipino rice farmers. The recurrence of food crises is inevitable when there is less rice supply from exporting countries and when their farmers are aging. Moreover, the decrease in farm gate prices due to rice tariffication law would consequently amplify the poverty incidence in the farming sector and the speedy moving away of the young generation from rice farming. The questions to continuously ponder upon then are: Who would be the next Filipino rice farmers? What would happen to the rice farmers and farming households? Would this current policy of rice liberalization assure us of zero rice crisis?

Instead of spending so much on rice importation, investing in price support to assist Filipino rice farmers to increase their local production and income could be considered. Also, developing our own rice agriculture and agricultural enterprises in general, coupled with financial assistance and community development, might be more beneficial to our local farmers. There is a pressing need to assess the impact of rice tariffication law on the plight of our Filipino rice farmers, considering that – with this current policy – farm gate price has dramatically dropped relative to the retail rice price.

Moreover, there is a need to pay attention to rural services for agricultural extension, like farmer-friendly access to financial capital (free from too much paper requirements). The present structure of agricultural extension in the country needs to be seriously analyzed to reach more farmers effectively and adequately to address farmers' needs on time, and to facilitate access to rice- and agriculture-related innovations – such as land and capital, information sources, and market linkages, among others. The agricultural extension should not only focus

on the development and dissemination of technological innovations but also on social innovations to achieve positive impacts on improving the lives of Filipino rice farming households and communities. In this manner, rice farmers and their children may aspire for rice farming occupation or business as it would provide better pay-off.

Lastly, it is also important to strengthen and give funding priority to non-economics social science research or “NESS” (such as the disciplines of anthropology, sociology, psychology, history, and political science) to contribute solutions in addressing the country’s food security and food self-sufficiency problems, *i.e.* understanding and reconciling different perspectives from various stakeholders in the rice industry, including policymakers. The social, cultural, psychological, historical, and political research dimensions could enhance farmer technology adoption and social innovations in improving the plight of Filipino rice farmers and the lives of farming households and farming communities. To promote science and technology for agriculture with a human face, the NESS disciplines should also be included for scholarship funding by the Department of Science and Technology in order to integrate technological and social innovations, including the assessment of their multidimensional impacts as well.

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