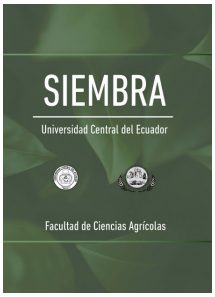
Original Article

Job satisfaction and agripreneurial success of microfinance beneficiary small-scale rice processors in Nigeria's Jigawa state

Satisfacción laboral y éxito agrícola de procesadores de arroz a pequeña escala beneficiarios de microfinanzas en el estado de Jigawa, Nigeria



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Abstract

Limitation of research information on job satisfaction and enterprise success-remunerative business going concern of rice value chain actors especially the processors has been a challenge to the sustainability of the supportive policy driven rice value chain in the study area. Therefore, this necessitates research so as to identify the possible pitfalls alongside proffer viable scientific remedies that will enhance the sustainability of the entire rice value chain in the study area. Using a cross-sectional data obtained from a total of 133 and 67 par-boilers and millers respectively, through a well-structured questionnaire and interview schedule, the job satisfaction and agripreneurial success of micro-finance benefitted rice processors in Nigeria's Jigawa state were investigated. Unlike the millers, it was established that majority of the par-boilers were not satisfied with the job and it owes majorly to poor job security and disincentive attitude of the supportive institutions. However, across the study target groups, despite the few hitches, majority of the enterprises were found to be successful and mutually owes to remunerative turnover ratio of the enterprise among others. Nonetheless, vulnerable household's composition which exacerbates the pressure on the limited resources with negative consequence on the income capital base affected job satisfaction and agripreneurial success of the processors. Therefore, the study advises the policymakers to strength the macro-economic policies so as to enhance the sustainability of the entire rice value chain in the study area. Also, concerned stakeholders involved in policymaking need to intensify their campaign on the importance of sustainable livelihood by encouraging most of the actors to maintain a fair household size.

Keywords: job satisfaction, agripreneurial success, processors, rice, Nigeria

Resumen

La escasa investigación sobre la satisfacción laboral y el éxito agroempresarial en la rentabilidad de los actores de la cadena de valor del arroz, especialmente de los procesadores, ha sido un reto para la sostenibilidad de la cadena de valor del arroz, impulsada por políticas de apoyo en la zona de estudio. Por lo tanto, es necesaria una investigación que

identifique las posibles dificultades, para ofrecer soluciones científicas viables que mejoren la sostenibilidad de toda la cadena de valor del arroz en la zona estudiada. Utilizando datos transversales obtenidos de un total de 133 trabajadores que escaldan el arroz y 67 piladores, mediante un cuestionario estructurado y un programa de entrevistas, se investigó la satisfacción laboral y el éxito agroempresarial de los procesadores de arroz beneficiados por la microfinanciación en el estado nigeriano de Jigawa. A diferencia de los piladores, se comprobó que la mayoría de los trabajadores que escaldan el arroz no estaban satisfechos con su trabajo, debido sobre todo a la escasa seguridad laboral y a la actitud desincentivadora de las instituciones de apoyo. Sin embargo, en todos los grupos destinatarios del estudio, a pesar de algunos problemas, la mayoría de las empresas tuvieron éxito, lo que se debe, entre otras cosas, al índice de retorno de inversión de la empresa. No obstante, la composición vulnerable de los hogares, que agrava la presión sobre los limitados recursos con consecuencias negativas sobre la base del capital de ingresos, afectó la satisfacción laboral y al éxito agroempresarial de los procesadores de arroz. Por tanto, el presente estudio aconseja reforzar las políticas macroeconómicas para mejorar la sostenibilidad de toda la cadena de valor del arroz en la zona estudiada. Asimismo, las partes interesadas que intervienen en la formulación de políticas deben intensificar su campaña sobre la importancia de la sostenibilidad de los medios de vida, animando a la mayoría de los agentes a mantener un tamaño de familia adecuado.

Palabras clave: satisfacción laboral, éxito agroempresarial, procesadores, arroz, Nigeria

1. Introduction

The most exciting aspect of today's economy is entrepreneurship (Rana et al., 2018). The notion that entrepreneurship is linked to economic growth is based on simple intuition, common sense, and economic observation: entrepreneurship is defined by actions that translate ideas into economic opportunity (Kreiner et al., 2021). Entrepreneurship fosters innovation and change, resulting in increased productivity and economic competitiveness (Bernoster et al., 2020; Kreiner et al., 2021). The entrepreneurial revolution has spread across the globe and has irreversibly altered the commercial landscape (Zhao et al., 2020). Over the last two decades, entrepreneurship has emerged as possibly the most powerful economic force the world has ever seen (Rana et al., 2018).

Entrepreneurial venture creation is a widely recognized and widely promoted strategy for developing countries to achieve economic growth (Kiriveldeniya et al., 2020). Entrepreneurs who start new businesses face numerous challenges. They participate in the process by anticipating potential opportunities, acquiring and combining required resources such as time, energy, and money, and taking steps to ensure the success of their projects. The entrepreneur's strategic position as an agent of economic transformation in society may be seen in the creation of jobs and wealth, the stimulation of indigenous entrepreneurship, and the promotion of entrepreneurial culture (He et al., 2019). Entrepreneurship has the potential to increase job creation and productivity growth (Gao et al., 2022; Sánchez-García et al., 2018), both of which are critical components of dynamic economies (Stephan, 2018). As a result, national and regional governments have implemented a variety of programs to stimulate entrepreneurship. In the recent decade, entrepreneurial activities have grown in popularity around the world thanks to government policy backing (Sánchez-García et al., 2018; Saucedo-Bendek et al., 2020).

In reality, governments in a variety of countries continue to implement a variety of entrepreneurial support policies. Overall, governments of various countries are still dissatisfied with the condition of entrepreneurship, as evidenced by the fact that many countries continue to implement entrepreneurial support policies (He et al., 2020; Opper & Andersson, 2018). There is definitely room for improvement in terms of entrepreneurial rates and outcomes. However, the government should be concerned not just with the quantity but also with the quality of entrepreneurship. However, the importance of entrepreneurship cannot be overstated, especially among developing countries, as evidenced by the experiences of established economies in respect to the roles played by entrepreneurship (Clercq et al., 2021; Yan & Guan, 2019).

Only after the Nigerian civil war (1967-1970) did the government plays a substantial role in entrepreneurial growth (Afolabi, 2015). After the launch of the Structural Adjustment Program [SAP] in 1986, the government has been more committed to entrepreneurship growth from the mid-1980s. Following a prolonged slump in the economy that prompted many large corporations to lay off huge portions of its workforce, the small and medium enterprises sub-sector has been growing, particularly since the mid-1980s (Afolabi, 2015; Inyang & Enuoh, 2009). The impact of entrepreneurs' or small and medium enterprises' [SME] activities on Nigeria's socio-politico-economic life is undeniable. Over 60 % of the country's workforce is employed in the agricultural sector, which is mostly made up of SMEs (Ado, 2016).

Fundamentally, the Nigerian government encourages entrepreneurship through efforts that foster company confidence, a positive attitude, pride in achievement, support and encouragement of new ideas, social responsibility, technological support, inter-firm links, and research and development. As a result, the government has established several organizations to provide financial resources to small and medium-scale firm operators or entrepreneurs, so creating an enabling climate for entrepreneurial development. The establishment of Microfinance, Bank of Agriculture, Bank of Industry, Small and Medium Enterprises Equity Investment Scheme, Small and Medium Enterprises Agency of Nigeria, Corporate Institutions initiatives, and others demonstrate the federal government's active encouragement and policy thrust toward entrepreneurship and small-scale business development. Despite the fact that these entrepreneurs are given financial resources, there is still a significant rate of failure.

Entrepreneurs are the primary participants in entrepreneurial activities who opt to start their own business only if it provides them with a high level of utility, which leads to subjective happiness (Zhao et al., 2020). Entrepreneurs that have a high level of subjective well-being perform better (Liu et al., 2018; Stephan, 2018). Furthermore, enhancing entrepreneurs' subjective well-being can help them cope better with the obstacles of high work pressure and high failure rates, as well as help existing entrepreneurs persevere through the difficulties of entrepreneurship (Shir et al., 2018). It will also encourage potential entrepreneurs to pursue entrepreneurial endeavors (Wiklund et al., 2019). As a result, more attention should be paid to the subjective well-being of entrepreneurs in order to foster entrepreneurship. The existence of positive effect, the absence of negative effect and life satisfaction are the three components of subjective well-being (Haar et al., 2019; Stroe et al., 2018). Life satisfaction is a critical, long-term assessment of one's life, whereas the two previous components refer to the reflection of pleasant and painful consequences in a person's experience (Çelikkol et al., 2019; He et al., 2020).

There is strong evidence that entrepreneurship is not only a highly visible occurrence in the commercial world, but it is also a hot topic in scientific research (Ayranci & Ayranci, 2015). Many studies have been conducted in both national and international literature to understand the reasons, nature, factors, and outcomes of entrepreneurship; however, the focus on small and medium-sized agribusiness enterprises in the organized rice value chain is not heavily emphasized in the Nigeria's literature. The gap is that job satisfaction and business performance are typically disregarded in the literature, and this study is meant to fill up some of that gap.

Entrepreneurship is a difficult profession that does not always guarantee 100 % success. To enable the entrepreneur to reach some level of success, numerous important success elements must be in place. The majority of modern entrepreneurial literatures unequivocally assert that the majority of entrepreneurial or small-scale firm failures are caused mostly by a lack of financial resources. Such findings have undoubtedly influenced government policies aimed at enhancing entrepreneurial development by providing additional financial resources and financial agencies. As a result, other equally essential characteristics that contribute to successful entrepreneurship in Nigeria have been overlooked.

Agriculture development in emerging nations is critical for providing an adequate income for rural farming populations. With its change from subsistence agriculture to a profit-driven economy, commercial agriculture has the potential to help rural development. Profit-driven production has been viewed as a means of increasing wellbeing through specialization, comparative advantage, economies of scale, and regular contact and exchange of ideas (Kiriveldeniya et al., 2020). One ideal means of rural agriculture growth is agripreneurship, which is usually, sustainable, community-oriented, directly-marketed agriculture and agripreneurs who have built profit-driven agripreneurial ventures within an agricultural context (Le & Raven, 2015; Nagalakshmi & Sudhakar, 2013). Diversification, commercialization, and value addition can improve and modernize industry, leading to technological, structural, and institutional changes in the agriculture sector (Rosairo & Potts, 2016). Empowering agripreneurs and encouraging people to participate in agribusinesses is one way to alleviate rural poverty by turning traditional businesses into successful companies (Fried & Tauer, 2015; Padmini & Kodagoda, 2017).

Though it is critical to assess the level of agripreneurship's performance, there is no straightforward means to do so. Success could be multifaceted, depending on the inputs available to translate these inputs into many metrics of agripreneur success, all of which are subject to the effect of elements beyond the agripreneur's control (Kiriveldeniya et al., 2020). Agripreneurial success refers to how satisfied agripreneurs are with their financial benefits, such as revenue and profits, or with the overall aspects of the agripreneur's firm. Livelihood methods encourage a broader range of agribusiness businesses, thus they must be evaluated for long-term viability in development programs.

Given this, one way to understand the success of agripreneurs is to measure their success. Despite the fact that the corpus of research on the subject has grown, the relationship between a business's agripreneurial orientation and its success remains under-explored. This research is significant because it highlights previously unexplored features of the small-scale rice processing business and will aid in the creation of development plans

in locations where small-scale rice processors can thrive. Consequently, this research ought to investigate the job satisfaction and agripreneurial success of microfinance beneficiary small-scale rice processors in Nigeria's Jigawa State. The specific objectives were to determine the job satisfaction levels of the processors; determine the agripreneurial success of the processors; and, identify the determinants factors influencing job satisfaction and agripreneurial success of the processors in the study area.

2. Methodology

2.1. Study area

It was carved out of Kano State and covers a total land area of around 22,410 km^2. Kano State borders it on the west, Bauchi and Yobe States on the east, and Katsina and Yobe States and the Republic of Niger on the north. The state's topography is generally flat, with undulating sand dunes running southwest to northeast across the northern, central, and eastern portions. The terrain surrounding Dutse, the state capital, is rocky, with some minor hills. The highest heights are found in the southern and western sections of the state, around Birnin Kudu and Kazaure, with hills reaching 600 meters above sea level. The Hadejia River runs through the state from west to east, passing through the Hadejia-Nguru marshes before emptying into Lake Chad. The state is located between latitudes 11˚00′ N and 13˚00′ N, and longitudes 8˚00′ E and 10˚35′ E, with a tropical climate that varies depending on the season. High temperatures are generally recorded during the months of April and September. The daily low and high temperatures are 15 and 35 °C, respectively. May to September is the wet season, with average rainfall ranging from 600 to 1000 mm. The southern section of the state receives more rain than the northern part.

The state is mostly covered by the Sudan savannah vegetation zone, but there are vestiges of Guinea savannah in the south. Due to rainfall patterns and deforestation caused primarily by the use of wood for cooking, the country's total forest cover is about 5 %. Jigawa is a Hausa word that refers to a large loamy but non-marshy soil. The major occupation of the inhabitants is agriculture-crop cultivation, livestock rearing, non-farm activities; others being hunting, artisanal etc.

2.2. Sampling and Data Collection

A multi-stage sampling technique was used to elicit information from a total of 200 actors of the processing chain of the rice value chain in Nigeria's Jigawa State. Based on high concentration of rice production, three out of the four stratified agricultural zones were purposively selected; and the chosen agricultural strata were Zones 1, 2 and 3. From each of the chosen agricultural strata, two Local Government Areas [LGAs] were randomly chosen. The chosen LGAs from Zones 1, 2 and 3 were Miga and Jahun; Ringim and Taura; and, Kafin-Hausa and Auyo respectively. From each of the selected LGAs, three villages were randomly selected, thus given a total of eighteen (18) villages. The random selection of the LGAs and villages were achieved by using an inbuilt Microsoft sampling tool. Afterward, on the basis of activities in the processing chain, the processing population was stratified into par-boilers and millers. Using Yammane formula (equation [1]), a total of 200 processors composed of 133 par-boilers and 63 millers were randomly drawn from the sampling frame obtained from the relevant agencies- Jigawa State Agricultural and Rural Development Authority [JARDA], Co-operative societies and Microfinance Banks in the State (Table 1).

$$n = N/1 + N(e)^2 \quad [1]$$

Where, n is the finite sample size, N is the population size and e is the error gap at 5 %.

Data collection was done through a well-structured questionnaire complemented with interview schedule using an easy-route cost approach in the year 2022. Data syntheses were achieved using descriptive and inferential statistics. Objectives I and II were achieved using Sadiq-Sanyinna's Job satisfaction index and Sadiq-Sanyinna's Agripreneurial success index respectively, while Objective III was achieved using Heckman's model.

Table 1. Sampling frame of rice processors in Jigawa State.
Tabla 1. *Universo muestral de procesadores de arroz del Estado de Jigawa.*

Zone	LGA	Village	Sampling frame		Sample size	
			Par-boiler	Miller	Par-boiler	Miller
Zone 1	Miga	Sakuwa	15	7	8	4
		Hantsu	10	11	5	5
		Gwari	8	9	4	5
	Jahun	Harbosabuwa	13	6	7	3
		Harbutsohuwa	18	10	9	5
		Agufa	15	8	8	4
Zone 2	Ringim	Sintimawa	21	9	11	4
		Yan-Dutse	18	8	9	4
		Yakasawa	19	6	10	3
	Taura	Maje	11	10	6	5
		Gilma	10	6	5	3
		Majiya	12	4	6	2
Zone 3	Kafin-Hausa	Bulangu	11	7	5	4
		Kafin-Hausa	13	6	6	3
		Baushe	19	5	9	2
	Auyo	Arawa	21	5	10	2
		Gatafawa	17	10	8	5
		Ayama	14	7	7	4
Total	**6**	**18**	**265**	**134**	**133**	**67**

Source: JARDA, Co-operative Society and Micro Finance Bank, 2019.

2.3. Empirical model

2.3.1. Sadiq-Sanyinna's Job satisfaction index

It is used to measure job satisfaction of the rice agro-processors. Using a reconnaissance survey, key informants, group discussion and review of literatures cogent indicators considered to be precursors to job satisfaction were constructed. On that basis, multivariate analyses conjoined with z-score were used to construct/develop a job satisfaction index named Sadiq-Sanyinna's Job satisfaction index. The validity of the index is non-doubtful as it is built on inferential statistics. On continuum 6-scale basis, highly satisfied to dissatisfied (non-satisfied), the cogent indicators were measured. In equations [2] and [3] is given the model criteria.

$$I = \frac{I_i - \bar{I}}{SD} \quad [2]$$

The indicators were normalized using z-score, where I is the indicator index, I_i is the value of the i^{th} indicator; $\bar{I}$ is the mean value of the i^{th} indicator; and, SD is the standard deviation of the i^{th} indicator.

$$SSAJSI_i = \sum_{i=1}^{n=0} \left(\frac{w_i * I_i + \ldots w_n * I_n}{w_i + \ldots . w_n} \right) \quad [3]$$

Where, $SSAJSI_i$ is Sadiq-Sanyinna's agripreneur job satisfaction index of the i^{th} processor; w_i is the weight of the i^{th} indicator. The weight was generated from factor analysis after fulfilling the validity criteria of Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity. A positive index () implies satisfaction (0 to < 1 = less satisfied; 1 to < 2 = moderately satisfied; 2 to ≤ 3 = highly satisfied) while a negative index (< 0) means dissatisfaction.

2.3.2. Sadiq-Sanyinna's Agripreneurial success index

It is used to measure entrepreneurial success index based on the rice agro-processors based on nine dimensions (equations [4] and [5]). Literature was explored in identifying valid dimensions for entrepreneurial success. On continuum 6-scale basis, very high to poor, the dimensions were measured. Given below are the steps involved:

$$D_i = \frac{I_i - \bar{I}}{SD} \quad [4]$$

The dimensions were normalized using z-score, where D_i is the i^{th} dimension, Ii is the dimension value of the i^{th} processor; $\bar{I}$ is the mean value of the i^{th} dimension; and, SD is the standard deviation of the i^{th} dimension.

$$SSESI_i = \sum_{i=1}^{n=0} \left(\frac{w_i * D_i + \ldots\ldots w_n * D_n}{w_i + \ldots w_n} \right) \quad [5]$$

Where, $SSESI_i$ is Sadiq-Sanyinna's agripreneurial success index of the i^{th} processor; w_i is the weight of i^{th} dimension. The weight was generated from factor analysis after fulfilling the validity criteria of Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity. A positive index () implies successful enterprise (0 to < 1 = less successful; 1 to < 2 = moderately successful; 2 to ≤ 3 = highly successful) while a negative index (< 0) means unsuccessful enterprise.

2.3.3. Agripreneurial success dimension

- ***Profitability:*** It refers to the level to which an agripreneur sees his or her business to be profitable, as well as the amount of debt or loan that the entrepreneur must repay.
- ***Social recognition***: Social recognition refers to the amount to which the agripreneur views how the community/society, peer group, family, and individual regard the entrepreneur as a capable person or worthy citizen.
- ***Consumer's satisfaction***: Is defined as the degree of consistency among a consumer group, as well as the amount and frequency of compliments and complaints received by the agripreneur.
- ***Capacity utilization***: The extent to which an individual uses potential resources associated to his or her enterprise, such as land, installed capacity of units, and so on.
- ***Diversification***: It refers to the number of branches a company has as well as the number of primary products or services it offers.
- ***Product/Brand recognition***: Is the identification of an agripreneur or an enterprise and its products/services in the local/state/national/international market, as well as the approval of authorities and recognition of the agripreneur or enterprise through awards, prizes, and other means.
- ***Employer's satisfaction:*** This is determined by factors such as compensation, job security, work environment, and relationship with the employer.
- ***Quality of supply/services:*** It refers to how satisfied and appreciative consumers are of the agripreneur's goods and services.

2.3.4. Heckman's model

The model (equations [6] and [9]) is composed of two dependent variables; the first being a binary variable and it's fitted into the selection model (equation [7]) while the second is a continuous variable and its fitted into the outcome model (equation [8]) (Sadiq et al., 2021). Given that the model has the capacity to correct for sample selection bias, thus the reason for its selection. Following Sadiq et al. (2021) the model is presented below:

$$Y_i = f(X_1, X_2, X_3 \ldots X_n) \quad [6]$$

$$Y_{it} = \beta_0 + \beta X_{it} + \varepsilon_i \quad [7]$$

$$Y_i^* = \alpha + X\beta + \gamma IMR + \varepsilon_i \quad [8]$$

$$= \alpha + X_1\beta_1 + X_2\beta_2 + X_3\beta_3 + \ldots + X_n\beta_n + \gamma IMR + \varepsilon_i \quad [9]$$

Where, Y_{it} = Job satisfaction status (satisfied =1, dissatisfied =0) / Agripreneurial success status (successful = 1, unsuccessful =0); Y_i* = latent observation of i^{th} processor (index); X_1 - X_n = Explanatory variables; *IMR* =

Inverse Mill's ratio; β_0 = Intercept; β_{1-n} = Regression coefficients; y = Lambda; and, ε_t = Stochastic. Independent variables: Age (years); Gender (male =1, otherwise = 0); Marital status (married =1, otherwise=0); Household size (HHS) (numbers); Education (years); Experience (years); Membership of association (yes=1, otherwise=0); Annual income (₦); Activity type (Par-boiler =1, miller =0); Ratio of credit supply to demand (CSD); Credit utilization (CU) (yes =1, otherwise =0); and, Population pressure (POP) (ratio of household size to firm size).

3. Results and Discussion

3.1. Job satisfaction status of the processors

The results of the varimax rotation applied to the 21 job satisfaction indicators for both the target groups led to the retention of seven and six interpretable factors based on their respective Eigen values that were greater than 1, respectively for par-boilers and millers (Table 2). Besides, each matrix of the target groups has a common factor considering their respective KMO values which fall within the acceptable threshold of ≥ 7.0 for sampling to be adequate in social sciences. However, Kaiser (1974) as reported by Field (2005) recommends accepting values > than 5 as acceptable. In addition, a value close to one indicates that the patterns of correlations are compact; as such the factor analysis yield distinct and reliable factors. The KMO values fall within the class of 'good' as suggested by Hutcheson and Sofroniou (1999). Furthermore, the empirical evidence established that the original correlation matrix of the respective analysis is not identity matrix as evident by their respective Bartlett's Test of Sphericity that is plausible at less than 1 % probability level. Besides, there is evidence of internal consistency-reliability in each of the extracted factors as shown by their respective Cronbach's Alpha test which are within the acceptable margin of ≥ 0.6, following Churchill (1979) and Sadiq et al. (2018a).

Following Bagheri and Shabanali Fami (2016), and Sadiq et al. (2018a, 2018b), the factor loadings whose absolute values were less than 0.40 were excluded. The empirical evidence showed that the seven and six extracted factors respectively accounted for 65.51 and 67.86 % of the total variations. These are considered satisfactory in social sciences as suggested by Hair et al. (1998), Bagheri and Shabanali Fami (2016), and Sadiq et al. (2017). In labeling the factors that were loaded from two factors loadings; the name of the factor loading with the highest value was used as the label.

For the par-boilers' group (Table 2), in descending order, the seven retained factors were labeled as policy, technology, firm efficiency, job mobility, skill and remuneration, job security and social harmony. The first factor accounted for 24.79 % of the total variation and loaded on five variables showed the concern of the par-boilers on policy. Factor two which accounted for 11.29 % of the total variance and loaded on three variables showed the par-boilers concern on technology. Factor three loaded on five variables and accounted for 7.18 % of the total variation showed the par-boilers concern on firm efficiency. Factor four, with variation percentage of 6.85 % and loaded on two variables showed that the par-boilers were concern with job mobility. Factor five, loaded on two variables and accounted for 5.46 % of the total variation showed the par-boilers concern on skills and wages remuneration. Factor six, loaded on two variables and accounted for 5.12 % of the total variation showed the par-boilers concern on job security. Factor seven, accounted for 4.81 % of the total variation; loaded with one variable showed par-boilers concern on social harmony.

For the millers' group (Table 2), in descending order, the six factors were labeled firm efficiency, incentive/motivation, health safety, mutual coexistence, skills and promotion. Factor one, labeled firm efficiency; loaded on four variables and accounted for 28.68 % of the total variation showed millers concern on firm efficiency. Factor two, labeled incentive/motivation; accounted for 13.36 % of the total variation and loaded on five variables showed millers concern on incentive and motivation. Factor three, labeled health safety, loaded on five variables and accounted for 8.24 % of total variation showed millers concern on health safety. Factor four, labeled human relationship, loaded on three variables and accounted for 6.45 % of the total variation showed millers concern on mutual coexistence of the workers. Factor five, labeled skills; loaded on three variables and accounted for 5.75 % of the total variation, showed millers concern on skills. The last factor, labeled promotion; loaded on one variable and accounted for 5.38 % of the total variation showed millers concern on promotion.

In a related study on job satisfaction of private entrepreneurs in Beylikduzu organized industrial zone of Turkey conducted by Ayranci and Ayranci (2015), a similar result that motivated job satisfaction viz. business tasks and their characteristics, competency, equality and communication, and, image and earnings were established.

Table 2. Factors affecting job satisfaction of the par-boilers and millers.
Tabla 2. *Factores que influyen en la satisfacción laboral de trabajadores que escaldan el arroz y en piladores.*

	Indicators	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
	Marital status	0.734						
	Health safety	0.671						
	Policy	0.660						
	Supervision	0.617						
	Co-worker	0.603						
	Workload		0.789					
	Technology		0.600					
	Age		-					
	Incentive		0.540					
	Performance of machineries			0.750				
	Working environment			0.627				
	Utilization of the Productive assets			0.566				
Par-boilers	Performance of worker			0.549				
	Promotion			0.512				
	Job rotation				0.798			
	Nature of work				0.655			
	Educational level					0.767		
	Salary scale					0.656		
	Job security						0.739	
	Gender						0.540	
	Household size							.830
	Eigen value	**5.20**	**2.37**	**1.509**	**1.439**	**1.147**	**1.075**	**1.010**
	Variance %	**24.79**	**11.29**	**7.18**	**6.85**	**5.46**	**5.121**	**4.81**
	Cronbach's Alpha	**0.747**	**0.771**	**0.701**	**0.642**	**0.650**	**0.637**	**-**
	KMO				**0.741**			
	Bartlett's Test				**0.000*****			

	Indicators	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	
	Performance of machineries	0.880						
	Performance of workers	0.811						
	Utilization of productive assets	0.640						
	Technology	0.525						
	Marital status							
	Workload		0.837					
	Nature of work		0.775					
	Incentive		0.684					
	Job security		0.652					
	Job rotation		0.501					
	Gender			0.736				
	Health safety			0.704				
Millers	Household size			0.545				
	Salary scale			0.542				
	Policy			0.520				
	Supervision				0.827			
	Working environment				0.718			
	Co-worker				0.586			
	Educational level					0.793		
	Age					0.719		
	Promotion						0.814	
	Eigen value	**6.024**	**2.806**	**1.731**	**1.353**	**1.207**	**1.130**	
	Variance %	**28.68**	**13.36**	**8.24**	**6.45**	**5.75**	**5.38**	
	Cronbach's Alpha	**0.786**	**0.821**	**0.774**	**0.688**	**0.581**	**0.540**	
	KMO				**0.709**			
	Bartlett's Test				**0.000*****			

A perusal of the par-boilers' group results showed that majority (57.9 %), slightly above the average of the sampled population expressed dissatisfaction with the job while marginally, close to the average (51.5 %) of the sampled population was dissatisfied with the job (Table 3).

Table 3. Individual-wise job satisfaction level of the processors**.**
Tabla 3. *Nivel de satisfacción laboral individual de los procesadores.*

Level	Par-boilers	Millers	Pool
Satisfied	56 (42.1 %)	47 (70.1 %)	103 (51.5 %)
Dissatisfied	77 (57.9 %)	20 (29.9 %)	97 (48.5 %)
Total	**133**	**67**	**200**

The reasons responsible for the poor job satisfaction were vulnerable large household size, lack of promotion, poor job rotation, nature of the job, lack of job security, poor incentive from supportive agencies, inadequate technology, poor labour productivity, obsolete machineries and poor utilization of the productive assets (Table 4). However, more than two-third (70.1 %) of the millers were satisfied with the job while less than one-third showed dissatisfaction towards the job. The established job satisfaction among the millers is attributed to gender mainstreaming, marital status, sizeable household size, good salary scale, good educational level, good supervision, good working environment, adequate health safety measures, incentive and technology availability. For the pooled group, slightly above half (51.5 %) of the sampled population were satisfied with the job while slightly below (48.5 %) the average sampled population expressed poor job satisfaction. Good gender mainstreaming, marital status, sustainable household size alongside its quality composition, salary scale, educational level, adequate supervision by the supporting agencies, favourable working environment, safety health measures, favourable macro policies, incentive and adequate utilization of the productive assets stimulated the job satisfaction derived by the pooled group. Individual-wise, the level of job satisfaction across the target groups was low as evident from the respective job satisfaction indexes of those found to be satisfied with the job. Generally, on the average, the par-boilers were not satisfied with most of the indicators that warrant job satisfaction while the millers expressed low satisfaction with most of the parameters that warrant job satisfaction. Likewise, the pooled group expressed low satisfaction with the measurement indicators that determine job satisfaction. However, it is worth to mention that the pull effect of the millers' group was responsible for the moderate job satisfaction achieved across the distinct target groups. Therefore, regardless of the pull effect, it can be inferred that the reason why most of the par-boilers had a dampen morale on job satisfaction might be attributed to diseconomies of scale that owes to their poor resource strength unlike the millers whose economic strength enabled them to enjoy pecuniary economic advantage- economies of scale due to their economic capital strength, thus the reason for being satisfied with the job to some extent among majority of the millers.

3.2. Agripreneurial Going Concern of the Processors

Cursory reviews of the results showed that majority (61.7 %) of the par-boilers had their enterprises to be successful as evident by their respective agripreneurial success index that was above the favourable benchmark (Table 5). However, barely above one-quarter of the sampled par-boilers had their enterprises not successful as indicated by their respective agripreneurial success index that were less than the threshold value. The enterprise's success of most of the par-boilers owes to enterprise profitability, product or brand recognition, employees' satisfaction-payment and job security, product quality- supply and services and capacity utilization. Besides, indebtedness, poor social recognition, poor consumer satisfaction and poor product diversification were the hindrances that affected the enterprise's success of the few par-boilers. For the millers, the enterprises of the majority (68.7 %) were successful while enterprises of few (21.3 %) were not successful-enterprising. It was observed that enterprise profitability, low value of the enterprise liability, social recognition, brand recognition, quality of the products and services, and capacity utilization had positive influence on the enterprise's success while poor consumers' satisfaction, poor employees' satisfaction-payment and job security and poor product diversification had negative effect on the millers' agripreneurial success. Likewise, for the pooled group, the enterprise of the majority (64 %) was successful-enterprising while few (36 %) had their enterprises not successful. Besides, on the average, indicators *viz*. enterprise profitability, product or brand recognition, employees' satisfaction with payment and job security, quality of the products and services and capacity utilization were found to be the factors that made the milling enterprise to be successful-enterprising while the rest indicators

Table 4. Average-wise Job satisfaction level of the processors.
Tabla 4*. Nivel medio de satisfacción laboral de los procesadores.*

Indicators	Par-boilers		Millers		Pool	
	Index	Dec.*	Index	Dec.*	Index	Dec.*
Age	1.17368E-16	S	-0.06464	D	-0.02165	D
Gender	2.10358E-16	S	0.754151	S	0.252641	S
Marital status	3.43084E-16	S	0.580301	S	0.194401	S
Household size	-0.00034407	D	0.422825	S	0.141418	S
Salary scale	4.19464E-17	S	0.005908	S	0.001979	S
Educational level	3.06577E-17	S	0.006045	S	0.002025	S
Co-worker	4.3449E-16	S	-0.00197	D	-0.00066	D
Supervision	2.65452E-16	S	0.089769	S	0.030072	S
Promotion	-2.041E-16	D	-0.04499	D	-0.01507	D
Working environment	2.55435E-16	S	0.158841	S	0.053212	S
Health safety	0	S	0.109899	S	0.036816	S
Policy	3.10529E-16	S	0.092154	S	0.030872	S
Job rotation	-8.2562E-18	D	-0.05921	D	-0.01983	D
Nature of work	-2.0738E-17	D	-0.00982	D	-0.00329	D
Job security	-1.1113E-17	D	-0.17996	D	-0.06029	D
Work load	4.18681E-18	S	-0.0378	D	-0.01266	D
Incentive	-6.6363E-17	D	0.010457	S	0.003503	S
Technology	-1.8406E-16	D	1.22E-16	S	-7.9E-17	D
Performance of worker	-3.3338E-17	D	-1.2E-16	D	-6.7E-17	D
Performance of machineries	-1.2615E-16	D	-2.9E-16	D	-1.8E-16	D
Utilization of the Productive assets	2.24758E-16	S	-2.4E-16	D	6.66E-17	S
Grand mean	**-1.6384E-05**	**D**	**0.087236**	**S**	**0.029213**	**S**

* Dec. = Decision; S = Satisfied; D = Dissatisfied.

Table 5. Individual-wise agripreneurial success level of the processors.
Tabla 5*. Nivel de éxito agroempresarial individual de los procesadores.*

Level	Par-boilers	Millers	Pool
Highly successful	-	-	-
Moderately successful	13 (9.8 %)	9(13.4 %)	22(11.0 %)
Less successful	69 (51.9 %)	37(55.2 %)	106(53.0 %)
Less unsuccessful	32 (24.1 %)	11(16.4 %)	43(21.5 %)
Moderately unsuccessful	11 (8.3 %)	4(6.0 %)	14(7.0 %)
Highly unsuccessful	8 (6.1 %)	3(4.5 %)	15(7.5 %)
Total	**133**	**67**	

hindered the success of the milling enterprise in the study area. Furthermore, across the target groups, poor consumer satisfaction and poor product diversification were the major obstacles to the success of rice processing enterprise in the study area. Nevertheless, based on the achieved entrepreneur's success status across the target groups, the success bar achieved was moderately level and majority fall within the ebb success level.

Generally, across the dimensions, most of the par-boilers were satisfied with the measurement indicators of the agripreneurial success and this may be attributed to less capital intensiveness of their business activity unlike the millers who have reservation on the working environment due to capital intensiveness of their business (Table 6)). It is worth to mention that the success of the enterprises across the target groups didn't exceeds the moderate level, thus the need for policymakers to enhance the macro-economic policy for the purpose of

Table 6. Dimensional average-wise agripreneurial success level of the processors.
Tabla 6*. Nivel medio de éxito agroempresarial de los procesadores en función de la dimensión.*

Dimension	Par-boilers		Millers		Pool	
	Index	Dec.*	Index	Dec.*	Index	Dec.*
Profitability of the enterprise	9.2E-16	S	5.03E-17	S	6.3E-16	S
Indebtedness of the enterprise	-8E-17	UN	5.22E-17	S	-3.6E-17	UN
Social recognition	-1.4E-15	UN	3.56E-16	S	-8.2E-16	UN
Consumer satisfaction	-3.7E-16	UN	-4.8E-16	UN	-4E-16	UN
Produce or brand recognition	2.1E-15	S	3.08E-16	S	1.5E-15	S
Employees satisfaction-payment, job security	1.8E-15	S	-4.1E-16	UN	1.06E-15	S
Quality of products/supply and services	9.82E-16	S	1.49E-16	S	7.03E-16	S
Capacity utilization	3.84E-15	S	0	S	2.55E-15	S
Diversification of products	-2E-15	UN	-5.7E-16	UN	-1.5E-15	UN
Grand mean	**6.36E-16**	**S**	**-8.7E-18**	**UN**	**4.23E-16**	**S**

* Dec. = Decision; S = Successful; UN = Unsuccessful.

improving the activities of these value chain actors. Doing so will enhance the sustainability of the value addition and self-sufficiency of rice production in the study area.

In a related study, Kiriveldeniya et al. (2020) in their research on indexing entrepreneurial success of floriculture small enterprises in Sri Lanka reported evidence of all the floricultural enterprises to be successful. However, the slight variation is that the presented study established a few cases of unsuccessful enterprise in the study area. In the same vein, Naranya and Geethakutty (2003), in their research on the level of entrepreneurial success of women entrepreneurs in agribusiness established a similar trend pattern of results to that of Kiriveldeniya et al.(2020), though much earlier than the research of the later.

3.3. Determinants of Job Satisfaction and Agripreneurial Success of the Processors

The non-significant of the inverse Mill's ratio coefficients of job satisfaction and agripreneurial success determinants signify that there is no problem of sample selection in the use of the non-zeros in the outcome model (Table 7). Therefore, the OLS in the second stage is useful in explaining the extents of job satisfaction and agripreneurial success among the processors. Besides, the significant of the Wald Chi2 at less than 10 % probability level indicates the appropriateness of the chosen model for the specified equations. Also, the problem of orthogonality between the variables vis-à-vis the models were absent as evident by the variance inflation factors values of the predictors which were less than the threshold value of 10.0 (Table 8). Therefore, it can be inferred that the results are reliable for future prediction with accuracy, consistency and certainty.

A perusal of the results showed that marital status, household size, education, membership of association and income had significant influence on job satisfaction status (decision model) of the processors as evident by their respective estimated coefficients that were within the plausible margin of 10 % error gap (Table 7). Besides, the extent of the job satisfaction (outcome model) was influenced by credit utilization, population pressure and type of processing activity as indicated by the plausibility of their respective coefficients at 10 % degree of freedom. On the other hand, the agripreneurial success (selection model) and the extent of the agripreneurial success (outcome model) were influenced by marital status, household size, experience and membership of association; and, credit ratio, population pressure and type of processing activity, respectively, as evident by their respective coefficients that were different from zero at 10 % probability level (Table 7).

The positive significant of the marital status in both the decision models of job satisfaction and agripreneurial success implied that married processors are satisfied with the job and have successful enterprise against their counterparts that are unmarried. The possible reason may be that they take-up the processing enterprise as a major source of livelihood earning as they have family responsibilities to meet up with unlike their unmarried counterparts who have limited or no family responsibilities to carter for. Therefore, the probability of married processors being satisfied with job alongside having a successful enterprise against unmarried processors will be 30.5 and 31.95 % respectively. Besides, the processors with enlarged income are likely to be satisfied with

the job compared with those with small income size as evident by the positive significant of the income coefficient. The possible reason may be attributed to their access to innovative technologies as the enterprise is capital intensive, thus enable the large income base processors benefit from pecuniary advantages especially economies of scale which in turn will enhanced their profit turnover against their counterparts with small income stream. In other words, processors with small income are likely to be challenged by diseconomies of scale due to limited access to innovative technologies given the capital intensiveness of the enterprise, thus a drawback to their business going concern which will inturn affect their motivation for the enterprise. Therefore, the marginal propensity of processors with large income pool being satisfied with the job against their counterparts with small income stream will be 67.53 %.

Further, effectiveness of social network owing to social capital support due to limited economic power makes those processors that belong to association to have successful enterprises against their counterparts that distance themselves from social fraternity as evident by the positive significant of membership association coefficient. Membership in the occupational association ease access to the pecuniary economic advantages-economies of scale (bargaining power in output marketing, bulk discount in input supply, access to innovative technologies, credit access etc.) that enhanced business going concern, thus makes an enterprise to be successful. The marginal propensity of any processors that belongs to an occupational association having a successful enterprise compared to a non-member is 39.74 %. However, on the other hand, limited economic power alongside nearly absent of social capital affected the job satisfaction (decision model) of processors that didn't belong to social organization as evident by the negative-plausibility of the membership association coefficient. This may be connected with the consequence of diseconomies of scale, a setback to the enterprise going concern and sustainability. Therefore, the marginal propensity of a processor that is not a member of occupational association not being satisfied with the job against their counterparts that are members of occupational association is likely to be 27.95 %.

Excessive households' expenditures due to vulnerable composition- poor remittance affected the job satisfaction and agripreneurial success of the processors that maintained large household size as evident by the inverse effect of the household's coefficient in both the decision models. The challenge of little or no remittance especially vulnerable composed large household will have a toil effect on the capital base of the enterprise as more of the income will be consumed rather than invested/re-invested for effective enterprise going concern, a catalyst for enterprise sustainability. Therefore, the marginal propensity of an additional person in a processor's household will increase his/her chances of not being satisfied with the job alongside having a not successful enterprise by 4.97 and 6.40 % respectively. In other words, the likelihood of processors that maintained large household size especially those with vulnerable composition being non-satisfied with the job and the enterprise not success against their counterparts with small-to-fair household sizes will be 4.97 and 6.40 % respectively.

The negative significant of the education coefficient implied that the processors with high level of education are not satisfied with the job. The possible reason may be engagement in well paid job that offers more remuneration than the processing enterprise, thus affects time devotion- little or no-time to concentrate on the enterprise. Therefore, the likelihood of highly educated processors not satisfied with the job for any increase in their level of education will be 2.96 %. Further, complacency- uncritical satisfaction with the enterprise achievement with consequence on managerial efficiency makes most of the experienced processors enterprises not to be successful as indicated by the negative significant of the experience estimated coefficient. Thus, the likelihood of an enterprise being non-successful for a unit increase in the level of experience will be 3.09 %.

The productivity of the obtained credit, to some extent sufficiency even though not up to the credit demand of the individual processors is a catalyst that enhanced efficient resource mix of the processing enterprise as evident by the positive significant of the credit supply-demand ratio estimated coefficient. The consequence of poor productivity of credit due to a significant mismatch in credit demand to supply will lead to poor productivity of the production factors. Therefore, the marginal propensity and elasticity implications of a unit decrease in credit demand to supply mismatch by a processor will increase an agripreneurial success by 0.034 and 10.22 % respectively. Besides, efficient utilization of the acquired credit enhanced the processors satisfaction with the job- rice processing as evident by the positive significant of the credit utilization coefficient. A credit becomes productive and productivity if it is prioritized towards capital investment other than capital consumption, thus a stimulus for enhancement of enterprise going concern and sustainability. Thus, the marginal and elasticity implications of processors with good credit utilization to have its job satisfaction increased against their counterparts with poor credit utilization will be 0.21 and 41.87 % respectively.

Table 7. Determinants of job satisfaction and agripreneurial success of the processors.
***Tabla** 7. Factores determinantes de la satisfacción laboral y el éxito agroempresarial de los procesadores.*

Variable	Job satisfaction			Agripreneurial success		
	Coefficient	t-stat	Elast.	Coefficient	t-stat	Elast.
Decision stage						
Constant	-8.8947(2.7152)	3.28***	-	0.1363(2.3566)	0.06^{NS}	-
Age	0.0184(0.0208)	0.89^{NS}	-	0.0066(0.0146)	0.45^{NS}	-
Gender	0.1078(0.2567)	0.42^{NS}	-	-0.0054(0.2218)	0.02^{NS}	-
Marital status	0.3053(0.1760)	1.73*	-	0.3195(0.1331)	2.40**	-
HHS	-0.0497(0.0286)	1.74*	-	-0.0640(0.0365)	1.75*	-
Education	-0.0296(0.0167)	-1.77*	-	-0.0050(0.0194)	0.26^{NS}	-
Experience	-0.0094(0.0308)	0.31^{NS}	-	0.0309(0.0128)	2.42**	-
M. Assoc.	-0.2795(0.1547)	-1.81*	-	0.3974(0.2166)	1.83*	-
Income	0.6752(0.2117)	3.19***	-	-0.0147(0.1923)	0.08^{NS}	-
Outcome stage						
Constant	0.2991(0.1656)	1.81*	-	0.2333(0.0779)	2.99***	-
CR	-0.0322(0.1661)	0.19^{NS}	-0.0484	0.0337(0.0152)	2.21**	0.1021
CU	0.2095(0.0385)	5.44***	0.4187	-0.0171(0.0672)	0.25^{NS}	-0.0754
POP	-2.6417(1.1911)	-2.217**	-0.1952	-0.6023(0.2269)	2.65***	-0.0939
Activity type	0.1424(0.0523)	2.72***	0.1826	0.0001(2.11-E5)	4.74***	0.0002
Lambda	-0.1083(0.1113)	0.97^{NS}	-	-0.0057(0.0651)	0.09^{NS}	
Rho	-0.4384			-0.0504		
Sigma	0.2470			0.1139		
Wald Chi^2	88.70[0.00]***			1.90[0.075]**		

Note: Values in ( ) and [ ] are standard error and probability level respectively. ***, **, * & NS are significant at 1, 5, 10 % and non-significant respectively.

Table 8. Multicolineairty (VIF).
***Tabla 8**. Multicolinealidad (VIF).*

Variable	VIF*
CR	1.002
CU	1.007
POP	1.013
Activity type	1.011

* Threshold VIF is 10.0

The effect of household population explosion on limited available resources affected the extent of both job satisfaction and agripreneurial success of the processors as evident by the negative significant of the population pressure estimated coefficient. Therefore, the marginal and elasticity implications of an increase in a household's population pressure will decrease the extent of both job satisfaction and agripreneurial success by 2.64 and 19.52 %; and, 0.60 and 9.39 % respectively. Furthermore, less capital intensiveness associated with the value chain of rice par-boiling coupled with social capital pooling which enhanced access to innovating technologies enhanced job satisfaction and agripreneurial success of the par-boilers against the millers as indicated by the positive significant of the type of processing activity coefficient. Therefore, the marginal and elasticity implications of being a par-boiler against a miller will increase the extent of job satisfaction and agripreneurial success by 0.14 and 18.26 %: and, 0.0001 and 0.03 % respectively.

In a related study by Kiriveldeniya et al. (2020), though a different methodological approach (correlation), their results of the significant and non-significant effects of experience and gender respectively on entrepreneurial success are consonant to the present study while their finding on age was found to be contrary.

4. Conclusion and Recommendations

Unlike the millers, majority of the par-boilers were not satisfied with the job and this largely owes to characterized seasonality of the down-stream rice supply chain whose consequence of seasonal unemployment affects job security alongside poor incentives from the supporting agencies. Furthermore, the enterprises of most of the target groups were successful, and it owes to remunerative turnover ratio alongside other factors. However, excessive households' expenditure due to vulnerable composition with consequence on the business capital base affected the processors job satisfaction and agripreneurial success. Besides, the damning effect of the vulnerable composition of large households that triggered a population pressure on the limited resources affected job satisfaction and agripreneurial success in the study area. Therefore, the study calls for an enable environment that will ensure rice production all the year round, thus enhancing the sustainability of the entire rice value chain-up and down streams as the challenge of job security caused by seasonal unemployment will be contained. Also, there is need to enlighten the processors on the precursor vitality of sustainable household for a better livelihood in the study area.

Contributor Roles

- Mohammed Sanusi Sadiq: conceptualization (lead), data curation (lead), methodology (lead), validation (lead), formal analysis (lead), investigation (lead), resources (lead), project administration (lead), visualization (lead), supervision (lead), writing - original draft (lead), writing- review & editing (lead).
- Bashir Sanyinna Sani: conceptualization (supporting), data curation (supporting), methodology (supporting), validation (supporting), formal analysis (supporting), investigation (supporting), resources (supporting), project administration (supporting), visualization (supporting), supervision (supporting), writing - original draft (supporting), writing- review & editing (supporting).

Ethical Issues

Ethics approval Not applicable.

Conflict of Interest

The authors declare that they have no affiliation with any organization with a direct or indirect financial interest that could have appeared to influence the work reported.

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