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Personal Well-Being of Dairy Buffalo Entrepreneurs in Nueva Ecija, Philippines

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ABSTRACT

Dairy buffalo entrepreneurship is an important livelihood strategy with great potential of providing sustainable livelihood to people particularly family entrepreneurs. Nueva Ecija, being the main area of intervention of the Philippine Carabao Center, has been well-supported for its buffalo-based dairy enterprises. Empirical studies assessing the well-being of families engaged in dairying in the province, however, were not much explored; hence this study. Data were gathered through face-to-face interview with 170 dairy buffalo entrepreneurs using a survey questionnaire. Personal well-being index (PWI) was measured in terms of the core set of items forming the PWI comprising seven questions on satisfaction with specific life domains. The satisfaction scores from all domains are simply summed up to produce a mean satisfaction value, known as the PWI score, to represent subjective well-being (SWB). The following guidelines for the interpretation of the PWI scores were used: 70+ points = 'Normal': A person is likely to be experiencing a normal level of well-being. 51-69 points = 'Challenged': Personal well- being is likely to be challenged/compromised. The PWI of the dairy buffalo entrepreneurs was found to be within the normative range of population, which means that they are generally experiencing a normal level of well-being. Findings further showed that while the entrepreneurs were simultaneously engaged in dairying and other sources of household income, such as non-dairy farm, off-farm and non-farm, they are satisfied with farm work and even managed to enjoy various leisure activities.

INTRODUCTION

Internationally and even locally, there is a growing recognition and concern that measuring societal progress should involve measuring well-being to determine whether people from all walks of life are able to lead meaningful, happy and fulfilled lives. The idea of 'well-being' as a measure of progress continues to receive support worldwide. There is increasing recognition that to truly measure progress it is important to identify the extent to which people can lead meaningful, happy and fulfilled lives – lives with high levels of well- being. Many international organizations now include well-being as an indicator of improvement or development (Schirmer *et al.*, 2016). In 2016, the authors of the World Happiness Report wrote "we see increasing evidence that the emerging science of well-being is combining with growing policy interest at all levels of government to enable people to live sustainably happier lives" (Helliwell, Layard, and Sachs, 2016). Every person from all walks of life, regardless of age, civil status, and belief, has the opportunity to improve or maintain his/her individual well-being. The United Nations Universal Declaration of Human Rights (1948) Article 25, Section 1 states that "Everyone has the right to a standard of living adequate for the health and well-being of himself/herself and of his/her family, including food, clothing, housing, medical care and necessary social services."

The plight of the Filipino farmers is and has always been a major concern of the Philippine government's past, present and future administrations. From the functional perspective, Turner (1985) stated that the basic functions of all governments are establishing goals, allocating and mobilizing resources, distributing valued resources, and maintaining social order. In Article II of the 1987 Philippine Constitution, it is stated that "the state shall encourage NGOs, community-based or sectoral organizations that promote the welfare of the nation." In support to this, complementing laws were issued - the Republic Act (RA) 9520 and Presidential Decree (PD) 442. RA 9520, or the Philippine Cooperative Code of 2008, defines a cooperative as an autonomous and duly registered association of persons, with a common bond of interest, who have voluntarily joined together to achieve their social, economic, cultural needs and aspirations (Curiae and Patac, 2015 in Business World Online, 2019). It was the Cooperative Development Authority (CDA) which spearheaded the mandate of RA 9520 (http://www.bworldonline.com).

PD 442 or the Labor Code of the Philippines mandates the Department of Labor and Employment (DOLE) to assist rural workers in securing their association organized and certified as organization with legal identity or personality. The birth of these two legitimizing authorities led to the proliferation of cooperatives and associations in the Philippines particularly in the agrarian reform communities (ARCs) of Nueva Ecija. In the Province of Nueva Ecija, there are 58 assisted registered organizations classified into cooperatives or associations which benefit from the Dairy Buffalo Loan Module of the Philippine Carabao Center (PCC), through their respective organizations as conduits of support (PCC Annual Report, 2017). The PCC's National Impact Zone

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(NIZ) unit reported a total of 1,074,531.90 kg of raw milk contributed to the milk pool, portion of which was sold to the local processors while the rest was sold as processed milk products (basically, pastillas, kesong puti and flavored milk) to the local market. The contributions of the dairy buffalo sector to the industry registered a total of 2,469,831.76 kg of raw milk coming from the Regional Impact Zone (RIZ), NIZ, and PCC Institutional Herd (PCC Annual Report, 2017).

The province is endowed with abundant forage resources and rice hay, which make it much ideal for raising dairy buffaloes. That is why in 1999, PCC declared the Province of Nueva Ecija as the National Impact Zone for Dairy Buffalo Entrepreneurship in the Philippines. Milk production and marketing provide households with regular daily source of cash throughout the season/year, which can be used for small expenditures. Crop production, on the other hand, provides a lump sum only after the harvest. Animals are not kept exclusively for milk production but are used for other purposes like draught, stock, manure, meat, hides, hair and wool. They can also be kept for investment purposes, which is an increasingly important consideration for livestock ownership.

Dairy buffalo farming in Nueva Ecija is community-based, where an estimated number of about 3,012 households depend upon for their livelihood. With the proliferation of small hold dairy buffalo farms in the ARCs, it was presumed that these have already created a considerable impact on the well-being of the family entrepreneurs due to the employment it has generated. It is a fact that employment ensures better socio-economic activities that could propel community development through significant development as indicated by social and economic well-being aspect. Although a number of concerns on dairy buffalo have been researched on (e.g., gender, value chain analysis, effect of climate change, technology adoption), research about the well-being of dairy buffalo entrepreneurs is limited. Evidences that would back up this claim is very much needed and appropriate. Hence, the necessity of conducting this study.

METHODOLOGY

The study was conducted in Nueva Ecija, Philippines, a landlocked province in Central Luzon (Region III), which occupies the eastern rim of the Central Luzon plains. Nueva Ecija borders, from the south clockwise, Bulacan, Pampanga, Tarlac, Pangasinan, Nueva Vizcaya and Aurora (https://lga.gov.ph/province/info/nueva-ecija).

The Local Government Code, also known as RA 7160, defines agricultural land as land devoted principally to the planting of trees, raising of crops, livestock and poultry, dairying, salt making, inland fishing and similar aquacultural activities and other agricultural activities, commercial or industrial. This definition explicitly categorizes dairy buffalo as an agricultural enterprise. The Philippine Standard for Industrial Classification (2009) classified Dairy Buffalo Farming as animal production and manufacturing of foods and food products.

The study which was conducted in July 2019, surveyed dairy 170 randomly selected buffalo entrepreneurs from 33 organizations implementing dairy buffalo enterprises in 16 cities and municipalities in Nueva Ecija. It aimed to describe the profile of the dairy buffalo entrepreneurs and analyze their personal well-being through the personal well-being index (PWI). The respondents' socio-economic characteristics were described using descriptive statistics. PWI was measured in terms of the core set of items comprising seven questions on satisfaction with specific life domains. The PWI was quantified by computing the mean score of each of the seven personal well-being measurement constructs scored from a range of zero which means 'no satisfaction at all' to 10 which means 'completely satisfied'. The mean score for each respondent was converted into points or scores by multiplying by 10 to adjust the scale to a measure from 0 to 100 (International Well-Being Group, 2013). The satisfaction scores from all domains which include standard of living, personal health, achievement in life, personal relationships, personal safety, community-connectedness, and future security are simply summed up to produce a mean satisfaction value, known as the PWI score, to represent SWB. The following guidelines for the interpretation of individual SWB scores measured using the PWI are offered: 70+ points = 'Normal': A person is likely to be experiencing a normal level of well-being. 51-69 points = 'Challenged': Personal well-being is likely to be challenged/compromised.

RESULTS AND DISCUSSION

Socio-demographic Characteristics of the Respondents

Age. The mean age of the respondents is 51 years; the youngest age is 24 while the oldest is 76 years. Almost 30% of the respondents fall in the age bracket 41 – 50 years old. The respondents' mean age is lower than the mean age of farmers in 2017 which was 57 years old. Considering the URT (United Republic of Tanzania, 2013) study which suggested the age group of 25-40 as a superior age to conduct a business and make big progress, the respondents are no longer in this age group. However, the mean age of 51 falls within the 25-54 years age bracket which is classified as prime working age.

Educational Attainment

About 45% of the respondents were high school graduates while 12% were college graduates (Table 1). These statistics show that the respondents have relatively higher level of education compared to the common farmers who more often have reached elementary levels only. Olomi (2009) and Kumar and Kalyani (2011) have emphasized the importance of education in entrepreneurship because it provides the entrepreneurs the knowledge and skills to create a business.

Sex

Majority of the respondents were male (89%) and only 11% were female (Table 1). This is unsurprising

Table 1: Profile of the respondent-entrepreneurs

Characteristics	Frequency (N=170)	Percent
Age (years)		
<31	5	3
31 - 40	26	15
41 – 50	51	30
51 - 60	49	29
>60	39	23
Total	**170**	**100**
Mean	51	
SD	11.22	
Range	24 - 76	
Educational Attainment		
Elementary Level	6	4
Elementary Graduate	41	24
High School Level	15	9
High School Graduate	76	45
College Level	11	6
College Graduate	21	12
Total	**170**	**100**
Sex		
Male	152	89
Female	18	11
Total	**170**	**100**
Marital Status		
Married	166	98
Widowed	4	2
Total	**170**	**100**

considering that the nature of some activities is still viewed in Philippine society as primarily men's domain. This indicates that dairy buffalo farming is an occupation highly dominated by men. Based on the 2015 Census of Population (POPCEN), males accounted for 50.5% of the total population of Nueva Ecija in 2015, while females comprised the remaining 49.5%. These figures resulted in a sex ratio of 102 males for every 100 females.

Marital Status
Majority (98%) of the respondents were married and the remaining two percent were widowed (Table 1).

Household size and number of children
The respondents' households were composed of members ranging from one to eight, with more than half of the households composed of less than four members (54%). The average household size was 3.65, which is relatively smaller compared to the 4.3 average reported in Nueva Ecija in 2015 (POPCEN, 2015).

In terms of the number of children, more than half (56%) of the respondents have two- three children. About one-fourth (24%) have less than two children. Meanwhile, one-fifth (20%) of the respondents had more than three children. The average number of children was

Table 2: Household size and number of children

Characteristics	Frequency (N=170)	Percent
Household Size		
< 4	91	54
4	31	18
> 4	48	28
Total	**170**	**100**
Mean	**3.65**	

SD	1.56	
Range	1 - 8	
Number of Children	(n=170)	
< 2	41	24
2-3	95	56
> 3	34	20
Total	170	100
Mean	2.42	
SD	1.24	
Range	0 - 7	

2.42, which is almost comparable to 2.7 that was reported in the 2017 National Demographic and Health Survey.

Economic Characteristics of the Respondents Sale of Milk, Calves and Vermicast Income from milk
The mean estimated annual income from the sale of milk by the respondents was PhP296,538.96, and this ranged from PhP60,000 to PhP1,000,000.00 (Table 3). Of the 170 respondents, 33% earned income between PhP100,001 and PhP200,000; 26% with PhP200,001 – PhP300,000; 17% with PhP300,001 – PhP400,000; 8% with less than or equal to PhP100,000 per year. Only a

small percentage (6%) of the respondents earned more than PhP500,000 on an annual basis.

Income from calves
The mean annual income from selling calves was PhP65,614.09 and it ranged from PhP5,000 to PhP250,000. About one-fourth of the respondents (28%) earned between PhP25,001 – PhP50,000 annually. This was followed by 19% with less than or equal PhP25,000; 13% with PhP50,001 – PhP75,000; and 15% with PhP75,001 – PhP100,000. Only a small percentage (12%) earned more than PhP100,000 annually (Table 3).

Table 3: Actual annual benefits from milk, calves and vermicast

Income Source	Frequency (N=170)	Percent
Income from Milk		
< 100,000		3
13		15
8	51	30
100,001-200,000	56	33
200,001-300,000	44	26
300,001-400,000	29	17
400,001-500,000	17	10
>500,000	11	6
Total	170	100
Mean	296,538.96	
SD	167,019.98	
Range	60,000 – 1,000,000	
Income from Calves		
Not selling calves	21	12
< 25,000	32	19
25,001-50,000	48	28
50,001-75,000	22	13
75,001-100,000	26	15
> 100,000	21	12
Total	170	100
Mean	65,614.09	
SD	50,707.30	

Range	5,000 – 250,000	
Income from Vermicast		
Not selling vermicast	156	92
< 20,000	9	5
> 20,000	5	33
Total	**170**	**100**
Mean	**15,785.71**	
SD	**14,864.41**	
Range	**5,000 – 60,000**	
Total Benefits Derived		
Mean	**355,347.78**	
SD	**189,899.00**	
Range	**60,000 – 1,150,000**	

Income from vermicast

The mean annual income was PhP15,785.71 and it ranged from PhP5,000 to PhP60,000 (Table 3). Of the 170 respondents, only 8% were engaged in selling their vermicast as a source of income, distributed as follows: 5% earned less than or equal to PhP20,000; and 3% earned more than PhP20,000.

The mean annual total benefits derived from selling milk, calves and vermicast was PhP355,347.78 and it ranged between PhP60,000 and PhP1,150,000.

Annual income from non-dairy farm sources

Non-dairy farm sources of income include crop production such as rice, onion, vegetable, corn, citrus; fisheries such fishpond operation, and livestock production such as goat, swine, sheep and poultry.

A total of 142 respondents (84%) earn income from non-dairy farm sources; meanwhile, there were 28 respondents (16%) who do not have such income. The mean annual income from non-dairy farm was computed at PhP49,750.00, which ranged from PhP5,000 to as high as PhP330,000. Specifically, about 31% of the respondents earn less than PhP20,000 per year from non-dairy farm sources, while 30% earn between PhP20,000 and PhP40,000 (Table 4). The province of Nueva Ecija, being predominantly agricultural, is inhabited by farmers who also engage in multiple crop and poultry production in addition to dairy farming.

Table 4: Annual income from non-dairy farm sources

Income (Php)	Frequency (N=142)	Percent
< 20,000	44	31
20,001- 40,000	43	30
40,001- 60,000	23	16
60,001-80,000	13	9
80,001-100,000	7	5
> 100,000	12	9
Total	**142**	**100**
Mean	**49,750.00**	
SD	**49,365.00**	
Range	**5,000 – 330,000**	

Annual income from off-farm sources

Off-farm sources were composed of providing services for artificial insemination, and as laborer in rice planting and harvesting production in other farms.

Table 5 shows that only 16 respondents (9%) earn additional income from off-farm sources which ranged from PhP3,000 to PhP100,000, with a mean of PhP20,237.50. Out of the 16 respondents, 12 (75%) earn PhP20,000 or less yearly.

Table 5: Annual income from off-farm sources.

Income (Php)	Frequency (N=16)	Percent
< 20,000	12	75
20,001- 40,000	2	13
40,001- 60,000	1	6

> 60,000	1	6
Total	**16**	**100**
Mean	**20,237.50**	
SD	**24,467.55**	
Range	**3,000 – 100,00**	

Annual income from non-farm sources

Non-farm sources include variety (sari-sari) store, smoked fish vending, dress making, vulcanizing, tricycle driving, truck driving, catering, networking, government work, stove making, welding, overseas work as OFW, honorarium, and pension.

Some 70 respondents (41%) earn additional income from non-farm sources, which ranged from PhP3,000 to PhP300,000, with a mean of PhP62,464.29. Some 43% of the respondents earn PhP20,000 or less annually (Table 6).

Table 6: Annual income from non-farm sources

Income (Php)	Frequency (N=70)	Percent
< 20,000	30	43
20,001- 40,000	13	19
40,001- 60,000	4	6
60,001- 80,000	3	4
80,001-100,000	5	7
> 100,000	15	21
Total	**70**	**100**
Mean	**62,464.29**	
SD	**72,744.00**	
Range	**3,000 – 300,000**	

Satisfaction with Farm Work

All the respondents are satisfied with farm work they are engaged in and the reasons were grouped into major themes like being able to earn income from dairy farm as a form of livelihood (64%). Under this general theme, more specific reasons were cited, namely, for daily expenses (13%), for education of children (10%), and for family's basic needs (5%). A handful mentioned that their status of living has improved such that they are able to save and therefore do not borrow money anymore (Table 7).

According to Coughenour and Swanson (1992), satisfaction with farm work is an important component in satisfaction with family life. Bergevoet *et al.* (2004) added that enjoying farm work, working with animals and producing a good and safe product were ranked higher than the goal of achieving maximum income among the Dutch dairy farmers.

Table 7: Satisfaction with farm work and reasons

Item	Frequency (N=170)	Percent
Satisfaction		
Yes	170	100
No	0	0
Reasons for satisfaction		
Able to earn income from dairy farm as a form of livelihood	109	64
For daily expenses	22	13
For education of children	17	10
For family's basic needs	9	5
Improved status of living (able to save and therefore does not borrow money anymore)	13	7
Total	**170**	**100**

Engagement in Leisure Activities

Despite having busy schedule, all the respondents claimed that they also engage in various leisure activities, such as watching television shows (98%) and even malling (50%), dining out (44%), social media (Facebook)/watching online videos (YouTube) (35%) and videoke/karaoke

singing (32%). Apparently, only about one-third of the respondents are knowledgeable or enthusiastic about internet technology (Table 8). While enjoying the social media, they too could gather information about latest technologies in dairying, and learn new best practices that may help them in their farm management.

Likewise, the number of leisure activities engaged by the respondents are shown in Table 9. The computed mean was 3.36, which ranged from 1 to 7 activities. It may not be surprising that the respondents engage in not just one leisure activity; however, despite the many choices provided in the survey form, majority of the

Table 8: Engagement in leisure activities

Item	Frequency (N=170)	Percent
Engage in Leisure Activities		
Yes	170	100
No	0	0
Total	**170**	**100**
Leisure Activities		
Watching TV	166	98
Malling	85	50
Dining out	74	44
Facebook and Youtube	59	35
Videoke/karaoke singing	54	33
Sports (basketball, biking, table tennis, motocross, swimming)	29	17
Family vacation	21	12
Listening to radio	20	12
Gardening	13	8
Cellphone games	10	6
Driving	8	5
Occasional drinking	8	5
Watching movies	5	3
Reading news papers	4	2
Cockfighting	3	2
Gathering sakate	2	1
Bible study	2	1
Massage	2	1
Others	9	9

respondents chose only two (22%), three (19%), or four (25%) activities. Brajsa-Zganec, Merkas, & Sverko (2011) emphasize that participation in leisure activities in general contributes positively to subjective well-being. Argyle (1996) provided additional evidence that leisure activities were an important source of subjective well-being.

Type of Organization, Length of Membership and Years of Experience in Dairy Buffalo Entrepreneurship
About 98% of the respondents belong to the cooperative organizations, and 2% are members of associations. Meanwhile, 34% of the respondents have 6-10 years membership in their organization, followed by 22% with

Table 9: Number of leisure activities

Number of Leisure Activities	Frequency	Percent
< 3	58	34
3	32	19
> 3	80	47
Total	**170**	**100**
Mean	**3.36**	
SD	**1.56**	
Range	**1 - 7**	

1 – 5 years, and 19% with 11-15 years. The mean year of membership was 12 years.

In terms of the length of experience in dairy buffalo enterprise, 34% of the respondents have 6 -10 years of experience, 22% have 1 – 5 years, and 19% have 11-15 years. The mean year of experience in dairy buffalo enterprise was 10 years (Table 10).

Dairy Farm Ownership
To become a farmer-beneficiary of a PCC dairy buffalo module, interested individuals are required to ensure access to a piece of land that will be dedicated for the dairy buffalo enterprise. In case they do not own the land, they must secure a written legal document, witnessed and attested by the officers of the cooperatives or the

Table 10: Organizational Membership, Length of Membership and Years of Experience in Dairy Buffalo Entrepreneurship.

Item	Frequency (N=170)	Percent
Organizational Membership		
Association	4	2
Cooperative	166	98
Total	**170**	**100**
Years of Membership in the Organization		
1-5	37	22
6-10	57	34
11-15	32	19
16-20	24	14
21-25	6	4
>25	14	8
Total	**170**	**100**
Mean	**12.08**	
SD	**7.34**	
Range	**3 - 33**	
Years of Experience in Dairy Buffalo Entrepreneurship		
1-5	50	29
6-10	60	35
11-15	25	15
16-20	31	18
21-25	2	1
>25	2	1
Total	**170**	**100**
Mean	**10.42**	
SD	**5.81**	
Range	**3 - 30**	

associations to which they are affiliated, stipulating that they are allowed to use a specific piece of land for this particular purpose. Majority of the respondents (92%) have full ownership of the farms they manage (Table 11). Other respondents have free use of land (4%), partial land

ownership (3%) and leaseholders (1%). Results of this study somehow agree with the findings of Lantican *et al.* (2017) in their analysis of dairy buffalo value chain analysis in Luzon, Philippines, wherein majority of dairy farmer respondents (58%) in Region 3-NIZ own the land they use.

Table 11: Respondents' ownership of the dairy farm

Type of Ownership	Frequency (n=170)	Percent
Fully owned	157	92
Partly owned	5	3
Leaseholder	2	1
Free use	6	4
Total	170	100

Number of Buffaloes Raised

Following Palacpac *et al*.'s (2017) classification of dairy buffalo farms based on the number of buffalos raised, most of the respondents (45%) who raise 1- 5 buffaloes were classified as small-hold farmers, while some who have 6-10 heads (32%) were considered as family module, those with 11 – 20 heads (16%) were semi-commercial, and those with more than 20 heads (7%) were considered commercial. The mean number of buffaloes raised by the respondents was 8, ranging from 1 to 40 (Table 12). This implies that they belong to the family module type.

Table 12: Classification of Dairy Buffalo Enterprise Based on the Number of Buffaloes Raised

Number of Buffaloes	Frequency (n=170)	Percent
1-5 (Small-hold)	77	45
6-10 (Family module)	54	32
11-20 (Semi-commercial)	27	16
>20 (Commercial)	12	7
Total	**170**	**100**
Mean	**8.39**	
SD	**7.46**	
Range	**1 - 40**	

Personal Well-being Index

The Personal Well-being Index (PWI) uses a hedonic approach to measure subjective well- being (SWB). However, instead of asking the respondents to rate their overall level of satisfaction, they were asked how satisfied they are with the seven domains of personal well-being, namely: (1) standard of living, (2) health, (3) achievements in life, (4) personal relationships, (5) feeling of safety, (6) community connectedness, and (7) future security. The PWI was developed in Australia by researchers based at the Australian Centre on Quality of Life (International Well-Being Group, 2013).

PWI Scores

Table 13 summarizes the PWI domain ratings with a mean score of 77.80 and a range of 71.40 - 80.00 for the small hold; 78.30 for the family module with a range of 72.90 – 80.00; 78.60 for the semi-commercial with a range of 75.70 – 80.00; and 78.80 for the commercial with a range of 75.70 – 80.00.

If the PWI will be ranked per farm classification, those in the commercial category have the highest PWI of 78.80, followed by the semi-commercial farmers with a PWI of 78.60. Those in the family module category ranked third with a PWI of 78.30, and followed by the small hold farmers who ranked fourth with a PWI of 77.80. The PWIs of the respondents across farm categories are within the normal range since the scores were 70 and above.

When people experience a level of SWB within the normal range, they generally feel happy with themselves and with the things in their lives; they are content, energized, motivated and have a strong sense of optimism about their future (Cummins *et al*., 2010).

The PWI domain rating mean scores were similar to those previously identified by Lau *et al*. (2005) in the general population of Victoria, Australia, in which the PWI score was 78.8 and the domains ranged from 75.3 to 83.7. The PWI of families engaged in dairy buffalo entrepreneurship is within the normative range for the personal well-being index in western populations of 70-80 according to the International Well-Being Group (2013).

According to Yiengprugsawan *et al*. (2009), for western populations, the normative range has been found to be 70–80 points on a 0–100 scale distribution with a mean of 75, as in Australia (Cummins *et al*., 2003) and Austria (Renn *et al*., 2009). Cross-cultural comparisons between Australia and Hong Kong found that the PWI in Australia lies in the 70–80 range whereas in Hongkong PWI falls between 65 and 75 (Lau *et al*., 2005). In Algeria, the PWI and domain scores were relatively low with a mean of 50 (Tiliouine *et al*., 2006).

As Yiengprugsawan *et al*. (2009) observed, most studies of personal well-being are produced and applied in developed countries. There are relatively few studies for developing countries, even less in Asia. PWI values in Chinese samples are generally about 10 points lower than Western counterparts, partly due to a response bias caused by modesty in Chinese culture (Chen and Davey, 2008 in Yiengprugsawan *et al*., 2009). Based on a small sample in Tibet, PWI was close to 70, much higher than expected in a developing country (Webb, 2008). The relative lack of well-being data for Asian countries is important. Such subjective indicators have the benefit of assessing appreciation of life as a whole and this is of great importance to policy makers mapping out development strategies (Veenhoven, 2004).

Ranking of the Seven Domains of Personal Well-Being.

Across the farm categories, the rankings of the different domains of personal well-being varied. For the small-hold category, satisfaction on standard of living ranked first with a score of 79.50, followed by satisfaction on health and satisfaction on personal relationship, both with scores of 78.60 and ranked second. Satisfaction on

achievements in life and satisfaction on safety both ranked third with scores of 77.40. Satisfaction on future security ranked fourth with a score of 77.00, and satisfaction on connectedness to community ranked fifth with a score of 76.00.

In terms of family module category, satisfaction on health and satisfaction on achievements in life both ranked first with scores of 79.80. This was followed by satisfaction on personal relationship with a score of 79.60 and ranked second. Satisfaction on standard of living ranked third with a score of 79.10, followed by satisfaction on connectedness to the community with a score of 77.40 and ranked fourth. Satisfaction on future security and satisfaction on safety ranked fifth and sixth with scores of 76.30 and 76.10, respectively.

As regards the semi-commercial category, satisfaction on standard of living ranked first with a score of 80.70. This was followed by satisfaction on health with a score of 79.60 and ranked second. Satisfaction on achievements in life ranked third with a score of 78.50, followed by satisfaction on future security with a score of 78.10 and ranked fourth. Satisfaction on personal relationship, satisfaction on safety, and satisfaction on connectedness to the community all ranked fifth with scores of 77.80.

Regarding the commercial category, satisfaction on health ranked first with a score of 81.70. This was followed by satisfaction on personal relationship with a score of 80.80 and ranked second. Satisfaction on achievements in life and satisfaction on safety both ranked third with scores of 79.20. This was followed by satisfaction on standard of living with a score of 78.30 and ranked fourth, while satisfaction on connectedness to the community ranked fifth with a score of 77.50. Satisfaction on future security ranked sixth with a score of 75.00.

Table 13 also shows that the respondents across farm categories have varying rankings of their satisfactions on the seven domains of personal well-being.

• The farmer-entrepreneurs from the small-hold and semi-commercial categories ranked satisfaction on standard of living first, but those from the family module and commercial categories ranked it third and fourth, respectively.

• The farmer-entrepreneurs from the family module and commercial categories ranked satisfaction on health first, but both small hold and semi-commercial categories ranked it second.

• The farmer-entrepreneurs from the small-hold, family module and commercial categories ranked satisfaction on personal relationship second, but those from the semi-commercial ranked it fifth.

• The farmer-entrepreneurs from small-hold, semi-commercial and commercial categories ranked satisfaction on achievements in life third, but those from the family module ranked it first.

• The farmer-entrepreneurs from the small-hold and commercial categories ranked satisfaction on safety third, but those from the family module and semi-commercial categories ranked it sixth and fifth, respectively.

• The farmer-entrepreneurs from the small-hold and semi-commercial categories ranked satisfaction on future security fourth, but those from the family module and commercial categories ranked it fifth and sixth, respectively.

• The farmer-entrepreneurs from the small-hold, semi-commercial and commercial categories ranked satisfaction on connectedness to the community fifth, but those from the family module ranked it fifth.

These results are expected since several authors have

Table 13: Descriptive statistics for the seven domains of personal well-being per farm classification

Domains Of Personal Well Being	Farm Classification								
	Small Hold (1-5 hds)			Family Module (6-10 hds)			Semi-Commercial (11-20 hds)		
	Mean	Points	Rank	Mean	Points	Rank	Mean	Points	Rank
Satisfaction on Standard of Living	7.95	79.50	1	7.91	79.10	3	8.07	80.70	1
Satisfaction on Health	7.86	78.60	2	7.98	79.80	1	7.96	79.60	2
Satisfaction on Achievements in Life	7.74	77.40	3	7.98	79.80	1	7.85	78.50	3
Satisfaction on Personal Relationship	7.86	78.60	2	7.96	79.60	2	7.78	77.80	5
Satisfaction on Safety	7.74	77.40	3	7.61	76.10	6	7.78	77.80	5
Satisfaction on Connectedness to the Community	7.60	76.00	5	7.74	77.40	4	7.78	77.80	5
Satisfaction on Future Security	7.70	77.00	4	7.63	76.30	5	7.81	78.10	4
PWI Index	7.78	77.80		7.83	78.30		7.86	78.60	
PWI Ranking		4			3			2	

cited that subjective well-being, as measured by the seven domains discussed above, is related to socio-economic factors such as age and financial stability (Argyle, 1996); farm size, income, off-farm work (Molnar, 1985; Brooks, Bauley and Stucker, 1986); and personal characteristics (Coughenour and Swanson, 1992). Tables 1-5 describe that the farmer-entrepreneurs indeed differ on these socio-economic characteristics.

CONCLUSION
It is well noted that the personal well-being index of dairy buffalo entrepreneurs was within the normative range of population. With the PWI of 78.15 points, the respondents were under the category of "normal" which meant that a person is likely to be experiencing a normal level of well-being (Tomyn, 2014). The PWI of 78.15 of dairy buffalo entrepreneurs is within the normative range for the personal well-being index in western populations of 70-80 according to the International Well-Being Group (2013).

When people experience a level of subjective well-being within the normal range, they generally feel happy with themselves and with the things in their lives; they are content, energized, motivated and have a strong sense of optimism about their future (Cummins *et al.*, 2010).

As observed by Yiengprugsawan *et al.* (2009), most studies of personal well-being are produced and applied in developed countries. There are relatively few studies for developing countries, even less in Asia. The relative lack of well-being data for Asian countries is important to address. Such subjective indicators have the benefit of assessing appreciation of life as a whole and this is of great importance to policy makers mapping out development strategies (Veenhoven, 2004). This study therefore is the authors' contribution to the limited studies on well-being in the Asian context, particularly in the case of dairy buffalo entrepreneurs in Nueva Ecija, Philippines.

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