

Agro-Waste Research and Augmentation (AWRA) Phase 1: A Phenomenological Study of Experiences of Farmer on Agro-Waste Management

Abstract

This study used phenomenological approach in exploring the life and lived experiences of farmers in the Province of Samar. Eight (8) farmers participated in the study. Participants met the description of a farmer: 1) a person engaged in agricultural activities, combination of cultivating crops and raising livestock; 2) consider farming as their sole work and source of income; and 3) willing to participate in the study. From the data analyses, three major themes emerged: (1) unfamiliarity of agricultural waste management; (2) unravelling the potentials of agricultural waste; and (3) unending quest to be heard. It suggested that farmers are not yet well versed on agricultural waste management process and potential yet they hold an undying goal of learning and accepting change. This study showed that these farmers experienced a difficult yet an honest and fulfilling life that can be a source of farmer empowerment and inspiration for others. To fully fathom farmers' experiences, an intensive interview with their family, their friends, and community members is recommended. Further studies and a more in-depth investigation of the lived experiences of farmers is recommended.

Keywords: *Farmer, Agricultural Waste Management, Experience, Outlook, Aspiration*

I. Technical Description

- **Rationale**

Agricultural waste management has recently received attention among researchers who are interested in understanding its nature and sustainability (Foley et al., 2011). In the past, agricultural waste management researchers focused on the facet of this management variable in areas of understanding the concept (Obi, Ugwuishiwu, & Nwakaire, 2016), generation (Giroto, Alibardi, & Cossu, 2015), production (Chandra, Takeuchi, & Hasegawa, 2012), food bioconversion (Uçkun Kiran, Trzeinski, Ng, & Liu, 2014), utilization (Väisänen, Haapala, Lappalainen, & Tomppo, 2016), biodegradation (Emadian, Onay, & Demirel, 2017), valorization (Tuck, Pérez, Horváth, Sheldon, & Poliakoff, 2012), and profitability (Mel, Yong, Avicenna, Ihsan, & Setyobudi, 2015).

Globally, humans generate 998 million tons of agro-waste annually which makes up 15% of the total waste generation (André, Pauss, & Ribeiro, 2018). The Philippines, in particular, is generating agricultural waste of 0.078 kg/cap/day or 780,000 tons of agro-waste in a year. The country is looking into zero waste initiative (Sapuay, 2016) that could lessen the production thus doing less damage to the environment. In Region 8, rice, corn and cassava are the top three crops produced. It posted a 1.11% growth in rice production from 984,017 to 994,972 metric tons or a 98% sufficiency index. Likewise, cassava production increased by 3.95% from 78,805.43 to 81,918.12 metric tons (Department of Agriculture - Regional Field Unit VIII, 2015).

With all of the information given, it bounces back to the question, why there are so much agro-waste generated? Are there necessary steps taken to solve it? Are

farmers aware of proper agricultural waste management? Have they fully grasp the potential of agro-waste?

The questions presented motivated the researcher to delve on the grounds of farmers' knowledge towards agro-waste, its management and utilization. There is a need to look closely into the experiences of farmers with respect to the agro-waste knowledge by assessing their perceptions and grasp of the possible potential and reusability, hence the conduct of this study.

- Objectives

With its main objective of exploring the lived experiences, perceptions, and challenges of farmers, this study would like to answer the following questions: (1) what are experiences of the participants; (2) what is their perception about agricultural waste management; and what are their aspirations.

II. Review of Literature

Farmers need to be equipped with the necessary knowledge on proper agricultural waste management (Nigussie, Kuyper, & Neergaard, 2015), develop positive perception on agro-waste potential benefits (Case, Oelofse, Hou, Oenema, & Jensen, 2017), utilization of agricultural waste (Abou Hussein & Sawan, 2010), and knowing the environmental consequences and interaction of not properly managing agro-waste ("State of the World 2011: Innovations that Nourish the Planet," 2011).

For one to even touched the variables mentioned, it is best to dig a little deeper and explore the experiences of the farmers (Prokopy, 2008). Exploring farmer experiences can be vague but by focusing on a specific area, specific answers are guaranteed. By exploring the mindset of farmers, it can pave the way to understanding their behavior (Bonadonna, Matozzo, Giachino, & Peira, 2019), their willingness to learn, unlearn and relearn practices (Danso, Fialor, & Drechsel, 2002), social influences affecting their perceptions and practices (Swinkels et al., 2015), interpretation of risk and benefit concerns (Michetti, Raggi, Guerra, & Viaggi, 2019), beliefs and concerns (Arbuckle, Morton, & Hobbs, 2013), and attitude to certain agricultural practices (Qtaishat & AL-Sharafat, 2012).

A person's willingness to accept change varies. Farmers often encounter barriers which affect their willingness to adopt changes (Battel & Krueger, 2005). Their willingness maybe influenced by their perceived possibilities and beliefs about the outcome to make a change (Peden, Akaichi, Camerlink, Boyle, & Turner, 2018). Such hostility to change arise from their tradition, characteristics and tested management practices (Caldas et al., 2014).

This study attempted to explore the farmers' experiences, perception and hope. The results of this study will be helpful in understanding the farmers' lived experiences and concerns prevailing in the society. With the end goal of contributing to their empowerment as significant members of the society.

III. Methodology

- Research Design

This qualitative study utilized phenomenological approach that aimed to investigate the experience of farmers - how it is be a farmer and a provider at the same time. A qualitative research study aimed to examine a phenomenon that impact on the lived reality of individuals or groups in a particular cultural or social context (Mills & Birks, 2014). A qualitative research is an inquiry process of

understanding based on distinct methodological traditions of inquiry that explore a social or human problem (Creswell, 1998). The researcher builds a complex and holistic picture, analyze words, report detailed views of informants, and conduct the study in a natural setting. Phenomenology aimed to accurately describe the phenomenon without a pre-existing knowledge to a framework, but remaining truth to the facts (Groenewald, 2004). More so, using a qualitative research, the researcher would be able to connect with their participants and to see the world from their viewpoints (Corbin & Strauss, 2008). The researcher found this method most suitable to the inquiry in order to provide a comprehensive analysis on the lived experiences of farmers.

- **Participants and Sampling**

The participants of the study were identified using purposive sampling. Using purposive sampling, the researcher can choose their participants that will be fit for the study (Devers & Frankel, 2000). Simply put, the researcher decides what needs to be known and sets out to find people who can and are willing to provide the information by virtue of knowledge or experience (Tongco, 2007). Eight (8) farmers participated in the study. Participants met the description of a farmer: 1) a person engaged in agricultural activities, combination of cultivating crops and raising livestock; 2) consider farming as their sole work and source of income; and 3) willing to participate in the study.

- **Data Collection**

In gathering the appropriate data for the study, semi structured interview was used. Semi-structured interview is a type of interview that has become the most familiar strategy in collecting qualitative data (DiCicco-Bloom & Crabtree, 2006). A semi-structured interview is a qualitative method of inquiry that merges a predetermined set of open questions with the privilege for the researchers to explore particular responses further; used to understand how interventions work and how they could be enhanced. It also allows to ask follow-up question for clarification. The content of the interview guide was validated by two professionals who were expert in the field of Psychology. The researcher also provided an agreement that included obtaining informed consent, ensured confidentiality, time and place commitments, permission to record, delineating the ethical principles of research. As to data storing methods, the researcher used note taking and dialogic form interview to each deeper response of the respondents.

- **Data Analysis**

The following steps represent Colaizzi process for phenomenological data analysis (Speziale, Streubert, & Carpenter, 2010). (1) Each transcript should be read and re-read in order to obtain a general sense about the whole content. (2) For each transcript, significant statements that pertain to the phenomenon under study should be extracted. These statements must be recorded on a separate sheet noting their pages and line numbers. (3) Meaning should be formulated from these significant statements. (4) The formulated meanings should be sorted in categories, cluster of themes, and subthemes. (5) The findings of the study should be integrated into an exhaustive description of the phenomenon under study. (6) The fundamental structure of the phenomenon should be described. (7) Finally, validation of the findings should be sought from the research participants to compare the researcher's descriptive results with their experiences.

- **Research Reflexivity**

In the study, the researcher's approach is different in terms of other researchers' perspectives. As a person who knows the struggles of farmers and their aspiration, the researcher understands his stand that might lead to a different development and an equally valid understanding of the particular situation under study.

The study has a preconception with a tone of positivity of eventually creating meaning during the entire process. The position and the background of the researcher will affect the choices made in the investigation, from an angle, with the methods that best judged the sole purpose of the study, framing, coming up with themes and the overall conclusion of it. With the intent of sharing the results to the participants of the study. Furthermore, preconception is not equated in any form of bias unless the researcher fails to mention them (Malterud, 2001).

- **Ethical Considerations**

The study focused on the lived experiences of farmers, their self-regard and aspirations. Therefore, the ethical considerations centered around the situations depicted solely from participants' experiences, interactions and actions observed. The issues of theoretical, theological, situational, critical and covenantal situational approach to research ethics were irrelevant to the overall study (Tisdale, 2004). If literal transcriptions and summary were used in the narratives.

IV. Results and Discussion

Significant information on the current experience of farmers were generated on the premise of proper solid waste management with inclination towards Farmer Empowerment. Current knowledge on agricultural waste management, potential of agricultural waste and aspiration for knowledge expansion were noted. The generated information can help in establishing not only springboard for subsequent research but also a platform for the farmers to be heard and show the cacophony of their experiences.

From the data analyses, three themes emerged: (1) unfamiliarity of agricultural waste management; (2) unravelling the potentials of agricultural waste; and (3) unending quest to be heard. The three themes that emerged suggested that farmers are not yet well informed on proper agricultural waste management yet they are slowly psyching themselves to the proper utilization of the agro-waste as evident in the second theme. While they hold an undying goal of learning and accepting change. This study showed that these farmers experienced a difficult yet an honest and fulfilling form of life that can inspire and boost the aspiration of other farmers.

Theme 1. Unfamiliarity of Agricultural Waste Management

Episodes of unfamiliarity were reflected in the first theme. Farmers' admitted that they lack knowledge in agricultural waste management and admitted that they only follow what was done in the past and pay no particular attention to innovative practices. Despite such mentality, they are willing to learn, unlearn and relearn new information and skills concerning agro-waste management.

Subtheme 1. Sticking to Traditional and Known Practices

Most of the participants have a hard time engaging in new practices because they are still hook up tested and tradition-loaded practices in agricultural waste management. Working almost all day in the fields, they constantly repeat the same

steps, routine if one may say, becoming harder for them to let go. It is illustrated in the following participants' statements:

- (1) "Mas natuod pa ako kun ano an daan gintutdo ha akon kaysa mag bag-o kami han amon pamaagi paglabay han tipasi." (I still believe what is taught -- referring to burning of rice husks -- to me instead of trying something new in rice husk waste management)
- (2) "Kay ano buhi pa man kami yana, buot ipasabot na amon kadaan na pamaagi han paglabay han basura may silbi la gihap." (Why am I still alive today, it means that traditional practices in agricultural waste management still works)
- (3) "Pagrespeto nala namon pati pagtuod kun ano gud an nahigaraan na pamaagi... waray man kami gin hihimo na malain." (It is our way of showing our respect and belief on traditional practices... we are not doing anything wrong)

Subtheme 2. Challenges in Learning New Information

In like manner, most of the participants expressed that though there are opportunities in learning new practices and proper agricultural waste management, they usually allot their time working in the fields and not to mention that they cannot easily access such information due to distance from training centers and availability of trainers. It is illustrated in the following participants' statements:

- (1) "Damo man opurtunidad para mag aram pero harayo kami kun diin hira nag tututdo." (There are a lot of opportunities to learn, it's just that we live far from the training venue)
- (2) "Karuyag man namon mag aram pero waray man tawo na nag tututdo ha amon." (Even if we want to learn, we don't have someone to teach / train us)
- (3) "Hay.... magtititnutdo ha amon han bag-o pero waray man kami gamit, waray la kwenta." (Sigh... they are teaching us new things but we don't have the tools to apply it, still useless)

Theme 2. Unravelling the Potential of Agricultural Waste

Moments of awe and curiosity were reflected in the second theme. Farmers were surprised to know the potential use of agricultural waste when introduced to the idea of reusing and processing. Introduction of new ideas can spark curiosity to individual which could lead to voluntary learning (Mashavave et al., 2011). The learning process increases if ignorance is remedied (Livin, 2018).

Subtheme 1. Introducing Agro-Waste Potential

Most of the participants were surprised upon the introduction of some possible uses of agro-waste. It was a moment of enlightenment for them to be aware of such utilization that glee with a tone of remorse and wonder enveloped their reaction. It is illustrated in the following participants' statements:

- (1) "Mayda pa ngean gamit an tipasi, kasiring ko waray na kay ginsusunog man la namon ito." (I can't believe that rice husk can still be used, here I thought it has none that we just burn it for disposal)
- (2) "Ginlalabay man la namon an parot han mais, waray man gamit... maski diin iglabay okay la nadudunot man... mayda pa ngean pwede pag-gamitan." (We just throw away the corn husk, since it is of no use... we just throw it anywhere since it decomposes... we did not know that it can still be used)
- (3) "Ginlalabay la namon an parot han talyan... waray man ngani gamit... para amon kun ano la nakakaon amo la may gamit." (We just throw

the giant taro' peels... it has no use... only the edible part of the taro has use for us)

Subtheme 2. Expressing Desire and Commitment

It is in this moment that the participants felt the need to give attention to the possibilities of the information given. Renewal of beliefs, augmenting and improving their known knowledge and practice served as an avenue in coming up with the desire and the commitment to practice agricultural waste management. It is illustrated in the following participants' statements:

- (1) "Maupay na magagamitan pa an amon pagkita na basura nala... interesado lugod ako mag-aram hini." (It is nice that such waste can be reused... I am interested in learning more about it)
- (2) "Kunta may nagyakan ha akon hini... hay... nasasayang lugod ako yana." (I wish someone informed me about this... sigh... now, I feel bad for the loss)

Theme 3. Unending Quest to be Heard

With many agricultural problems happening, the desire, among farmers, to be heard by others were reflected in the third theme. Participants were airing out concerns in connection with their harvested crops. Problems on lowering prices of harvested goods and increasing cost for planting are plaguing the farmers. With too much on the line and so little time, prioritization on working in the fields over anything else is prominent in their experiences. It is illustrated in the following participants' statements:

- (1) "Mayda kunta mamati ha amon... makuri na gud an kinabuhi yana." (I hope that there will be someone that could listen to us... recently, life is really hard)
- (2) "Kunta may mamati liwat han amon mga problema... makuri na ngani panginabuhi... makuri pa mabuhi." (I hope someone will listen to our problems... it is hard to work already... even harder to live)
- (3) "Guti na ngani presyo han mais, diri pa gud nagagamitan tanan... damo la an nasasayang." (Corn prices are low, not all parts can be utilized... much of it are wasted)

V. Summary, Conclusion and Recommendation

- **Summary**

Three themes emerged from the conduct of the study: (1) unfamiliarity of agricultural waste management; (2) unravelling the potentials of agricultural waste; and (3) unending quest to be heard.

- **Conclusion**

This study provides a description of the lived experiences of farmers. It suggested that farmers are not yet well versed on agricultural waste management process and potential yet they hold an undying goal of learning and accepting change. This study showed that these farmers experienced a difficult yet an honest and fulfilling life that can be a source of farmer empowerment and inspiration for others.

- **Recommendations**

Concerned agencies must be extensive with in terms of scope, thus involving livestock farmers. The study could be comprehensive by combining with qualitative research methodology, extensive literature reviews and broader reach. To fully fathom farmers' experiences, an intensive interview with their family, their

friends, and community members is recommended. Further studies and a more in-depth investigation of the lived experiences of farmers is recommended.

VI. Literature Cited

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