

Original Article

School-on-the-Air Program: Voices of Student-Farmers

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Abstract - This study explored into the farmer's experiences in participating in the School-On-the-Air (SOA) program, their utilization of acquired information to improve farming methods, significant insights for the farming community, and suggestions for enhancing the program. Through focus group discussions and in-depth interviews, the qualitative research design involved 15 farmers from Bansalan, Davao del Sur, Philippines. The emerging themes revealed for experiences include satisfaction with relevant agricultural information learned, radio as a handy source of agricultural information, SOA motivating farmers to be responsible learners, hindrances like power interruptions affecting program listening, important agricultural information primarily obtained from SOA, and limitations of radio. On the use of information, two themes were revealed, which include information obtained that was practical and effective when applied and the use of new and helpful farming methods. Farmer students also shared their insights with the farming community which revealed that farming knowledge from SOA is worth sharing, and farming knowledge can also be shared with non-farmers. Suggestions for program improvement include time slot and duration modifications, incorporating marketing opportunities and strengthening agricultural extension support. Implications of the study findings are that the government continues to seek ways to enhance the program's implementation. This could include improving radio signals throughout the country by funding the establishment of government-funded local radio stations, investing in increasing the number of agricultural extension workers in the field to assist in monitoring the application of learned technologies and providing necessary extension support to all SOA graduates, among others.

Keywords - Radio, Communication, Agricultural extension, School-On-the-Air program, Philippines.

1. Introduction

Knowledge is relevant in many aspects of human activities, including farming. However, knowledge cannot only be acquired through formal education; rather, it can also be shared through other means like radio, television, magazines, newspapers, and other forms of media. Thus, farmers need not go to school to earn a degree or obtain knowledge. They can learn farming by listening to radio programs in the comfort of their homes. Hence, the Philippine Department of Agriculture (DA) conceptualized the School-on-the-Air (SOA) program to reach farmers in far-flung areas.

In the Philippines, Filipino farmers encounter havoc in cultivating their farms. They face several problems, such as the high cost of farming materials but the low price of outputs and the lack of post-harvest facilities. Madayag and Estanislao [29] have observed the ironic condition of farming in the Philippines. It is an agricultural country, yet it suffers from low farm production. The problem lies in the farmers' lack of knowledge on how to manage farmland of more than three hectares, inappropriate farm equipment, lack of understanding of climate change and natural calamities,

absence of critical programs on efficient irrigation systems, inadequate technology transfer mechanisms, and inadequate management programs on soil, pests, and diseases.

Additionally, the common problems of Filipino farmers are the lack of capital to buy the right seeds, fertilizers and feeds, disinteresting youth to go farming, lack of information on cultivation techniques; lack of government support, and bad image of farmers.

With the technological advancement of today, information can reach even the most remote areas. Consequently, several literatures find the role and effectiveness of mass media platforms, such as radio, television, and the internet, in promoting information regarding new agricultural technologies, innovative techniques and new trends in farming. Thus, the SOA program, which is conducted through radio, can be an effective means for farmers to obtain relevant information on farming techniques, farm mechanization, combat infestation, and climate change mitigation. The program also teaches farmers how to finance farming activities and how to use new farm equipment and facilities.



Community-Based-Radio broadcasting for distance education could target a larger audience, facilitate mass learning, provide a process of information dissemination, establish a foundation for decision-making and value formation, and initiate behavioral transformation for social mobilization [37]. According to Nazari and Hasbullah [21], radio is the most popular source of information available to farmers in rural areas of India and Africa. Thus, Nazari, and Hassan [38] point out that mass media has the power in disseminating pertinent information to the farmers; however, the appropriate choice of medium is essential.

The SOA in the Philippines was launched in the 1990s. It tackled several relevant issues on farming cultivation techniques, organic farming, and animal husbandry, to name a few. The program was widely accepted by farmers, whether enrolled or not in the program because the lessons were contextualized and easy to follow and understand. Recent data show that over 4,000 farmers in Guimaras and Iloilo graduated from SOA on Smart Rice Agriculture on September 29, 2021 [47], and another 800 farmers in the 14 municipalities of Antique graduated from the same course on September 28, 2022 [24]. However, despite SOA's popularity in the region, no evaluation has been conducted to verify the farmer-student's experiences during the conduct of this study. Therefore, it is safe to conclude that the cycle of the program is not complete.

The primary objective of evaluation is to enhance both accountability and learning. To examine the significance of these data for programs and initiatives, it aims to understand why and how many desired and unintentional results are achieved.

In addition, Tungpalan [27] said that the Philippines' capability to conduct impact evaluation is only emerging and that development partners usually conduct it through external evaluators, not by the program implementers. It is acknowledged that nobody can claim success of any project unless a systematic and well-thought evaluation is conducted and nobody can suggest improvements unless the downside of the project is determined.

To evaluate the student farmers first-hand experiences, particularly the benefits they obtained, the knowledge they acquired, the improvement gained, and the suggestions they could offer to improve the conduct of the program, hence, this study. The findings of this research would be helpful to the Department of Agriculture (DA) on how it could improve SOA in disseminating information and consequently, improve the lives of farmer-students.

2. Review of Related Literature

Education as a concept can only be discussed in the context of communication. It has provided knowledge, skills,

and understanding among learners in order to get rid of ignorance. Likewise, education shapes and molds an individual to develop his capability and ability mainly from the method of teaching, which includes a teacher and a student or a learner. On the other hand, Jarvis [40] defines education as the process of learning and knowing, which is not restricted to school text-books. It is a holistic process and continues throughout our life. With this, learning highlights experiences where people an individual learners. Hence, Marsick and Watkins [39] point out that education does not need to happen in academics or school premises only. However, it also goes beyond how learning implies itself to become an output of knowledge, skills and understanding.

On the other side, agriculture is the science and art of cultivating the soil, producing crops, raising livestock and, in varying degrees, the preparation and marketing of the resulting products [41]. Anderson [1] mentions that "farming" or "agriculture" includes in all of its branches the cultivation and tillage of the soil, dairying, the production, growing, and harvesting of any agricultural, aqua-cultural, floricultural or horticultural commodities, the growing and harvesting of forest products upon forest land, the raising of livestock including horses, keeping horses as a commercial enterprise, the keeping and raising of poultry, swine, cattle and other domesticated animals used for food purposes, bees, fur-bearing animals, and any forestry or farming as herein defined, or on a farm as an incident to or in conjunction with such farming operations, including preparations for market, storage to a market or carriers for transportation to market.

Nowadays, access to education, information, knowledge, and communication plays a vital role in individual and social life as well as in human development and inclination towards growth. Thus, to sustain good agriculture production and captivate and meet new demands, information is very important to play a part in order to maintain livelihoods continuously and to gain a competitive edge in a rapidly changing economic and production environment where traditional farming methods might be ineffective.

Access to relevant information enables farmers to make appropriate decisions and hence improve agricultural productivity. In relation to this, the study of Arbutante and Estoy [2] on the effectiveness of radio as one of the most preferred media used, wherein farmers from major rice-producing barangays (villages) have been randomly selected as SOA student farmers, revealed relevant findings. It turns out that 95% of the student-farmers passed the exams after the airing of the SOA program compared to only 10% before the conduct of the SOA program. Hence, the farmers' level of knowledge increased after the airing of the SOA program through the conduct of pre-tests and post-tests. Apparently, there is an increase in knowledge of the farmers, gaining an average of 316.25%.

In developing countries, radio is considered as an informal educational tool which is vital for development and farming systems. It is acknowledged as the most important medium for communicating with the rural populations of developing countries. Thus, radio broadcasting involves the systematic dissemination of information, educational programs and other features for simultaneous reception by a scattered and mass audience who receives the programs individually or in relatively small groups.

According to Rahman-Ullah and Khan [25], radio has been used widely as a medium for education in developing countries like India, Sri Lanka, Thailand, South Korea, Mali, Guatemala, Zambia, Uganda, Mexico, Botswana, South Africa, Philippines and also proved its impact and efficiency in health, agriculture and other development issues. Nazari and Hasbullah [21] prove that radio can play an essential role in achieving universal primary education. It is the most effective educational medium, which is used for transferring information regarding agriculture to farmers and as a tool for quick delivery of information in promoting agriculture production, particularly in rural areas.

In Australia, School Of The Air (SOTA) is a generic term used to refer to a correspondence system that caters to early secondary education. They are also known as virtual school initiatives where radio becomes the primary tool in conducting classes; however, internet technology has had a positive impact on this system [42]. On the other hand, Obidike [43] states that traditional media, such as rural radio, has been used in delivering agricultural messages to rural farmers where they are not faced with constraints in accessing agricultural information. In contrast, other ways of delivering these messages or information to the rural farmers include print, video, television, films, slides, pictures, drama, dance, folklore, group discussions, meetings, exhibitions and demonstrations.

In an effort to improve agricultural produce, many experts in Kenya have recognized radio as an effective tool for the dissemination of information. Vernacular radio has specifically received attention for the role it plays in providing timely, accurate and relevant information to dairy farmers [23]. This is because most listeners dwell in rural areas where dairy farming is commonly practiced. However, the fact that most of the people are not educated and neither speak English, nor Kiswahili means that vernacular radio stations are the most effective tools to reach them.

Consequently, even communities that lack access to electricity or telephone are able to benefit from the programs by taking part in discussions on how to improve agriculture and development. Arbutante and Estoy's [2] findings show that farmers are united and satisfied with the School-on-the-Air they listened to because it helps them educate themselves on how to improve their farming techniques. Their

experiences in the School-on-the-Air are worth it. Other two similar studies by Ronoh [26] and Chemwaina [7], using Kass FM as their case study, found that the station was of benefit to rural farmers in rift valley as they could get information through the agricultural programs initiated by the station as well as sponsored ones by different institutions, NGOs and the government departments. Such benefits included updates on market prices, new crop varieties, market demand for certain farm produce, beneficial farm produce for both household consumption and sale and information on crop insurance and agricultural loans.

The earliest documented effort of open and distance learning in the Philippines was the Farmers' School-on-the-Air (FSA). The first FSA was aired in 1952 in the province of Iloilo over a one-kilowatt radio station. A program entitled Tips on Farming and Community Development, which was broadcast in 1952 over a period of six months, served approximately 150 students scattered throughout the province [12]. The FSA-format was adopted by other radio stations and government agencies who aimed to teach different segments of Filipino society lessons they deemed necessary to improve Filipinos' standard of living. A sustained use of radio for instruction in the Schools-On-the-Air (SOA) format was accomplished by DZLB, a radio station managed by the University of the Philippines Los Banos (UPLB), which itself was a constituent unit of the University of the Philippines (UP), the nation's premiere university. Lessons, which aimed to educate farmers, out-of-school youths, homemakers, and others living in rural areas were aired starting in 1967. To date, DZLB has aired more than 32 SOA topics and has graduated over 14,000 students in this mode of learning [17].

Mass media is the educational medium for mass education. Irrespective of color, geographical, sociological, and economic diversities, mass media has proven that it is an important means for the education of all. Humanity gets a great deal of information from the widespread mass media, i.e. newspapers, TV, radio, magazines, journals, films, etc. It is projected that mass media may substitute the real classroom teaching in the future.

Media such as print, radio, information and communication technologies tools have been known to be effective in the dissemination of information to farmers. Additionally, Girard [44] argues that local radio speaks in the language and accent of the local community. It plays a significant role in informing, educating and enlightening the everyday public life.

In order to reverse the negative consequences of conventional agriculture, different forms of sustainable agricultural systems have been recommended as alternatives for achieving the goal of an economically profitable and environmentally sound agricultural production system. Right

information may not be received by the farmers if it is not disseminated in the right way and at the right time. A successful communication is established when the receiver is able to receive and comprehend the message sent by the sender.

School on the Air or SOA is a Philippine government program which offers a comprehensive set of knowledge on a particular subject matter. The active involvement and participation of listeners, local broadcasters, and other cooperating agencies adds another dimension to the program. SOA is a series of radio programs presenting the subject matter systematically and progressively, similar to the classroom's teaching-learning situation. Thus, through the partnership and collaboration of the Department of Agriculture's Agriculture Training Institute (DA-ATI), the Bureau of Broadcast Services of the Philippine Information Agency (PIA), and the Philippine Foundation of Rural Broadcasters (PFRB) and farmers' organizations, SOA happened to occur in rural areas to educate farmers and listeners. Some SOA may last only for a month, covering a single subject matter; others may last 6 months, with various subject matters.

Based on the records of DA-ATI, several programs on agriculture were implemented. In Cavite, the SOA program is being extended wherein a partnership with the Provincial Veterinary Office of Cavite and Cavite State University, catering to the entire province, specifically the agriculture students of Cavite State University and local swine raisers. An alternative way was done through this program by upholding information dissemination and advocating knowledge on sustainable pig farming, or "babuyang walang amoy", which implores a sound alternative, sustainable, and affordable swine-raising technology for commercial and backyard farmers. "Radyo Eskwela sa Pag-aalaga ng Baboy" hit the waves on June 25, 2018 and airs every Monday at 11:15AM to 11:50AM until September 24 at 702 DZAS. Additionally, an SOA program on organic agriculture, "Usapang OA: Radyo Eskwela ukol sa IDOFS", and another program on high-value crops, "Unlad Saka: Isang Radyo Eskwela sa Bondoc Peninsula", aired over Laguna and Bondoc, Peninsula on July 11, 2018, and July 13, 2018, respectively [45].

Successful teaching indicates that the learner obtains an acceptable level of proficiency and what the teacher is trying to relay. Farmers' information needs vary from place to place depending on farming systems, soil types and climatic conditions, among others. However, Ndungu [46] states that although agriculture is critical to the economy, levels of production and productivity are very low, and the vast potential of the sector is scarcely being tapped. Education and the creation of awareness are being spread in different parts of the countries and hence the reason why radio stations have picked this up as a platform to necessitate the need to empower farmers.

For a decade of service, radio brought the rural audience immediate and continuous contact with the rest of the nation. With a radio set, farm families could share the daily experience of news, sports, and entertainment with their neighbors and their urban counterparts thousands of miles distant.

Therefore, this study will explore the lived experiences of the farmers as students and beneficiaries of the SOA program. It will also examine the farmers' strategies for overcoming challenges and their perceptions of the program's implementation in Bansalan, Davao del Sur, Philippines.

This study is anchored on the Uses and Gratification (U&G) Theory developed by Katz et al. [36]. This theory aims to determine the listeners' reasons for using mass media. It also assumes that audiences are active and that their media selection and use are purposive, goal-directed and motivated to satisfy their social and psychological needs or desires [19].

Through determining the experiences of the participants as farmer students, how they use the information they receive in improving their farming practices, what helpful information they could share with the farming community, and their thoughts on how the delivery of the program can be improved, the outcome of this research would be an important factor to modify the program style and content and develop implementation guidelines to suit the needs of its learners on air.

3. Materials and Methods

The participants in this qualitative-phenomenological study were purposefully selected based on specific criteria, as recommended by Creswell and Poth [8]. Purposive sampling allowed for the deliberate selection of informants who were most suitable and knowledgeable about the study's subject matter. The focus of purposive sampling is to gain valuable insights into the complexity, depth, variation or context surrounding a phenomenon rather than aiming for population representation, as Gentles et al. [18] emphasized.

In this study, fifteen active farmers, endorsed by the Municipal Agriculture Office of Bansalan, Davao del Sur, Philippines, were chosen as participants. These farmers were considered suitable for inclusion and had first-hand experiences with the School-on-the-Air (SOA) program. Non-enrollees of the SOA program were not included in the study to maintain a focus on the experiences of those directly involved.

Seven participants were selected for the in-depth interviews, while eight were chosen for the focus group discussion. The number of participants was sufficient to gather the necessary information for the study. According to

Creswell [9], a study group typically consists of 3-15 members, and the selected number of participants in this study falls within that range. The issue of information saturation, as discussed by Van Manen et al. [33], does not apply to phenomenological and other specific research methods, implying that the focus is on the quality and richness of participants’ insights rather than reaching a point of data saturation.

Table 1. Respondents profile

Codename	Marital Status	Age
P-1	Married	52
P-2	Married	59
P-3	Married	60
P-4	Married	59
P-5	Married	51
P-6	Married	66
P-7	Married	60
FGD 1	Married	58
FGD 2	Married	50
FGD 3	Married	55
FGD 4	Married	52
FGD 5	Married	54
FGD 6	Married	53
FGD 7	Married	52
FGD 8	Married	60

In this study, data analysis involved interpreting the “tex” to understand the “contex” using a theoretical lens based on the Uses and Gratification Theory. The researcher employed a linear and hierarchical approach, guided by Creswell’s [9] framework, to analyze the collected information.

The initial step in data analysis involves organizing the data from the recorded interviews. The researcher engaged in repeated reading and examination of the data to develop an overarching understanding of its meaning. Coding and categorization were then employed to identify recurring patterns and core ideas within the data, leading to the emergence of themes. The inductive analysis approach allowed the themes to emerge directly from the data, providing insights into the participants’ motivations, needs, and experiences in utilizing the SOA program.

Following identifying themes, the researcher constructed a narrative passage contextualizing the findings within the broader research landscape. This analysis phase included interpreting the results using relevant background theories, such as the U&G Theory, and practical experiences related to the research objectives. The goal was to gain a deeper understanding of the significance and implications of the findings within the specific context of the SOA program.

Throughout the data analysis process, various techniques were employed. Memoing was used to facilitate conceptual

leaps and reflections on the analyzed data, aligning with the insights of Birks et al. [28]. Coding played a crucial role in structuring and clarifying the data, aiding the interpretation process, as highlighted by Stuckey [31].

Additionally, the researcher sought a data analyst’s assistance to enhance the findings’ reliability, ensuring a rigorous analysis process within the U&G Theory framework.

Verisimilitude in handling the investigation was deemed relevant in this study, and the researcher was guided by the principles introduced by Creswell, Hanson, Clark-Plano, and Morales [10] to ensure the reliability of the study’s findings. These principles encompassed credibility, transferability, dependability, and confirmability.

4. Results and Discussion

A table was compiled to present the analysis findings, formulated themes, frequency of responses, and core ideas. The use of Nvivo concepts facilitated data organization and visualization.

4.1. Experiences of Student-farmers in the School-on-the-Air Program

Several significant concepts and themes arose from the feedback provided by the farmer students in the School-on-the-Air (SOA) Program; this was used to characterize their experiences shown in Table 2. The six essential themes were satisfaction with relevant farming information, radio as a handy source of agricultural information, the SOA motivates farmers to be responsible learners, power interruptions and unexpected circumstances hindering listening to SOA, important agricultural information is first heard over SOA and limitations of radio.

4.1.1. Satisfaction with Relevant Farming Information

Generally, all participants were unanimously happy with the School-on-Air Program. They were also thankful because the program gave them essential information on appropriate, refreshed, and improved their traditional understanding. It also taught them to have alternative farming techniques spray concoctions, and medicine formulations.

Participants mentioned the useful farming technologies they learned from various courses. P3, FGD Batch 1-P3, FGD Batch 1 P2, FGD batch 1-P4, and FGD Batch 2 - P2 mentioned proper hog raising and preparation of organic fertilizers; they shared that:

“The information taught to us about pig farming is helpful because only some know how to raise pigs. That is where you can get all the information about pig farming. It is not boring because it depends on the listener” (P-3).

Table 2. Essential Themes on Experiences of Student-Farmers in the School-on-the-Air Program

Essential Themes	Thematic Statements
Satisfaction with relevant farming information learned	What helped us was the information shared about hog raising since not all of us are knowledgeable about it.
	When SOA happened, the garden became our source of food and income.
	I learned that there are different ways hogs can be raised.
	We are also guided on how to care for a swine that will give birth soon.
	We learned many things through gardening, precisely the correct usage of organic fertilizers.
	It taught us many things about organic farming, which helped us save some money.
	When you listen to the modules, you will learn so much that it will cut your expenses on concoctions in half. If you give it a chance instead of making excuses or using your time on unproductive things like gossiping.
Radio as a handy source of agricultural information	It is good to hear lectures on agriculture from my radio. Radio only demands a small amount of our time and resources, while attending seminars is different.
	It has helped us in many ways since SOA is our only source of information.
	Radio announcers are also teaching us lightly by simplifying the information.
	It made me feel that they were within reach, unlike with TV.
	It is also mobile and handy.
The SOA motivates farmers to be responsible learners	Aside from just listening, we jot down notes to catch up with the lessons
	Listening to SOA has become a daily routine for us and our priority.
	We always make sure to record the on-air classes.
	We must cook breakfast earlier since the airtime is at 5 am.
	Though the time slot is early, we will be forced to get up, or else we will be left behind.
Power interruptions and unexpected circumstances hinder listening to SOA	Since our radio is not battery-operated, a brownout is our primary problem, though we only experience it a little.
	Some are power interruptions or if the signal is unstable.
	It was when they had a module that required a pruning shear, and we did not have the tool. It hinders us from applying the module discussed
	Prior commitments and power interruptions hinder us. It sometimes discourages us since it feels like we are being left behind.
	Important agricultural information is first heard over SOA
We must listen to SOA to be informed about the planting calendar guide. I was surprised to find out that there are days we should avoid planting. We already tried it; it is truly effective.	
Hog raising and nurturing the swine that just have given birth and how to make sure that piglets will grow healthy. I learned that from SOA.	
I never knew that when a pig is pregnant, you should not overfeed it so that it will produce more piglets. Days before its due date, it should be fed one kilo daily. That knowledge was first heard through SOA.	
I did not know that the flower cosmos could kill eggplant aphids. I am amazed at how the concoctions' ingredients are readily available in our backyard. Thanks to SOA.	
Limitations of Radio	On the radio, we still need to text our questions. Then, there is a tendency that we will need to remember what we will ask. It is still better if we can directly ask. So, I prefer face-to-face training.
	A text hotline is fine. You can text if things need to be clarified, but we wanted feedback immediately.
	On TV or radio, time is minimal; you cannot ask as many questions as you want. In short, questions are limited.
	Radio is good, but face-to-face training is better for us to engage in actual activities.
	It would be better if an agricultural technician assisted us in learning from SOA besides radio. We intensely listen; sometimes, information needs to be clarified, and we cannot immediately ask them to repeat it.
	Asking and answering questions through their text hotline is okay, but it is just so quick. In training, time is not shortened because they ensure that our concerns are addressed and questions are unlimited. It should be like that.

“On my part, the SOA has been a great help to me. Before, I learned a lot about rice planting. But now, I know how to plant rice. Thanks to the significant assistance and the knowledge we gained from the SOA” (FGD Batch 1-P3).

“I have been farming for a long time, but I have only learned new techniques from my father until we joined the School-on-the-Air. We discovered that there are actually many different methods. For example, in pig farming, we have learned a lot” (FGD Batch 1-P2).

“When it started, I participated. I told myself that I would join so I could go there and meet my friends. That is when we learned about pig farming through SOA. We found out that piglets should receive injections after birth. Moreover, when the sow gets pregnant, we learn how to take care of her. That is why we have guidance now” (FGD Batch 1-P4).

“Regarding our farming, we also learned. We were taught how to use organic fertilizers... We listen to it and apply it to our farming” (FGD Batch 2 - P2).

Participants with coded names P-1, P-5, FGD Batch 2-P4, and FGD Batch 2 P-2 shared how the SOA provided extension support to them as listeners of the School-on-the-Air. They mentioned the hogs distributed after attending and graduating from the course on air to serve as their starter kit. They said they could cut their expenses from insights imparted to them by the program. The following participants recalled that;

“The teaching about pig farming. We only have a few pigs. We raise them and then sell them. We cannot raise many pigs because of limited space in our barangay site. Through the methods they taught us, we were able to have two or three successful roll-outs” (P-1).

“In our last session, I was happy with the pig farming topic. We did not have money, but they gave us money, and we bought piglets. We really took care of them. When they gave us money, we bought piglets. I continued doing it. From the first batch, we had ten piglets” (P-5).

“The radio is really helpful because it provides accurate information. You can learn even if you have no prior knowledge. Moreover, if you listen to the information, you can reduce your expenses through the radio. The radio is a great help” (FGD Batch 2-P4).

4.1.2. Radio as a Handy Source of Information

The participants found the role of radio in their lives very significant because it was their source of farming information. The SOA started at dawn when they were not still busy. Some participants mentioned that they were at the same time sipping their coffee while listening and taking

notes. Typically, the participants considered radio to be cost and time-effective, different from attending seminars and training where they needed to pay for their fares. They could listen to the program in the comfort of their homes with the radio. Moreover, they found radio to be an effective medium for sharing information compared to seminars or training. Others reasoned that a radio powered by a battery could be taken anywhere.

Participants with coded names P-3, P4, P-5 and FGD P2 shared that radio demands little of their resources like time, effort, and expenses compared to watching TV and attending seminars; hence, they stressed that:

“It is important compared to attending seminars yourself... It is an easier way of teaching, as they simplify the information. It is simple but clear, and you can ask questions because they will answer them. It also depends on the topic being discussed.” (P-3)

“For me, the radio is really good... because we are still lying in bed, listening” (FGD Batch 1-P2).

“The radio is really important because it reaches remote areas... It is like being close to the person you are talking to” (P-4)

Participants with coded names P-2, P-3, and FGD Batch 1-P1 shared that radio has become a source of important farming information for rural farmers. So the participants recalled:

“In my opinion, the radio is of great importance... That is why, for me, it is really important to have the radio, especially when there is actual training” (P-2)

It is an easy way of teaching, as they simplify the information. It is simple but clear; you can ask questions because they will answer them. It also depends on the topic being discussed” (P-3)

Farmers-participants indicated their preference for radio over personal interaction with the assigned Agricultural Extension Workers (AEW) in their area, as they need a strong and regular connection about the technologies being utilized because of their proximity. Participants with coded names FGD P-1 and P-2 disclosed that:

“The impact of the radio is good. Through radio, they can easily disseminate what they want to convey” (FGD P1).

Participants with coded names P-6, P-7, and P-5 also noted that the AEWs in their area could only attend to some of their concerns because their coverage was too extensive. In short, the number of extension workers is too small, so they find it challenging to serve the needs of all farmers.

Considering that, the SOA program becomes their access to added agricultural knowledge.

“The School-on-the-Air has been really helpful because we cannot individually reach all the technicians in our large area” (P-6)

“If we solely rely on the technicians, it is not immediate for us to obtain information. But through the radio, it is a great help” (P-5).

Participants with coded names P-4, FGD P1, P-3, and P4 stressed that radio is cost and time-effective and can be brought anywhere, which seems incredibly beneficial to them compared to their cellphones or social media as a source of farming information.

“For me, radio is effective in remote areas and affordable. If you have a radio, you can use batteries. You can carry it wherever you go” (P-4).

“Here in our place, radio is really good... We do not need capital for the radio. We listen. There is electricity, and there are battery-operated radios. Even if you are doing laundry, you can still listen” (FGD Batch 1-P1)

“With cellphones, we do not know what to search for exactly. Radio is much easier. You can listen right away” (FGD Batch 1-P-3).

“Just like with social media, not all farmers have cellphones, and not all of them know how to use them. The truly effective method is radio. It is really accessible to farmers” (FGD Batch 1-P-4).

Participants with coded names P-2, P-5, and P-6 highlighted that it allows them to do their other tasks aside from just listening to the radio. They recalled;

“If you attend training here, you will incur expenses. It is better to stay at home and listen... It is good to listen and take notes so you will not forget. (P-5)

“Yes, because you will not have expenses... It is better to stay at home and listen. While cooking, you can listen to the lecture and take notes. It is good to listen and take notes so you will not forget. (P-6)

“But the radio is really good... Sometimes my partner cooks while I take notes. Sometimes we switch. She takes notes, and I cook. We manage like that” (P-2).

4.1.3. *The SOA Motivates Farmers to be Responsible Learners*

The airing of SOA has made the farmer students responsible for the lessons taught to them. They ensure that

the information delivered is recorded to the point that waking up early to catch the early SOA classes and jotting down notes is a must. The farmer-students are imposing themselves with responsibility as listeners.

Participants with coded names P-1, P-3, FGD batch 2-P3, and P-5 emphasized how important it was to them to jot down notes and not miss any SOA classes. They recalled;

“We take note of what they talk about on the radio... I only listen to the radio” (P-1)

“You cannot see the radio, but you can record it... Besides listening, we have copies of it” (P-3)

“If I arrive while the SOA is still ongoing, I will hurry to participate” (FGD batch 2-P3).

“Whatever they say, we diligently write it down because that is our reference, and then when we need to use what they taught, we constantly refer to the records... By God’s grace, we are able to catch up with what they say” (P-5)

On the other hand, participants with coded names P-2, P-5, P-4, P-Batch 1 P-1, and FGD Batch 2 P-2 stressed that SOA had become part of their daily routine and priority. SOA makes the farmer’s everyday routine complete. They shared:

“On the radio, you have time to focus in the morning. That is when you can really listen... It becomes part of your priority; it is time (P-2).

“Because it is still early, we are still sleepy. That is why we made a mistake, the two of us” (P-5).

“As long as we wake up early, we immediately listen to the radio. Every morning. We listen and apply it to our farming” (FGD Batch 2 P-2).

It is like my mind is refreshed; it is a challenge for me. I am encouraged because I wake up early, sit next to the radio, and write” (P-Batch 1 P-1).

4.1.4. *Power Interruptions and Other Circumstances Hinder Listening to SOA*

The current disruption was the general problem encountered by the participants. Most of them used electric radios. Usually, brownouts occur twice a week, and at dawn, it usually happens at 4 am. However, the participants did not specify the duration of the brownout in their responses. When the disruption happened, some participants would visit the radio station to ask about the topic previously discussed. A few participants could not listen to School on Air when sick or had scheduled appointments. Other participants

needed help understanding the recent topic if the previous episode was not repeated.

Participants with coded names P-1 and P-7 recalled that they could not listen to SOA when they got sick, or someone in the family had to be brought to the hospital for medical attention. They recalled:

“My family cannot listen to SOA whenever my child gets sick, and we need to admit him to the hospital” (P-1).

“Another thing is that I sometimes miss some lessons because of unforeseen circumstances like getting sick” (P-7).

Participants with coded names P-2, P-5, and Batch 1 P-2 shared how power interruptions and sometimes prior commitments hinder their desire to listen to SOA. They recalled:

“Power outages are unavoidable. Our radio does not have a battery. It happens twice a week. There is one in the afternoon and one at night. On Saturdays, it is at 6 in the morning. For the night one, it is at 4 in the morning” (P-2).

“I do not have a problem with the topics in the SOA. It is just the issue of brownouts. But after we finished the exam, we did not listen” (P-5).

“Yes, it happens. We encounter problems when we cannot listen on that day. We feel left behind. It is difficult because we cannot take notes. We get left behind in one module” (FGD Batch 1 P-1).

Participants with coded names P-3 and P-7 encountered few significant complications as they listened to SOA. They recalled problems with recapitulation and the unavailability of materials introduced by the farm casters making them unable to apply the farming technologies.

“It was when they had a module that required a pruning shear, and we did not have the tool. It hinders us from applying the module discussed” (P-7).

“There are times when topics from the previous day were not recapped. That is why we ensure that all the discussions in our SOA classes are recorded” (P-3).

4.1.5. Important Agricultural Information is First Heard Over SOA

If the participants regarded radio as cost-effective and with other advantages compared to TV and seminars, the SOA would also be distinctive among other sources of information. The participants seemed delighted with the information they had first heard only in SOA.

Participants with coded names P-1, P-5, and FGD Batch 2 P4 reiterated that they learned unique and helpful

information on natural farming. Thus, they specifically mentioned the following;

“Just like when we used to scatter weeds to feed the plants organically... The SOA introduced me to that” (P-1).

“When we make medicine, we do it ourselves, the concoctions... We learned hands-on from the SOA that we listened to. We want to do it ourselves” (P-5).

I am into concoctions, too. We are the ones who make the concoctions. We actually do it ourselves” (FGD Batch 2 P4).

A participant with coded name P-3 shared that if not for SOA, they would not be aware of farmers’ patronizing the planting calendar guide in many parts of the Davao region.

“That planting guide, if we did not listen to the SOA, we would not know that there is a planting guide... The SOA really addressed our needs” (P-3)

Participants with coded names FGD Batch 2 P1 and FGD Batch 2 P2 relayed the distinctive information about hog raising they gained from SOA alone. They recalled;

“That pig farming, starting with the sow. From the pig’s birth, you can develop good piglet growth. We learned that only through the SOA.” (FGD Batch 2 P1).

“As for me, ma’am, in pig farming, it is important not to feed the sow too much because when you do, the piglets will grow smaller inside... We learned all of that only through the SOA, nothing else” (FGD Batch 2 P2).

4.1.6 Limitations of Radio

Some farmers regarded radio as efficient, effective, and of paramount importance to disseminating and promoting agricultural technologies. However, some respondents need to be more satisfied with its capacity as they require hands-on demonstration to adopt agricultural technology rather than simply obtaining information. Respondents’ P-3, P-5, and FGD Batch 2 P-4 revealed that:

“With the radio, you still have to text, and there is a tendency to forget. It is easier to ask directly and have actual interaction. I prefer the training” (P-3).

“The radio is great, and it would be even better if there is training for actual hands-on experience. You can really see it” (P-5).

“Actual demonstrations are great because they are different. If there is training, too, you are focused, and there is so much to learn. It is also a good source of information” (FGD Batch 2 P-4).

Further, respondents P-2 and P-3 sought the technology transfer from the agricultural technician in their area as they found it more convenient and applicable to their needs. They said that some of the problems they encountered upon listening to the radio included the inability to repeat and clarify the information given right away when the learners did not hear and understand it correctly, and the questions thrown to the farm casters during SOA were few because of the limited time of airing. They emphasized that:

“The good thing about it is that there is a technician who provides guidance, and there is also the radio... The technician can help with what I heard. They clarify things in the field. We listen, but sometimes we get confused and cannot go back” (P-2).

It is better when there is a technician because you can ask the questions you want... In my opinion, training is

preferred... It would be great if I could have more time to ask questions. That is what should happen” (P-3).

4.2. Use of Information to Improve Farming Methods

The two essential themes for the Use of Information to Improve Farming Methods, as shown in Table 3, are The Information Obtained was Practical and Effective when Applied and Use of New and Helpful Farming Methods.

4.2.1. The Information Obtained was Practical and Effective when Applied

The participants responded similarly if they could apply the farming technologies introduced by SOA. Most of the farmers are positive and apply most of the farming methods. Farmer students said they applied natural farming methods as they have seen increased productivity. These farming innovations were helpful to them and promised low-cost farming inputs compared to conventional farming.

Table 3. Essential themes and thematic statements on the use of information to improve farming methods

Essential Themes	Thematic Statements
The information obtained was practical and effective when applied	We only applied some of the technologies taught to us. We only applied those we believed might be helpful.
	I told other farmers to apply organic fertilizers and pesticides to lessen the cost of farming inputs.
	We must apply mulch and build a drainage canal if the crops grow. The information is beneficial to the farmers.
	We have already tried it; it is truly effective. In every SOA class, they would tell us about the crops that were suitable for that day.
	We were able to apply the methods taught right away.
	I have this small garden, and when I joined the SOA, I applied what I learned. The improvement is overwhelming.
	I have this small garden, and when I joined the SOA, I applied what I learned. The improvement is overwhelming. We are just so hands-on regarding applications because we want to experience them.
Use of new and helpful farming methods	Before, we were unaware of the medicine that should be used and had to look for someone who could do it for us—whose service was not accessible. We can do it on our own now.
	All you need to consider is the type of pig you will start with. With SOA, I realized there is more than that; we did not know this before.
	Without proper knowledge, we would have to wait 12 months before we could sell the hogs. We can cut the process and sell the pigs as early as 2–4 months.
	Prior to SOA, the methods I was familiar with were traditional. We need to be more technologically-oriented.
	My experiment is proof that what the SOA taught is correct.
	I learned that you only need to extract the coconut milk and create a soap solution. It is genuinely compelling.
	They made us feel like we were experts in our chosen fields.

Participants with coded names P-2 and P-3 stressed how the SOA has helped answer their farming needs by having fewer and cheaper resources. They shared that:

“Yes, indeed. When they taught us about preparing our farm and planting, like using mulching and making channels as the plants grow, other farmers can also benefit from it” (P-2)

“That planting guide they provided. If we did not listen to the SOA, we would not have known there was a planting guide... We applied it, and it is true... The SOA addressed our needs” (P-3).

Participants P-6 and FGD Batch 2 P-2 seemed to have no reason not to apply the technologies as they considered these not harmful to their farming activities. They recalled;

“Like making concoctions for plants. There is no need to buy them. We also applied Integrated Pest Management (IPM) in our rice field “ (P-6).

“Regarding our farming practices, we also learned. They taught us how to use organic fertilizer... As long as we wake up early, we immediately listen to it on the radio. Every morning. We listen and apply it to our farming” (FGD Batch 2 P-2)

4.2.2. Use of New and Helpful Farming Methods

Most participants favored the School on Air Program because it greatly influenced their farming practices. With SOA, participants improved their livestock handling, formulated pest control concoctions, knew how to manage soil, were confident in injecting the piglets, and were knowledgeable about what plants to plant, increasing their production and profits. This has influenced them to become knowledgeable in the field of farming.

Participants P-1 and P-5 stated that they even chastised their fellow farmers for not using farming technologies correctly.

“Yes, it indeed did! We sometimes find ourselves reprimanding other farmers who need to do things correctly” (FGD Batch 1 P-1)

“Taught by the SOA really helped, proven that what they teach is correct” (P-5).

Participants FGD Batch 1 P-2, FGD Batch 1 P-3, and P-4 appeared proud of themselves because the SOA had influenced them to become better and more knowledgeable in their farming activities. They shared;

“It influenced us to become better farmers.” (FGD Batch 1 P-2)

“They made us feel like we were experts in our chosen fields “ (P-4).

“The majority is influenced, and it is a good thing. Nearby barangays would even ask us when the next SOA is” (FGD Batch 1 P-3).

Participants with coded names FGD Batch 2 P-4 and P-7 also reiterated how SOA influenced them to improve their techniques and methods. They shared;

“It really helped. I had no idea about the proper methods before. Now, we have learned about many important factors to consider” (FGD Batch 2 P-4)

“It really influenced us. Before, we had traditional methods. Through the SOA, we learned the effective way of raising pig” (P-7).

4.3. Experiences or Insights to be shared with the Farming Community

Three essential themes and sub-themes on the Experiences or Insights to be shared with the Farming Community are: Farming knowledge from SOA is worth sharing with other farmers, and Farming knowledge from SOA can also be shared with non-farmers.

4.3.1. Farming Knowledge from SOA is Worth Sharing with Other Farmers

Interestingly, the participants had different views on the most beneficial topic for them, which is worth sharing with the farming community. Other participants favored the topic of organic farming because they learned how to make organic fertilizer and spray, which are cost-effective. They were also taught how to control pests, use the biodynamic calendar, and clean the sloppy areas by mulching, which helped the soil not to erode. Still, others found formulating concoctions very beneficial. SOA gave the procedures on how to make medicine for pest control. About this, another found a topic of great help in managing backyard piggeries. They were taught how to sow to develop more piglets, technology to eradicate the odor, and appropriately manage the piggery for profit.

Participants with coded names P-1, P-4, and FGD Batch 1 P-2 shared the benefits of applying organic farming practices. They stressed that;

It is good to share the knowledge in farming from SOA” (P-1).

“I share the information about organic farming with my fellow farmers” (P-4)

“When visitors come to my house, they can see that I practice organic farming” (FGD Batch 2-P3)

Table 4. Essential themes and thematic statements on experiences or insights to be shared with the farming community

Essential Themes	Thematic Statements
Farming knowledge from SOA is worth sharing with other farmers	I told other farmers to apply organic fertilizers and pesticides to lessen the cost of farming inputs.
	What I can share is the hog-raising. The technology is applicable in our area since most neighbors complain about its odor and flies.
	I used to share about organic farming since the soil is no longer as healthy as before.
Farming knowledge from SOA can also be shared with non-farmers	Yes, it indeed did! We sometimes find ourselves reprimanding other farmers who need to do things correctly.
	Since parents are gathered at school when we wait for our kids' class dismissals, I shared some things I learned about farming with them.
	I shared the process of contour farming with my neighbors. Some of them would even visit me and check on my garden.
	I showed them how to keep the ants off the string beans.
	I believe in organic farming, so if I have visitors, I would gladly share inputs about organic farming.
	I have been sharing information on concoctions and guiding them on what to spray.
	If a neighbor came by and asked about hog raising, I would always share my knowledge.
	I will share something. It is regarding pests that feed on rice. I learned that some pests should be left alone and not sprayed.

Participants P-3 and FGD Batch 2 P4 also shared the same opinion on how the information on hog raising improved their income. They shared that;

“I have shared about hog raising. It is very helpful because there is no odor when using the technology they taught” (P-3).

“To anyone who visits our house, I show them my pigsty and share what I do” ((FGD Batch 2 P4).

4.3.2. Farming Knowledge from SOA can also be Shared with Non-Farmers

The participants considered that the topics worth sharing were those they had learned, applied, and practiced. A few participants mentioned that organic farming was great because it was cost-effective for the farmers and beneficial to the environment. Also, others mentioned that contour farming was good because it could prevent soil erosion. Likewise, managing backyard piggery was very beneficial because it was profitable. Unlike before, they needed to consult people to inject the piglets, but now, they can do it themselves and share the knowledge with other farmers. Lastly, others considered managing a garden for personal consumption to be profitable.

Participants with coded names P-5, P-6, P-7, FGD Batch 1 P-3, FGD Batch 2 P2, and FGD Batch 2 P1 shared the significant topics and ideas the SOA program provided them. Participants recalled;

“I shared the EMAN method with other people because it is a simple yet effective approach” (P-5).

“I taught my friends how to control pests in the garden (P-6).

“I shared with non-farmer friends the method of managing rice pests without the need for synthetic chemicals” ((FGD Batch 2 P1).

Participants P-7 and FGD Batch 2 P2 even shared that they let neighboring farmers visit their farm area, and during idle time at school to fetch their kids, they spared time to share some farming information.

“I shared contour farming with my neighbors. They visit my area and ask questions” (P-7).

“I shared what I learned with other mothers who are my companions in school while waiting for our children after class. They appreciate it because I shared our method” ((FGD Batch 2 P2).

Participants with coded FGD Batch 1 P-3 stressed that besides sharing information with the farming community, they also offer free services such as animal vaccination based on the lectures they learned from SOA.

“We learned how to inject pigs ourselves. Before, we did not know who would inject them until the pig died. The agricultural office in the municipality had a hard time reaching our area because it is quite far. Now, we do the injections ourselves. Actually, we also do injections for our neighbors” (. (FGD Batch 1 P-3).

Table 4. Essential Themes and Thematic Statements on Suggestions to Improve the School-On-the-Air program

Essential Themes	Thematic Statements
Time Slot and Duration Preference	<p>I hope it starts at 4:00 in the morning and ends at 5:00 in the morning. If the program starts at 6:00 am, we will need more time to prepare our children for school.</p> <p>As 30 minutes is too short, a one-hour program will do.</p> <p>It is okay if the program airs twice a week and not daily, as we also have other activities and jobs to do outside of farming.</p> <p>Airing the SOA at dawn is okay for us as we wake up early. Moreover, we would appreciate it if the government could still allot a budget or time to air the program daily.</p> <p>It is a 30-minute straight program free of ads.</p> <p>I shared the process of contour farming with my neighbors.</p> <p>They will make it once a week or three times a week instead of daily to free us in case there is something that we need to take care of.</p> <p>They should make it twice a week, like Wednesday and Sunday afternoons. We are busy on Saturdays, while Sunday is our rest day.</p> <p>It would monitor the price of rice and its related problems. First and foremost, if that problem were solved, the farmers would freely enjoy their produce.</p>
Inclusion of topics on marketing opportunities	<p>I want to discuss the marketing strategies for small farmers like us.</p> <p>The extra income would help us, especially with monthly bills like NIA’s. I hope they can help farmers venture into business.</p> <p>I hope a module on marketing and entrepreneurship will be included.</p> <p>They should also teach us more about vegetable production since it is a good alternative in case we encounter failure with rice production.</p> <p>It is really about marketing. We already have enough products, but we need a stable market. That is why we have no choice but to sell it at a lower price.</p> <p>There should be a follow-through, and officers should check on the resources given to us.</p> <p>I also want some after-training support, like giving us seeds or piglets, so we can all apply the methods from SOA.</p> <p>It would be better if they would provide financial assistance and training every after SOA.</p>
Strengthening of Extension Support and Services	<p>I hope they can provide financial support.</p> <p>I agree there are delays when it comes to dispersion if it is done per group. We should be given piglets individually.</p> <p>Agriculture technicians can teach us the proper farming practices in a one-on-one setup. They only visit us if they want something important.</p>

4.4. Suggestions to Improve the School-On-the-Air Program

Three essential themes and sub-themes on Suggestions to improve the School-On-the-Air program are Time Slot and Duration Preference, Inclusion of topics on marketing opportunities and Strengthening of Extension Support and Services.

4.4.1. Time Slot and Duration Preferences

Consistently, participants wanted the School on Air to be broadcast for 30 minutes to one hour per session, and it was held twice or thrice a week. They wanted the program to be shorter so that they could also attend to other things. Also, they suggested that previous topics be reviewed in the most

recent episode so that they could recall and refresh their minds.

“It would be better if it starts at 4 am and ends at 5 am. If it goes beyond 6, it takes longer and interferes with student attendance” (P-1).

“If possible, if there is time and budget, it would be great to have a 30-minute program every day” (P-2).

“As long as there are no ads. If it gets longer, there might be too many ads” (P-4).

“Not every day, as there are also work obligations sometimes” (P-1).

“If you are still in bed, you can listen” (P-6).

“If possible, twice a week, Wednesday and Sunday afternoon” (P-7).

4.4.2. Inclusion of Topics on Marketing Opportunities

The participants exuberantly anticipated the continuation of the School on Air Program. Most participants suggested topics they wished to be included if the new season of School On Air were to broadcast again. These included post-harvest handling techniques and management and marketing strategies so that they would know how to market their produce.

Participants P-2, P-3, and P-6 remarked:

“We have no control over pig prices as they fluctuate. It would be great to discuss marketing opportunities with us” (P-3).

“We also hope to be taught about business... So we can find ways to have a small business for additional income” (P-6).

“Marketing is crucial... It would be great if it is included in the program. Additional time is needed. Marketing is important” (P-2).

Likewise, participants expected the inclusion of diversified farming, such as engaging in high-value commercial crops, as another alternative source of income. Responses also suggested that farmers should be taught multifunctional marketing opportunities, as farm production alone cannot sustain their daily needs and other financial obligations. Farmers FGD P-1, FGD P-3 and FGD P-2 stated that:

“Perhaps topics on vegetable production... We want to learn how to grow vegetables and earn income properly” (FGD P-1).

“It does not matter if it is cheap, as long as it is always available. If we know how to grow vegetables but also have rice, we can consume it personally” (FGD P-3).

“We would like to seek advice... We are looking for good recommendations on what to plant or what advice they have” (FGD P-2).

4.4.3. Strengthening of Extension Support and Services

Since they are financially deficient, the farmers suggested they wish to be provided with extension support after the SOA program. Some farmer students wanted to continue with the starter kit after every SOA. For them, this could be an effective way to manage their farms independently through the immediate application of farming

practices taught to them. Participants with coded names FGD P-1 and FGD P-3, stated;

“It would be good if there are inputs or piglets given to us individually, not just by group” (FGD P1).

“It would be great if, after the training, we receive training support based on what we have learned” (FGD P3)

Participants with coded name P-5 also wished to have financial support aside from the extension support to help them save money to fund other materials for the farm.

“It would be helpful if capital or financial support is provided, or an after-SOA support like a starter kit, even if it is modest” (P-5)

Participants with coded name FGD – P2 also desired extension support such as dispersal but preferred to have it individually instead of by the group.

“Because if it is by group, if there is a failure, it takes longer for us to receive it, and the cycle of distribution gets delayed” (Batch 1 – P2).

The student farmers’ experiences in the SOA Program can be analyzed using the User and Gratification Theory. They actively utilized the radio to acquire farming knowledge, leading to satisfaction in meeting their information and educational needs. The convenience and accessibility of radio provided additional gratification, overcoming geographical barriers and allowing them to engage in farming activities simultaneously. Their participation in the program fostered a sense of connection and engagement, satisfying their need for social interaction and routine. However, challenges like power interruptions and limited interactivity impacted their experiences, indicating a desire for prompt feedback and enhanced engagement.

In Satisfaction with Relevant Farming Information Learned, the result of the study revealed that the School-on-the-Air program is successful for farmers because it benefits them a lot. The participants mentioned various technologies that satisfied their hunger for relevant farming information. The farmers’ old knowledge of farming and livestock management significantly changed through the program. Likewise, they obtained new processes and techniques which are significant to their farming needs, such as proper hog raising, preparation of organic fertilizers, spraying of concoctions, and medicine formulation.

In Bart’s [3] view, radio programs are a powerful tool economically because they defy geographical barriers; they also transcend the literacy barrier and allow the free flow of beneficial information to improve the listener’s plight. On a

deeper note, Burdge & Vanclay [5] mentioned that the SOA program evaluates the social impact of developments, technological change and specific technology. This means that SOA addresses the thirst for agricultural knowledge; hence, farmers found it beneficial.

Receiving financial aid from the School-on-the-Air program is one of the unique characteristics of the program. Few SOA participants were given piglets as preliminary capital. With the knowledge given to them, they need to reproduce those piglets. This type of strategy, according to Meert, Van Huylenbroeck, Vernimmen, Bourgeois and Van Hecke [48], is sometimes given to marginal farmers to guarantee not only the survival of the household but also to supplement the income necessary to maintain the farm activities. In earlier studies, Deary, Willock and McGregor [11] found that livestock farmers had more financial stress compared to other farmers, and Visschers, Backhans, Collineau, Iten, Loesken, Postma and Siegrist [34] opined that pig farmers are more worried about financial issues. Thus, giving these farmers capital is reasonable.

Rural farmers consider the radio a commodity, meaning it is part of their lives. They prefer radio as the source of information to any other mass media because radio programs start very early. Radio has always been their companion at dawn for recent news, music, and technology transfer. Thus, it can be considered that radio is the most widespread and trusted media farmers use in rural areas. Nazari and Hasbullah [21] mentioned that radio has been used extensively in many developing countries where farming is predominant. Likewise, Kumari, Choudhary, Jha and Singh [15] pointed out that radio is a powerful mass medium because it can be present and used everywhere, which suits the rural farmers of developing countries.

On the other hand, listening to radio programs is cost-effective. They do not need to pay, unlike participating in training and seminars. While listening to a program, farmers can do other things. Bart [3] called radio women's medium' because the listener can do multi-tasks. Likewise, radio is interactive because farmers can send messages and queries to the program's hotlines.

Moreover, transistor radios can be brought anywhere. Rahman-Ullah and Khan [25] pointed out that a radio education program is a cost-effective information communication technology for improving the quality of education. On the other hand, Fadairo and Oyelami [16] emphasized that radio programs for farmers brought poverty reduction and development. With that, it can be settled that radio promotes empowerment, participation, and self-reliance among rural farmers.

When it comes to the SOA motivates farmers to be responsible learners, the inputs provided by the SOA

program significantly affect the participant's farming practice. It improved their way of handling their livestock, managing pest control, understanding the characteristics of the crops and improving their productivity. Odini [23] observed that with the increase in agricultural-related information and messages, farmers improved their daily farming. Thus, the SOA program and various programs successfully portrayed their role in establishing a critical dimension in sustainable agriculture.

Frequent electrical interruption is a problem that hinders the participants from listening to the SOA program. Msoffe and Ngulube [20] identified that brownout is a significant challenge limiting farmers from seeking information. On the other hand, power interruptions are common in the Philippines because of insufficient electrical generation, electric grid, and geographical location. As a result, farmers missed some of the lessons discussed. However, a few persevering participants visited the station to request a copy of the discussed topic. The researcher believes this could be one of the areas to be improved in the conduct of the SOA Program. An alternative solution, such as recording the broadcast, can be done so that replays may be conducted.

Others found some topics irrelevant because they were unrelated to their actual conditions. Few clamor that topics should be within the context so that they know the material's needs. Southard and Young [22] averred that with contextualization, there is accessible communication and development of cost and practical materials.

Respondents recalled that the various technologies they had learned from the program were new to them, and they had yet to hear about them from other sources of agricultural information. If participants regarded radio as cost-effective and advantageous compared to TV and seminars, the SOA was distinctive among other sources of information. The participants seemed delighted with the information they heard only over the SOA. This confirmed the findings from the study of Collins and Halverson [6] that through modern electronic techniques and technologies, mass media help to prove that education is more comprehensive than previously thought.

Consequently, the SOA, as part of the agricultural extension modality of the government, seems to remedy and lessen the gap in agricultural extension in the Philippines, which is the need for an extension workforce in the field. Declaro-Ruedas's [13] study in Magsaysay, Occidental Mindoro, indicated that there are about 225,763 Filipinos who primarily focus on agriculture, fisheries, and related activities. This number is relatively significant compared to the 60 agricultural extension workers working with these populations. This shows a small number of agricultural extension workers working with many farmers and fishers. Thus, more agricultural extension workers are needed, and

they must become more competent at their jobs to contribute to the improvement of SOA and the agri-food sector as a whole.

For the Limitations of Radio, for all participants, the power of radio to disseminate information and its economic and physical advantage has been helpful to their daily farming needs. However, some participants would also prefer hands-on demonstration aside from information dissemination to quickly absorb and apply what they learned. Some farmers revealed that radio has limitations and face-to-face interaction, such as training, can be satisfied. In a study by Declaro-Ruedas and Bais [14] to determine the communication modalities used in extension programs offered to livestock raisers in San Jose, Occidental Mindoro, researchers found that most extension officers used the one-on-one method, but seminars and conferences were preferred. Thus, a combination of content and delivery methods should be carefully selected for the desired results. This will require concerted efforts to improve extension services in the livestock sector through participatory and experiential approaches.

In addition, some farmer-students mentioned that AEWs assigned in their area could be very helpful in assisting them in reviewing that the agricultural knowledge they received from SOA is correct. This claim from the farmers is supported by the study, which reiterates that extension services provide farmers with information about recommended alternatives to their practices and methods of improving their income. The most effective method of providing that information is through personal contact between an extension agent and the farmer. The agent can help farmers adopt technologies more quickly and efficiently by engaging in face-to-face interactions.

Two themes are extracted from the farmer students' replies when asked how they use the information they learned from the program to improve their everyday farming methods based on their needs and current situation. The information obtained was practical and effective when applied and used in new and helpful farming methods.

Farmer students effectively applied the knowledge gained from the SOA Program to improve their agricultural practices. They valued the practicality and effectiveness of the information, selectively implementing techniques they found helpful. This led to cost savings and adopting of sustainable practices, which they shared with other farmers. Prompt application of the learned methods, such as mulching and adjusting planting calendars, resulted in tangible improvements. Farmer students appreciated the program's guidance in medication use and pig-rearing, empowering them to control their farming activities. However, they expressed a desire for more interactive learning experiences beyond the radio format, emphasizing the importance of

direct engagement with experts and hands-on training to understand better and apply the knowledge acquired.

Most of the farmers who participated in the study recalled that they could apply the farming technologies introduced by the program. The farmers reported that they applied a combination of natural and modern farming methods, with some reporting higher productivity than they had experienced before. These innovations were helpful to them, promising low-cost farming inputs compared to conventional farming methods. This experience shared by the farmers is confirmed by Benard, Frankwell and Ngalapa [4], that radio is the most widespread and trusted media used by people in rural areas. Agricultural information varies from farmer to farmer depending on the agricultural activities he or she is involved in and his or her immediate environmental challenges. Access to relevant information enables farmers to make appropriate decisions and improve productivity.

Participants also emphasized how the program has helped them save money by using harmless, fewer and cheaper resources. This is supported by the study of Zak [35] that in an attempt to reverse the negative consequences of conventional agriculture, alternative methods of sustainable agriculture have been suggested as alternatives to achieve the goal of an economically profitable and environmentally sound agricultural production system.

The respondents were happy upon realizing that the SOA program corrected their impractical and old farming practices. Thus, participants P-1 and P-5 reiterated that they even reprimanded their fellow farmers on the proper application of farming techniques. P-4 proudly revealed that SOA made them feel like experts in their field. It implies that farmer participants want to specialize in the topic they prefer. For Servais [32], specialization is considered progress because it makes farmers focused and self-sufficient. Ochieng et al. [30] opined that their attitudes and interests influence the specialization or preference of farmers.

With the growing age of farmers, the researchers are delighted to note that they are still willing to accept new knowledge and try new techniques. The farming working force and the government and other involved institutions must prioritize the agriculture sector as this will lure economic improvement.

5. Conclusion and Recommendations

The School-on-the-Air program has made commendable efforts to uplift not only the knowledge of the farmer participants but also their lives. Their varied positive responses indicate their satisfaction. However, it is noticed that before the conduct of the SOA program no needs analysis is conducted to identify the needs of the farmer-participants. The program implementers assumed their needs; thus, the participants had no general answers to the

questions. Should a need analysis be conducted, implementers could have seen the clear map; thus, they could have taken appropriate methods and measures. It is found in this evaluative study that the implementers failed to identify the preferred schedules and timing of the participants, their preferred topics to be discussed, their preferred specialization, alternative provisions for blackouts, and the evaluation of farmers' financial capability for possible extension support. These are the areas that need to be improved for the next SOA Program implementation.

However, it can also be concluded that the program successfully achieved its objective of educating farmers in Bansalan, Davao del Sur. The farmers were observed to highly value their teachers or broadcasters and the lessons they learned from each episode. They even demonstrated dedication by waking up early to meet with them on air. These factors have likely contributed to the program's ongoing popularity and the trust it has garnered among farmers in the target municipality.

As a result, it is recommended that the government continue to seek ways to improve the program's implementation. In the field of communication, this could include enhancing radio signals throughout the country by

funding the establishment of local radio stations in partnership with the private sector to maximize the usage of radio as a powerful medium.

For program enhancement, the government should invest in increasing the number of agricultural extension workers in the field to monitor the application of learned technologies, introduce a remodeled standardized module for the program, allocate more funds to the program to enable implementers to distribute battery-operated or solar-powered radios to the farmer-students and provide necessary extension support to all farmer- graduates.

Furthermore, it has been realized that the government can better assist farmers if they are open to receiving such assistance. Merely relying on financial aid provided by the government is insufficient; farmers should also focus on developing their knowledge and skills to ensure long-term benefits. Thus, it is important to acknowledge that improving the agriculture sector requires significant time and effort. The government and the farmers cannot achieve this alone; collaboration is necessary, involving the private sector and other organizations and institutions. It should be a shared responsibility.

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