

Original Research Article

AWARENESS OF BENEFICIARIES ON THE SCHOOL-ON-AIR (SOA) PROGRAM OF THE DEPARTMENT OF AGRICULTURE ON HALAL GOAT PRODUCTION IN MAGUINDANAO

ABSTRACT

The study was conducted to evaluate and assessed the evident of awareness of beneficiaries on the School on Air (SOA) program on Halal Goat Production of the Department of Agriculture – Maguindanao, BARMM. It was conducted in the province of Maguindanao, Bangsamoro Autonomous Region in Muslim Mindanao. Specifically, it covered six (5) municipalities with one hundred eighty (100) goat raisers who also participated in the Halal Small Ruminant School on the Air Program.

Results showed that majority of the respondents/goat raisers have high level of awareness on the Halal Goat program based on their responses to the different survey parameters. Many of them also disclosed that thru Halal goat school on the air program their knowledge, skills and attitudes (KSA) were enhanced and improved. On the other hand, some of the respondents also observed some gaps and issues in the program implementation, however, they also indicated recommendations for the improvement of future programming. Among them were, use of bilingual in the delivery of relevant information, especially to the rural farmers, regular monitoring of DA technical experts/personnel to their farms and careful use of the word “halal” which, according to them, must be supported by corresponding verses from the holy Quran whenever possible.

Keywords: Halal, Haram, KSA, SOA, BARMM, Small Ruminant

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INTRODUCTION

The word Halal is derived from the Qur'an, the holy book of Islam, which mean "permissible". Its opposite, "Haram", means "non-permissible" and "forbidden to the followers of Islam". Halal is most commonly associated with food. But presently, the Halal is interpreted comprehensively to include chemicals, health care, cosmetics, Pharmaceuticals, leather products and Islamic banking. According to Islamic law, Muslims may not consume food or medicines containing alcohol, pork or its by-products, blood, birds of prey or carnivorous animals. Halal meat comes from an animal that has had its throat cut swiftly and humanely and its carcass drained of blood. Both halal and Haram are used to apply Islamic precepts to all aspects of human activity (Porter, L. 2017).

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Halal foods made up 16.6% of the total World food market as of 2013 according to Thompson Reuters report. Up to 2018 the Halal food sector is set to

grow at an average rate of 6.9% a year or estimated to reach US\$1.6tn, faster than the food sector in general - by 2018, Halal is forecasted to make up 17.4% of the world food market.

The global Halal market is driven by Southeast Asian countries such as Malaysia, Thailand, Singapore, Brunei, Philippines, Indonesia and China, (Imarat consultants, 2015). Thailand, also led a non-Muslim countries in Halal export while USA, Canada, Brazil, Australia and New Zealand are the main importers of Halal products, (Global Halal Food Market Huge Opportunities, 2015). The multi-cultural complexion of Southeast Asia has stimulated the development of the world's most advanced Halal Standards and certification agencies.

In the Philippines Halal-compliant food production and marketing is led by BARMM region where Muslim population is concentrated. The region also has the institutionalized Halal certification, Halal auditing, Halal Diagnostic and Halal labeling system that started way back 2008 (Johanna Paola D., P. 2015, January 11). As a commitment to pursue and develop Halal production in the country, the Philippine government supported the initiative thru institutionalization of Philippine National Standards and mainstreaming Halal programs in the Department of Agriculture. The country is now pushing Halal industry as a global competitive enterprise. In fact, on February 2018, the Department of Agriculture launched the Halal Food Industry Development Program as one of the banner program of the Department. To jumpstart the program, a national Halal roadmap, executive committee and technical working group was created.

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In the Bangsamoro Autonomous Region in Muslim Mindanao a subsequent regional Halal roadmap was consequently done. The roadmap became a guiding tool of the then Department of Agriculture –Maguindanao in starting up Halal goat production project. The salient features of the project includes dispersal of 22-does to qualified farmer-beneficiary, technical know-how training on Halal goat production and school on the air (SOA). The Department closely monitored the implementation of the project.

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The Halal goat production program in the province of Maguindanao is an offshoot of the national and regional agenda to jumpstart the Halal development industry in the country. The Department of Agriculture-Maguindanao initiated the program thru goat dispersal in the selected municipalities. Twenty-two (22) heads of breeder native goats were dispersed to the qualified beneficiary-cooperatives. Presently, the program is progressing into re-dispersal benefiting the neighboring communities of Maguindanao province. Thru this initiative, the BARMM region is anticipated to be the Halal hub of the country and one of the key players in the global Halal market in the future.

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The Halal goat production, which was jointly implemented by the Department of Agriculture (DA), Sultan Kudarat State University (SKSU) and Agricultural Training Institute (ATI-RTC XII), was piloted on native strain of goats. As a lead agency in the implementation of the program, the Department of Agriculture - Maguindanao spearheaded the conduct of information dissemination thru the School on the Air radio program. The Sultan Kudarat State University (SKSU) Main Campus in coordination with ATI-RTC XII and DA-Maguindanao also conducted separate survey to evaluate the level of beneficiary awareness relative to the Halal Small Ruminant Production project.

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Alongside the implementation of the roadmap is the launching of the Muslim Mindanao Halal Certification Board, Incorporated (MMHCBI) in the Department of Agriculture-ARMM on 2008 which propelled the series of advocacies, certification and other Halal-related activities. One of the regional initiatives is the formulation of Halal Mislabeling Law of 2008 mandating the concerned entities and establishments in BARMM and nearby region to comply in the protocols of production, processing, labeling and signage system. The law has gained full support from the BARMM regional government.

MATERIALS AND METHODS

The Regional Halal Diagnostic Laboratory of the Department of Science and Technology Region XII was also established to complement regional Halal industry thru product testing, analysis and traceability. The BARMM Halal regional office was also institutionalized with corresponding support from the national and regional government.

With the progress gained by the program, the BARMM regional management and the city government of Cotabato agreed to transform the city as center of Halal trading in Maguindanao province owing to its proximity to seaports and airports. To further support the Halal program Cotabato City Council formulated and passed ordinance on May 21, 2012 which regulate the use of term Halal in public food chains and establishments. To complement the BARMM regional Halal program, the state-of-the art integrated Halal compliant slaughterhouse and dressing plant was erected. The facility will cater slaughtering of small and large ruminants and dressing of poultry species (DAF-ARMM Planning Division, 2014). Similar ordinance was also formulated and passed by Davao City Council on 2012.

Hence, the **School on the air (SOA)** is a component program of the Department of Agriculture in the Bangsamoro Autonomous Region in Muslim Mindanao. The program utilizes quad media to disseminate relevant information to the program beneficiaries and other agricultural clientele of the BARMM region, particularly in the province of Maguindanao. It is conducted every quarter of the year in collaboration with local radio station DXMS. The SOA, from its name, often uses broadcast media such as radio programs, inter alia, to reach greater number of audiences in the communities. Semi-structured questionnaires are also used, particularly in selecting participants.

The Halal Small Ruminant School-On-Air (SOA) Program was started by the Department of Agriculture and Fisheries (DAF)-ARMM and being continued by Ministry of Agriculture, Fisheries and Agrarian Reform (MAFAR)-BARMM. The program was launched to emphasize the socio-economic importance of Halal Small Ruminant Production as a banner program of the Department. This particular SOA selected eleven (6) municipalities with one hundred eighty (180) farmer beneficiaries as primary audience or respondents.

RESULTS AND DISCUSSION

A. Evident of awareness of the respondents on the Halal Goat School on Air (SOA) program of the Department of Agriculture-Maguindanao

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Social Awareness

Table 1. Enhancement of Respondents Knowledge, Skills and Attitudes (KSA) on Goat Raising Technology

DESCRIPTION	FREQUENCY	PERCENTILE (%)
Highly Evident	10	10
Moderately Evident	68	68
Less Evident	18	18
Least Evident	4	4
Total	100	100
Mean	25	
Standard Deviation	29.23	

Table 1 shows that majority or 68 (%) percent of the respondents claimed evidently that they were moderate aware on the Halal Goat School on Air of the Department of Agriculture-Maguindanao which enhanced their knowledge, skills and attitude in goat raising technology. The 29.23 standard deviation proved that KSA among respondents were not so dispersed or KSA acquired by the respondents were almost the same amongst them. Likewise, only 4 percent of the respondents claimed that their knowledge, skills, and attitudes in goat raising were least enhanced. Knowledge, Skills and Attitudes are the abilities and characteristics that enable a job to accomplish the activities described in a task statement that describes what the job holder does (Quinones, Ehrenstein, 1997).

Table 2. Response of Respondents on the Health and Productivity of their Goat

DESCRIPTION	FREQUENCY	PERCENTILE (%)
Highly Evident	16	16
Moderately Evident	77	77
Less Evident	5	5
Least Evident	2	2
Total	100	100
Mean	25	
Standard Deviation	35.18	

Table 2 shows that there were very small differences among respondents relative to the health status of their respective goats raised. Based on the result of the study, about 77% of the respondents testified that their goats are moderately productive given the husbandry management they employed in their respective farms. This could be attributed to the enhanced knowledge, skills, and attitudes (KSA) they acquired during the training on Goat Production and Management. Very few beneficiaries (Table 2) said that their goat are not

productive. Aside, proper nutrition is essential for the health and productivity of all animals and is the basis of successful production system. A well-planned and executed preventive health program can not overcome problems that are created by poor nutrition, nor can advanced reproductive technologies overcome nutritional limitations of reproductive. Therefore, nutrition of the goat is of paramount importance for successful goat production (Published by goats.extension, org. 2019)

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Table 3. Response of Respondents about the Natural Breeding of Goat

DESCRIPTION	FREQUENCY	PERCENTILE (%)
Highly Evident	12	12
Moderately Evident	30	30
Less Evident	60	60
Least Evident	8	8
Total	100	100
Mean	27.5	
Standard Deviation	23.68	

Respondents view on Natural breeding is almost similar among each other as predicted by the 23.68 standard deviation. On the other hand, about 60% of the program beneficiaries testified that natural mating or natural breeding is still the best option in producing kids compared to artificial breeding which required sophisticated approached and expertise (Table 3). Hence, natural breeding is favourable to most of the goat raisers considering their level of knowledge. In halal goat production, there are two types of animal breeding- natural and artificial –for the halal compliant goat farm. Natural breeding is highly recommended but artificial breeding , like insemination or embryo transplant, can be practiced but not in the entire life of the doe (female goat); said doe can also experience natural breeding (Published, agriculture.com.ph., 2019).

Optimal reproductive performance in goats is an important trait, which affects the economic profitability of farm (Yotov et.al., 2016). Kids born in the natural breeding group were heavier than those in the Artificial Breeding (AI) group. Many previous studies have established a negative correlation between birth weight and litter size; birth weight decreases as litter size increases (Freetly and Leymaster, 2004; Mellado et al., 2011).

Table 4. Response of Respondents about the Castration of Goat

DESCRIPTION	FREQUENCY	PERCENTILE (%)
Highly Evident	0	0
Moderately Evident	6	6
Less Evident	75	75
Least Evident	19	19
Total	100	100
Mean	25	
Standard Deviation	34.26	

On goat castration, respondents have also similar views that it is against Halal system of producing goat as shown by computed standard deviation (34.26) and mean (25). In Table 1, around 75% of the goat raisers/respondents believed that castration is being discouraged under Halal Goat Production Protocol taken into consideration the rights of animal (goat) as a beast of burden and sacrificial animal for Muslim believers. They are also aware that in doing so, they are violating the animal welfare act (AWA) that safeguarded the rights of individual animal as a living being.

This is the reason why no farmers responded to the questions related to castration. Though it is one of the traditional and non-conventional husbandry practices by goat raisers, castration provides physiological benefits to the buck by preserving his energy reserves thereby allowing faster weight gain. In other explanation, there nothing wrong with castrating animals such as sheep and cattle if it is done for a reason, such as making them grow fat and making the meat better. The Prophet said(peace and blessings of ALLAH be upon Him)sacrificed castrated sheep, as it was narrated by Ahmad and Majah (3122) that the Prophet(peace and blessings of ALLAH be upon Him) sacrificed two large, castrated rams. Classed as Sheeh by Al-Albani in Saheeh Ibn Maaajah (Published, islamga.info/en/answers/95329).

Table 5. Response of Respondents about the Good Management and Practices (GMP) in Goat Production

DESCRIPTION	FREQUENCY	PERCENTILE (%)
Highly Evident	21	21
Moderately Evident	69	69
Less Evident	9	9
Least Evident	1	1
Total	100	100
Mean	25	
Standard Deviation	30.46	

In table 6 shows that sixty nine percent (69) % of the respondents replied “moderately evident” in adopting of technologies they learned from the School-on-Air program of the Department of Agriculture-Maguindanao on good management and practices of goat production while twenty one percent

(21) % replied “highly evident” in adopting technologies on good management practice on goat production, Best Management Practices are an excellent tool to help goat producers, whether they are new or has been in the business for some time, with ongoing improvement of their herds and their operations (Anton Singeland, Ontario, 2014).

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Goat farming has traditionally been a major livelihood for many rural families in the mountainous and uphill areas of the Eastern Mediterranean region of Turkey. In recent years, the increased demand for goat products raised the issue of developing a sustainable goat sector in the region. The primary purpose of this study was to determine best management practices and innovations in goat farming and their adoption levels in the Eastern Mediterranean Region of Turkey. For this purpose, 140 goat farmers were surveyed and their socioeconomic characteristics, management practices, problems encountered, levels of applying innovations and best management practices, as well as factors influencing their adoption were investigated. Results of the study revealed that goat farmers face problems with expensive feeds, low governmental subsidies, and cheap prices for goat products. Adoption level of innovations and best management practices were found quite low and it was influenced by farmers’ experience, income, travels, and contacts with extension service and private veterinarians (Article Number-93D06E754185/vol.7(7),pp.229-239,July 2015).

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Economic Awareness

Table 6. Response of Respondents about the increased in their Goat Population

DESCRIPTION	FREQUENCY	PERCENTILE (%)
Highly Evident	16	16
Moderately Evident	69	69
Less Evident	11	11
Least Evident	4	4
Total	100	100
Mean	25	
Standard Deviation	29.74	

Despite encountered gaps in the implementation of the Halal Goat Program in Maguindanao province, many of the interviewed goat raisers disclosed that their goats are continuously increasing in number because they are kidding every 5 months. This statement is supported by the fact that in natural breeding the chance of conception and impregnation is higher than artificial breeding. Table 6 showed that 69 percent of the goat raisers believed that their goat population is increasing all year-round. At this current year (2022) the total goat inventory in the Philippines has an estimated number of 3,874.54 thousand heads. This was 0.2 percent higher compared with the previous year’s same period population of 3,868.34 thousand heads. Inventory of goat in backyard farms grew by 0.2 percent, while goat population in

commercial farms declined by -4.9 percent. Of the total goat population, 98.9 percent were raised in backyard farms while the remaining 1.1 percent were from commercial farms (Published, PSA, 2022).

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Table 7. Response of Respondents about the Increases of Income from Goat Raising

DESCRIPTION	FREQUENCY	PERCENTILE (%)
Highly Evident	61	61
Moderately Evident	23	23
Less Evident	14	14
Least Evident	2	2
Total	100	100
Mean	2	
Standard Deviation	25.49	

Because there is an increased in goat population according to many raisers in Table 7, it follows that there was also an increase in the farmers' income derived from goat raising (Table 13) according to 61 respondents. Many of them also disclosed that goat raising, which farmers treated before as an alternative income source, now is considered a major source of income for rural and marginal farmers. Goat production is economically valuable for the Philippines with value rising from P3.3 billion in 2000 to P5.113 billion in 2005. (FAO.Org.news).

The farming of sheep and goats is the most important activity in the animal production sector of Greece, both in terms of people benefitting from it (about 300,000 families) and the overall income (45% of the gross value of the animal production (Mediterraneennes Series B 39, 83-93, 2002)).

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Table 8. Response of Respondents on Goat as a Good Source of Meat/Chevon

DESCRIPTION	FREQUENCY	PERCENTILE (%)
Highly Evident	21	21
Moderately Evident	72	72
Less Evident	7	7
Least Evident	0	0
Total	100	100
Mean	25	
Standard Deviation	32.52	

Aside from alternative income source as many respondents disclosed, goat raising provided direct benefits to them thru Chevon (Table 8). Chevon or goat meat is less in cholesterol compared to carabeef and beef. It is also a favorite meat of most Filipinos especially Muslim believers, which came into importance during holy months such as culmination of Pilgrimage (as a qurban). Unconventional livestock like meat goats have been exploited to meet

the increasing demands for meat consumption in many developing countries and to ensure food security (Webb, 2014; Simela et al., 2011).

The demand for goat meat is progressively increasing as Indian prefers goat meat (Chevon) among all other meats (Sen et al., 2004).The value of the output from goat milk and meat was estimated as Rs. 44.3 billion and Rs. 71.66 billion, respectively during 2004-05 (GOI, 2006). India possesses 16.60 per cent (124.50 million) of the world goat population and rank first in world (Singh, 2004). Rajasthan ranked II after West Bengal. The important goat farming offers immense opportunities and potential for generating income and employment to land less, resource poor's in state. Keeping in view, a study was conducted on economics of goat farming under traditional low input production system in Bikaner District of Rajasthan. (Kumar, Upendra, et.al 2014).

Worldwide the consumption of chevon (goat meat) has increasingly largely due to its distinct nutritional attributes when compared to other red meats. In addition to being a good source of dietary protein for human beings, chevon comparatively has a lower total fat, saturated fatty acid and cholesterol content, which makes it a healthful products (Sustainability 11 (13) 3671, 2019).

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Table 9. Response of Respondents on Goat Manure as a Good Source of Organic

Fertilizer		
DESCRIPTION	FREQUENCY	PERCENTILE (%)
Highly Evident	15	15
Moderately Evident	73	73
Less Evident	11	11
Least Evident	1	1
Total	100	100
Mean	25	
Standard Deviation	32.53	

Some (73%) of the goat raisers as shown in Table 9 said that they utilized the goat manure as an organic fertilizer for their plantation crops. Rather than buying an expensive synthetic fertilizer, organic fertilizers derived from animal manure provides the cheapest but effective nutrient for crops, legumes and other plants because they are rich in natural nitrogen which can be synthesize as urea. Goat manure is an excellent fertilizer for herbs, vegetables, and other crops. It is known for increasing the water holding capacity of the soil, among other uses, (Published, Agriculturalinformation.com, 2021).

High phosphate fixation necessitates the application of high rates of phosphorous (P) fertilizers to achieve reasonable crop yields in most tropical soils. In the study that investigates the efficacy of goat manure in improving the effectiveness of fertilizer P for increasing maize yields. The results indicated the that goat manure application could be used to increase soil microbial biomass P, which in turn could improve the effec-

tiveness of fertilizer P in the Eastern Cape, South Africa (Gichangi, et al.; 2010).

Table 10. Response of Respondents on Chevon as Readily Available in the Local Market

DESCRIPTION	FREQUENCY	PERCENTILE (%)
Highly Evident	0	0
Moderately Evident	7	7
Less Evident	89	89
Least Evident	4	4
Total	100	100
Mean	25	
Standard Deviation	42.76	

Farmers who believed in Chevon as the nutritive meat also believed that goat meat is very much demanded in their local market as shown in Table 10 with 89% who responded positively. Due to scarcity of supply of live goats in the locality, goat meat is rarely seen and sold in the local market, and if any, it is very expensive almost doubled the buying price of beef and carabeef. In the local wet market or grocery centers, halal certified meat must be completely segregated from non-halal meat for retail to consumers or before reaching the plate (Kuit, N., 2019).

Goat meat or chevon is regarded as nutritious food and became popular food for health conscious people, In the Philippines, demand for chevon is growing as noted in the increasing per capita consumption of chevon remains high. With a goal to transform the basis (Nayga, et al.,2013).

Table 11. Awareness of Respondents about the Monetary Benefits of Goat Raising

DESCRIPTION	FREQUENCY	(%)
1. Annual income is less than 5,000 after program implementation	7	7
2. Annual income ranging from 5,000 - 10,000 after the program implementation	16	16
3. Annual income ranging from 10,000 - 15,000 after program implementation	61	61
4. Annual income ranging from 15,000 - 20,000 after program implementation	15	15
5. Annual income ranging from 20,000 - 25,000 after program implementation	4	4
Total	100	100
Mean	20.6	
Standard Deviation	23.15	

Table 11 showed that 61% of the respondent goat raisers have an income bracket of Php 10,000 - Php 15,000. This figure coincided with the fact that goat raising in Maguindanao is just an alternative income source for majority of the rural and marginal income farmers. Working overseas is still the priority of rural people, especially those who do not have formal education. Studies have shown that the majority of the world's rural people keep and use livestock in a variety of ways that extend far beyond income generations. Livestock act as a store of wealth, a risk management tool and as such, income needs rather than price changes drive the marketing (Rich et al, 2018).

Goat has been described as a poor man's cow because of its immense contribution to the poor man's economy. It not only supply nutritious and easily digestible milk but also regular source of additional income for poor and landless or marginal farmers. Being small-sized animals, goats can easily be managed by women and children. Feeding, milking and care of goats do not require much equipment and hard work. Capital investment and feeding costs are also quite low. The role of women in goat keeping is very significant in the rural families of Bangladesh and goat is the most important means through which rural women are able to contribute meaningfully to the cash needs for their family members. Moreover, goat rearing is the most useful way of women earning those who stay at home. There is a close relationship between the status of women and the socioeconomic development of any country. To ensure a balanced socio-economic development of the country, improvement the status of women is a precondition. This may be achieved only when there is increased participation of women in development activities (Nahar, 2000 and Alam, 2001).

C. What are the issues and challenges in the implementation of Halal Goat school on the Air (SOA) of the Department of Agriculture-Maguindanao.

Issues

Table 12. Issues Besotted by Respondents about the Implementation goat school on the air program

Issues	Ranking (%)
1. Halal goat production must be explicitly discussed in multilingual platform	1
2. Poor dissemination of technologies to the end users	2
3. Insufficient follow up through activities required to improve the implementation process	3
4. No monitoring and evaluation after the program implementation	4
5. Technical discussion must be supported by religious verses from Holy Quran	5

From Table 12, it is clearly stated that majority of the goat raisers in Maguindanao had limited understanding of the topics or subject matters discussed during the SOA because it not translated in a vernacular or mother tongue. This observation is underlies the principles of effect extension delivery system which greatly affects diffusion of innovation to the rural communities. In diffusion studies, a central tenet is that innovators , early adopters and the early majority rely more heavily on mass media channels in the adoption of a given innovations, whereas the late majority and laggards rely more heavily on interpersonal channels to finally persuade them to adopt an innovation (Skelton, Shaun, 2016).

Challenges

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Table 13. Issues Captivated by Respondents about the Implementation goat school on the air program

Challenges	Ranking (%)
1. Prevalence of diseases	1
2. Poor breeds and stocks	2
3. Lack of veterinary services	3
4. Sustainability of the program	4
5. Shortage of land/inadequate pasture area	5
6. Farm security	6

Table 13 shows that majority of the goat raisers observed “prevalence of goat-related diseases such as ORF and Scourge. They also disclosed the reality that their farm was seldom visited by technical experts from the DA such as Livestock Inspectors and Veterinarian. Admittedly, the agency has shortage of Livestock manpower such as veterinarian. This limitation resulted to multi-tasking which eventually led to inefficiency of basic services for the livestock raisers. According to the study conducted in the areas of Region 12 (SOCCSKSARGEN), the results shows that there were ten (10) challenges have been enumerated by the respondents. It includes the diseases, lack of veterinary services, shortage of lands, inadequate pasture areas, predators, theft, poor breeds and no fences (Salvana, et.al, 2020).

In Nepal, being on the developing agricultural country, sustainable development is only possible through the way of agricultural resonances by investigating and investing in resented technologies, ideas, skills and land matching seeds including commercialization in animal husbandry. There was a research study conducted to analyze the socio economic impact in terms of socio economic impact of the small scale commercial goat farming in that region.

The major problems of such small scale commercial farming in the study were lack of grasses for feeding, lack of developed caste of goat, lack of manpower, lack of livestock insurance, lack of facilitated loan, lack of proper training about goat farming, lack of veterinary facility, low price of meat. And the different significant prospects were found in this profession which was as prospects to develop goat farming as main occupation, prospects to increase the level of income, prospects to increase employment, prospects to

capture national meat market, prospect to increase the production capacity of the land, and prospects to make healthier life (Dawadi, S.D., 2016).

D. What recommendations you can suggest to address the issues and for the improvement of the implementation of Halal Goat School on the Air (SOA) of the Department of Agriculture-Maguindanao.

Table 14. Recommendations of Respondents about the School-On-the-Air Goat Program

	Recommendations	Ranking (%)
1.	Using of multi-lingual platform is encourage so that the message of the program will transmit effectively to the end-users.	1
1.	Good Management Practices and technologies on Halal goat production must be properly discussed and disseminated to the clientele	2
2.	Monitoring and evaluation must be implemented for the sustainability of the program	3
3.	Feed backing and assessment regarding the Halal goat production must be done.	4
1.	Halal issue is a mix of technical and religious perspective, verses from Holy Quran must be supported.	5

To address some of those issues and gaps in goat raising, the respondent farmers recommended the following as enumerated in Table 14. Use of vernacular or bi-lingual is important for better understanding according to the respondents. This is supported by the facts that most of the rural families lack formal education. Hence, the use of English or Tagalog in delivering the information is difficult for them to comprehend. Also the respondents suggested that any information cited in verbally or in writing should be fully supported by a verse from the holy Quran, particularly halal issues.

conclusion

The Halal goat School-on-the Air program of the Department of Agriculture-Maguindanao is a success story for the Department and for the goat raisers. The program was participated by five (5) selected municipalities in Maguindanao with twenty goat raisers per municipality. Using Slovin's Formula, there were eighty (80) goat raisers selected as respondents for the study. A semi-structured questions were prepared and pre-tested before distributed to respondents.

The study is aimed at evaluating and assessing the evident of awareness of beneficiaries on the School on Air (SOA) program on Halal Goat Production of the Department of Agriculture –Maguindanao, BARMM. Results showed that majority of the respondents/goat raisers have high level of awareness on the Halal Goat program based on their responses to the different survey parameters. Many of them

also disclosed that thru Halal goat school on the air program their knowledge, skills and attitudes (KSA) were enhanced and improved.

On the other hand, some of the respondents also observed some gaps and issues in the program implementation, however, they also indicated recommendations for the improvement of future programming. Among them were, use of bilingual in the delivery of relevant information, especially to the rural farmers, regular monitoring of DA technical experts/personnel to their farms and careful use of the word “halal” which, according to them, must be supported by corresponding verses from the holy Quran whenever possible.

Recommendations

To improve future program implementation and to address some of the identified gaps besotted by the program, it highly recommended to the top to bottom management the following, to wit:

1. Designing and crafting of effective M&E tools intended only for the projects;
2. Institutionalization of the program to the regular program of the Department, and;
3. Creation of management team who will focus on the program.

References

- AKYOL, M. & KILINÇ, Ö. 2014. Internet and halal tourism marketing. *Electronic Turkish Studies*, 9(8): 171.
- BATU, A. & REGENSTEIN, J. M. 2014. Halal Food Certification Challenges and their Implications for Muslim Societies Worldwide. *Electronic Turkish Studies*, 9(11): 111
- BONDOC, O. L., GARCIA, B.R., BELTRAN, E.D., RAPUSAS, M. and GOMEZ, B.C. 2002. Characteristics of the Philippine native goats (*Capra hircus* Linn.). *Philippine Agricultural Scientist*, 85(4):406-413. Institute of Animal Science, College of Agriculture, University of the Philippines Los Baños, College, Laguna
- CADGER K, QUAICOO AK, DAWOE E, ET AL. (2016) Development interventions and agriculture adaptation: a social network analysis of farmer knowledge transfer in Ghana. *Agriculture* 6(3): 32. DOI:10.3390/agriculture 6030032
- CADIZ, C. H. (1995). The changing Asian media environment and its impact on journalism values: report from the Philippines. In AMIC Seminar on Asian Values in journalism seminar Nilai-Nilai Kewartawanan Asia: Kuala Lumpur, 24-25 August, 1995.
- CAMERON, LEE DUNCAN. 1976. COMMUNICATION OF INNOVATIONS IN A HIGHLAND GUATEMALAN COMMUNITY. Iowa State University. ProQuest Dissertations Publishing, 1976. 7710303.
- Crabbe, M, Standing, C., Standing, S. and Karjaluo, H. 2009. An adoption model for mobile banking in Ghana. “*International Journal of Mobile Communications*, vol. 7, pp. 515-543.
- Cruz FA. 1978. Adoption and diffusion of agricultural extensions. In An introduction to extension delivery systems by JB Valera, VA Martinez, and RF Plo-pino eds. Island Publishing House, Manila. P. 97-127.

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- Crump, Stephen & Twyford, Kylie & Anderson, Alan & Towers, Lorraine & Devlin, Brian et al. (2010). Australian Research Council Linkage project on Interactive Distance eLearning : 'Opening Our Eyes' : project report. In Interactive distance learning for isolated communities : ARCL project discussion papers 2008–2010.
- Department of Agriculture –Maguindanao, 2015. Planning, Monitoring and Evaluation Division.
- ḤALĀL LOGISTICS: A marketing mix perspective. 2014. *Intellectual Discourse*, 22(2): 191-214.
- HAYASHIDA, M., ORDEN, E. A., CRUZ, E. M., CRUZ, L. C. & FUJIHARA, T. 2004. Is *Leucaena* leaf useful as a selenium supplement for growing Philippine goats? *Animal Science Journal*, 75(5): 423-430.
- Imamura, E (1987). In Conventional and nonconventional schooling: a comparison of pupil performance in rural schools and schools of the air. University of Western Australia
- KUIT, N. 2019. Halal Goat Farming: From Farm to Plate.
- MD YUSOF, SHAZLINDA & SHUTTO, NORIYUKI. (2014). The Development of Halal Food Market in Japan : An Exploratory Study. *Procedia - Social and Behavioral Sciences*. 121. 10.1016/j.sbspro.2014.01.1126.
- MIRANDA-DE LA LAMA, G. & MATTIELLO, S. 2010. The importance of social behavior for goat welfare in livestock farming. *Small Ruminant Research*, 90(1-3): 1-10
- MOHD HAFIZ ZULFAKAR, MARHANI MOHAMED ANUAR, MOHAMED SYAZWAN AB TALIB. 2014. Conceptual Framework on Halal Food Supply Chain Integrity Enhancement, *Procedia - Social and Behavioral Sciences*, Volume 121, 2014, Pages 58-67, ISSN 1877-0428, <https://doi.org/10.1016/j.sbspro.2014.01.1108>. (<https://www.sciencedirect.com/science/article/pii/S1877042814011252>).
- NAANEP, N. D., VELASCO, N. B., TAYAB, C. B., DACAYO, F. L., JORDAN, R. C., MALTU, J. M. & VILLAR, E. C. 2012. Traders' Preferences For Halal Goat Characteristics In Selected Markets In Region Xii, Philippines. *Philippine Journal of Veterinary & Animal Sciences*, 38(2): 177-186
- NADHEM MTIMET, FRANCIS WANYOIKE, KARL M. RICH, ISABELLE BALTENWECK. 2021. Zoonotic diseases and the COVID-19 pandemic: Economic impacts on Somaliland's livestock exports to Saudi Arabia, *Global Food Security*, Volume 28, 100512, ISSN 2211-9124, <https://doi.org/10.1016/j.gfs.2021.100512>. (<https://www.sciencedirect.com/science/article/pii/S2211912421000225>)
- NAKABUGU, S.B. (2001). The Role of Rural Radio in Agricultural and Rural Development Translating Agricultural Research Information into messages for farm Audiences. Programme of the workshop in Uganda, 19 February 2001.
- NOR SARA NADIA MUHAMAD YUNUS, WAN EDURA WAN RASHID, NORAFIFA MOHD ARIFFIN, NORHIDAYAH MOHD RASHID. 2014. Muslim's Purchase Intention towards Non-Muslim's Halal Packaged Food Manufacturer, *Procedia - Social and Behavioral Sciences*, Volume 130, Pag-

- es 145-154, ISSN 1877-0428, <https://doi.org/10.1016/j.sbspro.2014.04.018>.
(<https://www.sciencedirect.com/science/article/pii/S1877042814029280>)
- PAOLA, J. D. 2012. Business World (Philippines): Guidelines for Halal certification issued.
- PCARRD. 1985. Peanut: proceedings of the first National Peanut Consultation and Peanut CRSP Review, PCARRD, Los Banos, Laguna, Philippines. PCARRD, Los Banos, Philippines, pp. 1-123.
- PORTER, L. 2011. Halal Guide to Consumer Faith. Chronicle of Higher Education, 30-31.
- PORTER, L. 2011. Halal Guide to Consumer Faith. Chronicle of Higher Education, 30-31
- RAJAGOPAL, S., RAMANAN, S., VISVANATHAN, R., & SATAPATHY, S. (2011). Halal certification: Implication for marketers in UAE. Journal of Islamic Marketing, 2(2), 138-153.
- RICHARD E. MAYER. 2014. Incorporating motivation into multimedia learning, Learning and Instruction, Volume 29, Pages 171-173, ISSN 0959-4752, <https://doi.org/10.1016/j.learninstruc.2013.04.003>.(<https://www.sciencedirect.com/science/article/pii/S0959475213000339>)
- SITI HASNAH HASSAN, 2011. Consumption of functional food model for Malay Muslims in Malaysia, Journal of Islamic Marketing, Vol 2, ISS 2 pp. 104 – 124.
- SKELTON, SHAUN. 1996. The efficacy of communication techniques on health innovation in rural Kenya. The George Washington University. ProQuest Dissertations Publishing, 1996. 9626329.
- SWANEPOEL, FRANS & STROEBEL, ALDO & MOYO, SIBONISO. (2010). The Role of Livestock in Developing Communities: Enhancing Multifunctionality
- YUNUS, N. M., RASHID, W. W., ARIFFIN, N. M. & RASHID, N. M. 2014. Muslim's Purchase Intention towards Non-Muslim's Halal Packaged Food Manufacturer. Procedia - Social And Behavioral Sciences, 130 (4th International Conference on Marketing and Retailing 2013, INCOMaR 2013), 145-154.
- ViswanathVenkatesh, Michael G. Morris, Phillip L. Ackerman. 2000. A Longitudinal Field Investigation of Gender Differences in Individual Technology Adoption Decision-Making Processes, Organizational Behavior and Human Decision Processes, Volume 83, Issue 1, Pages 33-60, ISSN 0749-5978, <https://doi.org/10.1006/obhd.2000.2896>.
- WANG, KENNETH HSICHE, CHEN, GONG, AND CHEN, HOUN-GEE. 2017. Social Behavior and Personality: an international journal, Volume 45, Number 4, 2017, pp. 563-572(10)