



STRENGTHENING HUMAN AND PHYSICAL RESOURCES TOWARDS A FUNCTIONAL AND INNOVATIVE HALAL GOAT SCIENCE CENTER

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ABSTRACT

The Halal Goat Science and Innovation Center (HGSIC) was established at Sultan Kudarat State University (SKSU) under Project 4 to address the complex challenges of ensuring halal integrity in goat production. Funded by the Department of Science and Technology (DOST), the project developed TESDA-accredited competency courses in halal goat husbandry, slaughtering, and processing, alongside essential manuals on Good Manufacturing Practices (CGMP) and Sanitation Standard Operating Procedures (SSOP). The Center features a comprehensive infrastructure, including training facilities, a halal-dedicated prayer room, and a Double-A accredited slaughterhouse certified by the National Meat Inspection Service (NMIS) for compliance with rigorous food safety standards. SKSU trained 25 staff members in halal goat science disciplines to enhance its expertise, with 10 achieving NCII competency and one PhD-trained halal expert spearheading initiatives. While TESDA accreditation as a training and testing facility remains pending, the institutionalization of HGSIC was formalized through SKSU's Board of Regents Resolution No. 117-2023, ensuring its sustainability. These achievements solidify the Center's role as a leading hub for halal goat science, entrepreneurship, and collaborative research, setting a benchmark for halal compliance and innovation in the industry.

Keywords: Halal Goat Science and Innovation Center (HGSIC); Department of Science and Technology (DOST); Good Manufacturing Practices (CGMP); Sanitation Standard Operating Procedures (SSOP); National Meat Inspection Service (NMIS)

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INTRODUCTION

The halal industry is estimated to be worth USD 2.3 trillion based on the needs and preferences of the 1.7 billion Muslim consumers worldwide. Based on ITC as cited by Zain et al (2017), the top OIC countries with Muslim consumers are Indonesia (\$190 billion), Turkey (\$168 billion), Pakistan (\$108 billion), Iran (\$97 billion), Egypt (\$95 billion), Bangladesh (\$60 billion), Saudi Arabia (\$53 billion), Nigeria (\$38 billion), Iraq (\$35 billion), and Algeria (\$35 billion). Nevertheless, most of these countries are also known as food producers with dynamic domestic markets, which slightly reduces the chance of automatic target markets for international trade and exports. In addition, the Middle East and North Africa are the key regions of the Muslim consumer market, especially for the food and beverage sector; thus, making the global halal market a powerful commercial arena and a vitally important emerging sector.

In the Philippines, 93% of the entire Islamic population resides in Mindanao. These Muslims make up about 23.39% of the island's entire population (PSA, 2017), and a potential consumer for halal goats. On May 16, 2016, RA 10817 otherwise known as "An Act Instituting the Philippine Halal Export Development and Promotion Program, Creating for the Purpose the Philippine Halal Export Promotion Board and Other Purposes" was approved. Prior to this law, SKSU with financial assistance from DOST-PCAARRD had already started conducting research on halal, particularly on goats in 2009. The big

break was the output of SKSU and USM in 2013-2016 when the team of researchers was able to develop several protocols on halal goat production, transport & marketing, slaughtering, chevon processing, and laboratory-based haram detection.

The research was carried out by non-Muslims with the supervision of a Muslim S&T consultant. To ensure that goats raised the halal way are also slaughtered in a halal-compliant manner, PCAARRD funded the refurbishment of the Agro-Mechanic Building at SKSU-Lutayan to become the halal-compliant goat slaughterhouse. On this premise, this NICER project enhanced the existing Community Outreach Center and made it into what is now known as the Halal Goat Science and Innovation Center. SKSU researchers and staff were capacitated with the needed halal goat science disciplines like halal ruminant production and slaughtering, halal business management, and marketing.

Hence, the main objective of this study was to strengthen the human and physical resources of SKSU towards a functional and innovative halal goat science center—specifically, it aimed to: (i) Develop and offer competency courses on halal goat husbandry, slaughtering, and processing; (ii) Capacitate potential university personnel to undergo specialized trainings on halal nutrition, processing, marketing, auditing, halal business management and animal health; (iii) Strengthen partnership with local and foreign academic institutions for the conduct of collaborative research on halal; and (iv) Establish the Halal Goat Science and Innovation Center. Thus, to ensure that every technical and social aspect of halal science is addressed, the existing human resources in the region have to be honed further, and the trained workforce at SKSU can help meet this goal.

METHODOLOGY

Specialized Competency-Based Training

Using the outputs of the previous project, particularly the protocols on halal goat production and assurance system, the FLS Modules for Halal Goat Enterprise Management, and the PNS on the Code of Halal Goat Production (PNS BAFS 259:2018), a curriculum for competency-based training on halal goat slaughtering and halal goat husbandry was developed by SKSU. This was submitted to TESDA for possible accreditation as a competency field. It was expected that once approved, they will be offered to people interested in developing their skills, allowing them to be conferred the corresponding civil service eligibility upon passing the TESDA skills test. An applicant who possessed eligibility could be appointed to any of the positions within the cluster or to functionally related positions, provided the other requirements of the positions were met (<https://tesda.gov.ph/About/TESDA/112>).

Moreover, once the courses are offered, announcements through print and electronic media will be made to recruit enrollees for the competency-based courses. The target enrollees will include out-of-school youths, would-be slaughterers, businessmen, and certifiers. A maximum of 10 enrollees per competency course will be admitted, giving each participant ample space and interaction time with trainers to ensure they will be equipped with the needed skills. After completing the module, the enrollee will undergo competency testing. A passer would receive either a TESDA-issued National Certificate (NC) or Certificate of Competency (COC).

Enhancing Institutional Human Resources on Halal

A rapid appraisal of the specialization of existing faculty members of the university was conducted. Results revealed that technical expertise on animal health and nutrition, processing, marketing, auditing, and halal business management was lacking. Due to travel restrictions imposed by the COVID-19 pandemic, faculty members were identified for specialized training abroad through online platforms. This adaptation was necessary to ensure continuous professional development despite the challenges posed by the pandemic. Institutions offering relevant specializations were also identified, with the expectation that the trained faculty would contribute to the halal sector as experts. Their responsibilities include preparing proposals aimed at fostering the full development and sustainability of the halal goat industry and designing a two-year ladderized program in halal goat science. Although there were plans to source scholarships for short-term halal training, these efforts were unsuccessful during the pandemic due to the prevailing restrictions and uncertainties.



Collaborative Research Program

Local collaborations. The researchers had coordinated with the management of the Philippine National Science High School in Koronadal City to come up with a collaborative program on halal goat science for their students. The nature of the research was more experimental, so that the Halal R&D facility of DOST XII could also be accessed by the students from their area.

International collaboration. At that time, SKSU had an existing Memorandum of Agreement with Universitas Muhammadiyah of Yogyakarta, Indonesia. To fully operationalize this partnership, both Universities had reviewed and discussed the proposed collaborative research program, particularly on halal. A common research agenda on halal goat was crafted. Faculty-researchers who were involved were also identified, and proposals were prepared. Initially, one collaborative research program on halal goat was packaged; however, challenged by the pandemic and not implemented within three years.

NMIS Accreditation of the Halal Goat Slaughterhouse

The newly established Halal Goat Slaughterhouse needed enhancements before it could apply for NMIS accreditation as a Double A facility. Specifically, additional rooms like the inspector and administration office, mess room, and prayer room had been provided as part of the building. Moreover, the interior had been enhanced with the installation of individual lockers at the personnel area; sink, preparation area, and cabinets in the cooking room; and built-in cabinets in the ingredients room and in the packaging and product storage room.

The Halal Goat Slaughterhouse was initially intended to be subject to halal certification by an accredited certifying body. However, the COVID-19 pandemic posed significant challenges, making it difficult for establishments to comply with both Animal Welfare Act certification and halal certification requirements.

SKSU also had applied the Halal Goat Slaughterhouse for accreditation by TESDA as a Testing Center for NC II halal goat slaughtering and processing. This was an opportunity for the University since there were no Testing Centers for Halal Slaughtering in Mindanao. Upon review and evaluation of the requirements submitted, there were additional documents needed for compliance particularly since TESDA agency has new set of competencies released for each commodity.

It can be noted that, at the time, the HGSPC was underutilized as goat supply was still limited. It was on this vein that promotion of halal goat production through different strategies by customer segment was done to increase goat inventory. All these goats naturally required a halal slaughterhouse and a dedicated halal processing center, an opportunity which the HGSPC could provide.

Enhancement of the COC Building as the Halal Goat Science and Innovation Center

Planning and designing of the halal goat science and Innovation Center. This included the specifications, structural/civil, mechanical, and electrical design in accordance with the National Building Code of the Philippines. Thus, an expert was tapped to finalize the details of the facility since the engineers available in the University did not have experience in designing a halal-compliant facility. This was also to ensure that there were no change orders or variations in the construction process.

Testing of materials. The construction materials to be used were submitted to a DPWH-accredited materials laboratory for testing to determine the compressive and flexural strengths of the materials.

Conversion and enhancement of the existing building. The COC Building was transformed into offices, training rooms, and an eLearning lounge for enrollees to the different promotional strategies like certifiers, entrepreneurs, farmers, faculty, and students. The proposed fully air-conditioned training center was furnished with the needed facilities and gadgets such as built-in projectors, whiteboards, office and conference tables, and chairs.

Facility completion and turnover. A turnover ceremony was conducted when the facility was completed, and all the pieces of equipment were put in their proper places. This activity was graced by the benefactors from DOST-PCAARRD and attended by different stakeholders.



RESULTS & DISCUSSIONS

The project was implemented for 3 years and 3 months (January 2020 to March 2023). Accomplishments and findings are presented by project objectives and expected outputs in 6Ps.

Project Objective 1: Develop and Offer Competency Courses on Halal Goat Husbandry, Slaughtering, and Processing

Compilation of Training and Assessment Modules on Halal Goat Slaughtering and Husbandry for NCII Takers

SKSU's Halal Goat Slaughtering and Husbandry competency-based learning materials were initially classified as 'No Training Regulations' by TESDA. These materials were based on TESDA's Training Regulations for Animal Production (Ruminants) NC II in the Agriculture and Fisheries sectors, which the agency has copyrighted. A writeshop was thus conducted that included four faculty members of SKSU specializing in animal science, plant breeding and genetics, veterinary medicine, and agricultural technology. Three Muslim faculty members with backgrounds in science, biology, and Islamic studies were also included to integrate Islamic beliefs and halal concepts in the curriculum. Their outputs were the training modules on animal production and slaughtering that were reviewed by experts from the TESDA Provincial Office and Surallah National Agricultural School (SUNAS) and recommended to the TESDA Regional Office before module compilation.

Training on Animal Production (Ruminants) with Integration of Halal Husbandry Concepts

The Skills Training in Animal Production (Ruminants) was conducted in Lutayan, Sultan Kudarat, from January 25 to February 1, 2023 (Figure 6). Participants included Bachelor of Science in Agriculture students, project members, and farm workers from SKSU-Lutayan Campus. This training program was designed to equip participants with practical skills and knowledge in essential areas such as animal production, feeding and nutrition, health and disease management, breeding and reproduction, and husbandry techniques. This was facilitated by project team members.

The training was led by TESDA-accredited trainers from South Cotabato State College, Mr. Decx Harel S. Laquihon and Ms. Maria Argie M. Laquihon. The course was meticulously structured to include both theoretical and practical components. The theoretical lectures incorporated halal husbandry concepts, ensuring that culturally and religiously appropriate practices were emphasized. Following the lectures, participants engaged in field demonstrations and hands-on training, which allowed them to apply their newly acquired knowledge in a real setting.

The program culminated in an assessment process, which included both written and practical examinations, supervised by a TESDA Provincial Officer. Participants who completed the course and passed the practical examination were awarded a National Certificate II, signifying their Animal Production (Ruminant) competency. This certification serves as a credential for individuals pursuing careers in the agricultural sector, particularly in animal production, enhancing their employability and professional development to be tapped as trainers.

Skills Training

The hands-on skills training was conducted in Banga, South Cotabato, over two sessions: November 4-7 and December 21-24, 2021. The course, led by Mrs. Maria Argie M. Laquihon from South Cotabato State College, aimed to equip participants with practical skills in ruminant management. Six out of the ten participants completed the course and were awarded the significant National Certificate II (NC II) in Animal Production (Ruminants) on December 21, 2021, at the Best College Tupi Farm Campus.

TESDA-accredited assessors conducted evaluations of the learners and faculty involved in the Animal Production (Ruminants) program to validate the skills acquired during training. This assessment process is a must for ensuring that participants meet the competency standards set by the Philippine Technical-Vocational Education and Training (TVET) system. The assessment employs various methods, including demonstration/observation in which candidates perform tasks while assessors observe, written tests to evaluate theoretical knowledge, and oral questioning which measures understanding of concepts.



Success on the NC II Assessment

Ten participants went through intensive training for the National Certificate (NC II) at Best College's Tupi Farm Campus, South Cotabato. This program, which involves theoretical instruction and practical application, is designed to prepare participants for the examination. Six out of ten participants showed impressive dedication and passed the NC II assessment.

Although SKSU produced TESDA-accredited NCII trainors, the target of offering the two courses to 20 learners was not attained. The main reason was the delay in the completion of the training of the SKSU trainors due to restrictions of the pandemic. Eventually, after they have completed the skills course, it was time to wrap up the project. Hence, the offering of these courses were affected.

Orientation on Current Good Manufacturing Practice

A workshop on current Good Manufacturing Practice (cGMP) was conducted on September 30, 2021 at the Lutayan Gymnasium by Dr. Cyrus Dugayo of NMIS-ROXII. It was attended by 17 faculty and administrative staff of SKSU. This session reinforced the importance of cGMP and SSOP, equipping participants with the knowledge to implement these standards effectively in their roles. The emphasis was placed on maintaining high hygiene standards and process control to ensure food safety and quality.

This training was necessary, as TESDA required that these be part of the accreditation of the halal slaughterhouse. The sessions emphasized the importance of cGMP in ensuring the proper design, monitoring, and control of manufacturing processes to maintain the identity, strength, quality, and purity of products. It highlighted the key topics in cGMP such as Sanitation Standard Operating Procedures (SSOP) with detailed procedures in ensuring sanitation in food manufacturing such as cleaning and sanitizing equipment and monitoring the sanitation process to prevent contamination in the slaughterhouse and processing center. Participants included faculty members and project team members from the Lutayan campus, who engaged in group discussions and shared challenges and best practices. They developed the draft manuals and received feedback during review sessions with Dr. Cyrus Dugayo.

Similarly, an orientation on GMP and an onsite assessment for "AA" Standard Registration for the SKSU Halal Slaughterhouse demonstrated a commitment to high operational standards, resulting in the attainment of the "AA" standard and a License to Operate (LTO) from NMIS.

Workshop of Current Good Manufacturing Practices and Sanitation Standard Operating Procedures (SSOP) of SKSU Faculty members

On November 22-23, 2021, a workshop dedicated to developing manuals for Current Good Manufacturing Practices (cGMP) and Sanitation Standard Operating Procedures (SSOP) was conducted in Viajera, Koronadal City, South Cotabato. The sessions were expertly led by Dr. Cyrus Michael M. Dugayo from the Accreditation and Registration Section (ARS) of the National Meat Inspection Service (NMIS), who significantly enhanced participants' understanding and application of these critical standards.

Seventeen participants attended the workshop, comprising seven faculty members from the Lutayan campus—Juareyn Ondoy, Eva Rea Fame V. Inocente, Richard Toledo, Rey Ejercito, and Ne Velasco—and ten project team members, including Ruby S. Hechanova, Noraisa K. Yasin, and Jerry Lou B. Tauro. Dr. Dugayo provided a comprehensive overview of cGMP, defining it as a set of regulations that ensure the proper design, monitoring, and control of manufacturing processes and facilities, which are essential for maintaining the identity, strength, quality, and purity of drug products. He also elaborated on SSOPs, detailing the necessary methods, equipment, and frequency of cleaning and sanitation activities aimed at preventing contamination.

Development of a Halal Goat Science Curriculum Under SKSU's BS Agriculture Program

As it was planned to have a separate major program focused on Halal Goat Science under the BS Agriculture degree, a preliminary study was conducted among students of SKSU. The results of the survey are as follows:

Occupation/Employment of respondent's parents. The findings show that farming is the most common primary occupation of families of students in SKSU, with 78.23% of respondents identifying as farmers (Table 1). This demonstrates that the agricultural sector is not only fundamental to the majority



of the community's livelihoods but also serves as the backbone of the local economy. The dominance of farming occupations among respondents' parents aligns with studies emphasizing the vital role of agriculture in rural economies (Reardon et al., 2019). Research suggests that agriculture contributes not only to economic growth but also to food security and poverty reduction in rural areas (Jayne et al., 2020). Hence, by prioritizing education and collaboration, community programs can significantly enhance the livelihood of farmers, which can contribute to the overall economic well-being of the region.

Table 1. Respondent's Parents' Occupation/employment (2023)

Description	Frequency	Percent (%)
Farming	97	78.23
Teaching	1	0.81
Agriculture Office	-	
Agrarian Reform Office	-	
Environment and Natural Resource Office	-	
Other	26	20.97
TOTAL (N)	124	100

Preferred major field of study by the BSA and BAT students. Although the proportion of students interested in taking the course is rather small, 12.1% (Table 2), it can be seen that it has potential takers, which over time may increase due to the increasing Muslim enrollees in the university. The promotion of halal food's health benefits, as well as the bigger market opportunities associated with halal, may create a shift in the number of takers in the future. Moreover, with the university being distinguished as the halal center in Region XII and possibly in the whole country may produce more students to take up the course if ever it is offered.

Table 2. Preferred Major Field by the BSA and BAT Freshmen Respondents (2023)

Discipline	BSA		BAT		Total	
	Freq.	(%)	Freq.	(%)	Freq.	(%)
Agri Extension & Education	22	34.4	13	21.67	35	28.2
Agronomy	3	4.7	9	15	12	9.7
Animal Science	11	17.2	12	20	23	18.5
Crop Protection	12	18.8	10	16.67	22	17.7
Halal Goat Science	4	6.3	11	18.33	15	12.1
Horticulture	12	18.8	5	8.33	17	13.7
TOTAL (N)	64	100	60	100	124	100

Likelihood of students pursuing Halal Goat Science as a major field. The results show a significant interest in Halal Goat Science among freshmen respondents in both the BSA and BAT programs out of 124, 52.4 percent are "likely" to major in HGS if offered. This suggests that there is a need for more growth and emphasis on Halal Goat Science in the Agriculture curriculum, with the students' inclination and demand in this curriculum if offered. Further research and investigation in this field may result in substantial advances and contributions to Halal goat farming. It is highly manifested that the interest of the respondents is particularly.

BSA and BAT freshmen to pursue their studies on the Halal Goat Curriculum. The majority if not all, of the students currently enrolled in BAT and BSA programs are young Muslims who will somehow



realize and embrace the great potential of the halal goat curriculum in setting their career life with the strong foundation of their faith as an obligation. Likewise, the Halal Goat Curriculum will take place.

In a scheduled University Joint Administrative and Academic Council Meeting, the result of the feasibility study on the proposed Halal Goat Science curriculum was presented for deliberations and subsequent endorsement to the Board of Regents for approval. Thorough discussions among the members of the Academic Council were raised until it was moved and seconded that the proposal should secure CHED approval prior to BOR confirmation. Figure 12 presents the covering title of the proposal.

Table 3. The Likelihood of BSA and BAT Respondents Taking a Major in Halal Goat Science (2023)

Discipline	BSA		BAT		Total	
	Freq.	(%)	Freq.	(%)	Freq.	(%)
Very Likely	8	12.5	14	23.33	22	17.7
Likely	34	53.1	31	51.67	65	52.4
Neutral	21	32.8	11	18.33	32	28.8
Unlikely	1	1.6	4	6.67	5	4
Highly Unlikely	0	0			0	0
TOTAL (N)	64	100	60	100	124	100

Project Objective 2: Capacitate Potential University Personnel to Undergo Specialized Training on Halal Animal Health, Nutrition, Processing, Marketing, Auditing, and Business Management

The initiative to enhance the capabilities of university personnel through a specialized training program on various aspects of halal practices is a commendable effort aimed at fostering cultural sensitivity, inclusivity, and competence within the academic community. The active participation of 25 faculty members in this training program reflects a strong commitment to understanding and upholding halal standards, recognizing the cultural and religious significance associated with these practices. Participants came from diverse disciplines, including food science, animal science, plant breeding, business management, economics, and general education, ensuring a comprehensive approach to halal education.

In response to the challenges posed by the pandemic, this capacity-building initiative was conducted via Zoom, utilizing an innovative online platform for all training and seminars. Collaborating with Universiti Teknologi Mara (UiTM), a recognized learning provider, further strengthened the project's impact by incorporating international expertise and perspectives on business management, marketing, theoretical aspects of halal slaughtering, and halal animal health and nutrition.

The program saw a remarkable increase in participation, with the number of faculty members attending onsite training rising from the targeted six to 21 participants who completed the online training sessions. This expansion provided additional opportunities for interested personnel to engage with the material, thereby broadening the knowledge base of the participants and promoting global understanding and cooperation in halal practices.

To ensure the program's effectiveness, pre-tests and post-tests were administered by Dr. Ismah Osman. These assessments played a crucial role in measuring the participants' learning outcomes and evaluating the training's impact. The results indicated significant improvements in the participants' understanding of halal practices, emphasizing the success of the training program in achieving its educational objectives. According to Dr. Ismah Osman, the post-test results improved significantly from 30% to 85%.

The Training of Trainers (TOT) on Halal Business Management, Entrepreneurship, auditing, and marketing was conducted at ACCESS Campus from September 14-16 and 24-25, 2020. Five faculty



members participated, engaging in discussions with resource person Dr. Ismah Osman, a faculty member from Universiti Teknologi Mara, Malaysia. Despite the challenges posed by the pandemic, the training provided a valuable opportunity for participants to deepen their understanding of halal practices and acquire knowledge to implement halal standards in the field. The discussions covered various aspects of the global halal industry, including halal business principles, certification, Islamic finance, and entrepreneurship, particularly for small and medium enterprises (SMEs). Likewise, an online training session on halal animal health and nutrition included comprehensive topics such as Islamic Perspective on Halal Mutton, Feed Act 2009 Regulations, Animal Welfare and Feed Accountabilities, Islamic Declaration on Animal Feed, Impact of Biotechnology on Halal Standards, Halal Slaughtering Practices, Food Processing and Halal Issues, Halal Raw Materials and Ingredients, Halal Assurance Management System, Documentation and Certification Processes. Resource speakers utilized workshops, case studies, and mini-tests to enhance learning outcomes. The online trainings successfully concluded with awarding certificates of completion for the participants with a complementary book on halal was given through the focal person Dr. Osman and shipped to us in the University.

Project Objective 3: Strengthen Partnership With Local and International Academic Institutions for The Conduct of The Collaborative Research on Halal

The initiative to strengthen partnerships with local and international academic institutions for collaborative research on halal practices demonstrates a strong commitment to global knowledge sharing. The preparation of a Memorandum of Agreement (MOA) with Universiti Teknologi Mara, Malaysia, in August 2021 emphasizes this commitment, despite challenges posed by the COVID-19 pandemic that disrupted many academic collaborations. The opportunity to collaborate with Indonesia and the Philippine Science High School faced significant setbacks due to the COVID-19 pandemic, which imposed strict lockdowns and led to unexpected work suspensions in the region. These challenges disrupted not only planned activities but also the possibility of meaningful discussion and collaboration in educational research undertakings.

Project Objective 4: Establish the Halal Goat Science and Innovation Center

Halal Goat Science and Innovation Center (HGSIC)

The Halal Goat Science and Innovation Centre (HGSIC) is a facility refurbished and enhanced to meet the halal industry's training and certification demands. With an Approved Budget for Contract (ABC) of PHP 10,500,000.00 and a completion dated October 1, 2021, the center included a testing/training room equipped with modern facilities and separate comfort rooms for male and female trainees, a welcoming lounge for visitors, industry partners, and stakeholders, a Muslim prayer room furnished with prayer mats for privacy and tranquility, an office room with a private comfort room for staff convenience, an e-learning module room (computer lab) with internet access for interactive online training, and completed perimeter fence and gate. The HGSIC is designed as a TESDA-ready facility for inspection and approval to be the training & assessment center that will cater to various learners aspiring for National Certificate II in agriculture and other commodities.

The HGSIC is a Shariah-compliant facility, particularly with its designated prayer space for Muslim employees and guests. This facility emphasizes dedication to Islamic principles, ensuring that the environment is conducive to prayer and meditation and promotes the Muslim community's beliefs. The prayer space is designed and laid out to meet the needs of its users while adhering to Islamic guidelines. It is oriented towards the Qiblah and includes a directional compass to assist worshippers in facing Mecca during Salah (prayer). Prayer mats are available to ensure comfort and cleanliness during prayer. The facility has an appropriate space for the Qur'an, emphasizing the sanctity of the Holy Book.

Then, in preparation for prayer, Wudhu (ablution) is required. The Center includes clean water and the availability of bidets or hand showers to comfortably purify worshippers. HGSIC not only upholds Islamic beliefs but also builds a community that appreciates and demonstrates worship and reflection. This approach can be adopted as an example by organizations that seek to institute a Muslim-friendly establishment. Meanwhile, during the duration of the project, the facility is utilized for significant events



such as student research expositions, evaluations by the Commission on Higher Education (CHED), and visits from the Professional Regulation Commission (PRC) for Certificate of Program Compliance. The documentation of these activities, presented in the appendices, further illustrates the impact of the HGSIC on the academic setting at SKSU.

Halal Slaughterhouse as Double "A" Compliant

The National Meat Inspection Service (NMIS) has officially registered and accredited a Halal Slaughterhouse with a Double "A" standard following a rigorous evaluation and thorough audit conducted by regulatory authorities. This accreditation process involved multiple stages to ensure full compliance with statutory requirements. Key steps included obtaining a Certificate of Non-Coverage (CNC) from the Department of Environment and Natural Resources (DENR) through the Environmental Management Bureau, conducting water quality analyses in South Cotabato, completing the current Good Manufacturing Practices (cGMP) and Sanitation Standard Operating Procedures (SSOP), and implementing necessary fire safety and sanitation measures. Coordination with the Local Government Unit of Lutayan was also essential to meet these requirements. The NMIS team conducted an onsite audit of the facility, during which findings were discussed to address **Figure 16**. SKSU Halal Goat compliance issues are addressed promptly. Once the necessary Slaughterhouse License to Operate documentary requirements were completed and physical improvements were implemented, a final audit was conducted. And that the halal slaughterhouse successfully passed the compliance evaluations.

During the audit, an NMIS representative noted that this is the only Halal slaughterhouse in the region to achieve compliance with the Double "A" standard, highlighting its unique status as a halal-compliant facility. Despite the challenges posed by the pandemic, NMIS Regional Director Hagonon conducted an informal awarding ceremony at the NMIS Region XII office to present the certificate of registration and issue the License to Operate with number SH-1135AA. The successful accreditation of this Halal slaughterhouse not only highlights its commitment to maintaining high operational standards but also positions it as a model for a halal acceptable slaughterhouse in the region.

Halal-Compliant Goat House

The constructed halal-compliant goat house is a livestock facility designed specifically for halal goat rearing. This is constructed with distinct elements that distinguish it above the typical goat house and ensure halal compliance. To improve cleanliness and hygiene, it is designed with slatted floors and elevated at least 1 meter from the ground, similar to a conventional goat house. The pen is strategically positioned in an elevated area that receives sufficient sunlight, which is important for the goats' health. To avoid contamination and maintain a clean environment, it is located 200 meters away from residential areas, including piggery pens, toilets, canals, and factories that adhere to halal requirements (PNS 2018). The structure, made of high-quality lumber, is 10 meters by 16 meters and is positioned to provide a safe and appropriate environment. The interior is divided into 19 partitions: three larger areas on the left, each with up to 15 goats, and sixteen smaller areas on the right, each with one goat, for a total of 57 goats. These walls are built inside the pen to separate different groups of goats. This separation helps in the efficient management of the herd, minimizing animal stress. Furthermore, biosecurity is implemented to prevent non-halal entities from entering the goat farm and to constrain the risk of haram entities being transported into the farm by humans, animals, equipment, or vehicles. Moreover, our farm workers, who were previously trained in halal concepts and husbandry, were rehired to maintain the facility, handling tasks like cleaning, feeding, and health monitoring.

Establishment of Pasture Area and Forage Management

The Board of Regents approved resolution no. 117-2023 to institutionalize the project's outputs, including the Halal slaughterhouse, Halal Goat Innovation Center, and Halal goat farm production in the Lutayan campus. Recently, the University Research Development and Extension Council (URDEC) unanimously endorsed the revised RD&E Organizational Structure, which was favorably approved by the Board of Regents during their regular meeting on July 12, 2024, in Zamboanga City.

The Institute for Halal Sciences has submitted a proposed budget and Project Procurement Management Plan (PPMP) for 2025 to facilitate the implementation of key activities. Additionally, the institute plans to develop income-generating projects for the Halal Goat Innovation Center (HGIC) for rental as the venue for seminars/trainings, TESDA scholarship assessment, and the like. On the other



hand, our forage garden has potential for seed production offered for sale, which will support financial sustainability. Upon approval, the institute will also create the Implementing Rules and Regulations (IRR) for the HGIC, providing a clear basis for operations and ensuring compliance with existing laws and regulations. These initiatives reflect the institute's commitment to advancing the halal industry and ensuring the long-term viability of the HGIC.

CONCLUSIONS

The research findings indicate a significant interest among BSA and BAT freshmen in Agriculture, particularly in the specialized field of Halal Goat Science. This enthusiasm is notably evident among students reflecting the project's alignment with their career aspirations. The capacity-building initiatives, involving twenty-five (25) faculty and staff in specialized training in collaboration with Universiti Teknologi Mara of Malaysia, represent a commendable effort to enhance knowledge and skills in the domain of halal practices in Halal Business Management & Entrepreneurship and Halal Meat and Food Processing which allows faculty to promote halal practices integration. Additionally, the TESDA skills training provided to 6 out of 10 NC-II passers in Animal Production (Ruminant) with Halal husbandry integration enriches the landscape of halal goat farming with valuable technical and theoretical experiences.

In terms of contributions, the project has successfully produced and utilized a module entitled "The Current Good Manufacturing Practices, SKSU Small Ruminant Halal Slaughterhouse." This tangible outcome manifests the project's commitment to disseminating knowledge and advancing practices in halal goat science. The physical transformation of the Center of Community (COC) into the Halal Goat Innovation Center (HGIC), complete with a refurbished training facility, a constructed goat house, and a 1.5-hectare forage garden, signifies a concrete step towards establishing a model farm for halal goat raising. While all four project deliverables have been successfully achieved, the establishment of partnerships through the forging of Memoranda of Agreement (MOA) presented challenges throughout the project duration.

Amidst obstacles and disruptions caused by the pandemic, the project team exhibited unwavering dedication, ensuring the completion of all tasks as planned. Opportunities emerged through field observations and interactions, providing valuable insights and fostering professional connections. Despite the encountered challenges, the resilience of the team has ensured the realization of the project's objectives. Looking ahead, the continued investment in people services will be essential in sustaining and expanding the impact of Project 4 in the field of halal goat science. The project's success, coupled with the dedication demonstrated by the team, positions it as a catalyst for ongoing advancements and contributions to the increasing opportunities in the halal goat industry in the region.

REFERENCES

- Ab Talib, M. S., & Zulfakar, M. H. (2023). Sustainable halal food supply chain management in a small rentier halal market. *Arab Gulf Journal of Scientific Research*. <https://doi.org/10.1108/AGJSR-11-2022-0251>
- Alcedo, M. J., Ito, K., & Maeda, K. (2015). Stockmanship competence and its relation to productivity and economic profitability: The context of backyard goat production in the Philippines. *Asian-Australasian Journal of Animal Sciences*, 28(3), 428–434. <https://doi.org/10.5713/ajas.14.0693>
- Aziza, N., Prasnowo, M. A., & Khoirul Hidayat. (2020). Halal Tourism, Certification Regulation, and Research Institute Insight From IMT-GT Countries: A Review. *International Journal of Science, Technology & Management*, 1(3), 265–272. <https://doi.org/10.46729/ijstm.v1i3.52>
- Beltran, J. C., Daplin, K. M. A., Relado-Sevilla, R. Z., Bordey, F. H., Manalili, R. G., Arida, I. A., ... Moya, P. F. (2021). Productivity and Profitability of Aromatic Rice Production in the Philippines. *International Journal of Sustainable Agricultural Research*, 8(4), 209–221. <https://doi.org/10.18488/journal.70.2021.84.209.221>
- Iberahim, H., Kamaruddin, R., & Shabudin, A. (2015). Halal development system: The institutional framework, issues and challenges for halal logistics. In *ISBEIA 2012 - IEEE Symposium on Business, Engineering and Industrial Applications* (pp. 760–765). <https://doi.org/10.1109/ISBEIA.2012.6422993>



- Intong, R. L. (2018). Feeding Management of Backyard Goats in Northern Mindanao, Philippines. *International Journal of Science and Research*, 8. Retrieved from www.ijsr.net
- Islam, M. M., Ab Talib, M. S., & Muhamad, N. (2024). Developing theoretical lenses for upstream halal businesses. *Journal of Islamic Marketing*, 15(1), 192–220. <https://doi.org/10.1108/JIMA-05-2022-0156>
- Jenkins, W. Y. (2015). Marketing Strategies for Profitability in Small Independent Restaurants. Walden University ScholarWorks.
- Joeliaty, J., Ahmad Faisal, Y., & Wendra, W. (2020). An Analysis of Strategy Formulation for Halal Hotel Human Resources in Indonesia. *Cogent Business and Management*, 7(1). <https://doi.org/10.1080/23311975.2020.1842008>
- Joeliaty, J., Noni Evita, S., & Ode Zunita, W. (2021). Readiness of Islamic Human Resources In Supporting The Development of Halal Tourism In West Jawa (Evidence From Hospitality Industry). *Journal of Economics and Business UBS*, 10(1), 23–32. <https://doi.org/10.52644/joeb.v10i1.50>
- Karia, N., & Abu Hassan Assari, M. H. (2015). Enhancing Halal Sustainability: Resources and Capabilities of Operations in Third-Party Logistics (3PL). *Advances in Business and Economic Development*, (October), 206–211.
- Lim, Y. H., Lada, S., Ullah, R., & Abdul Adis, A. A. (2022). Non-Muslim consumers' intention to purchase halal food products in Malaysia. *Journal of Islamic Marketing*, 13(3), 586–607. <https://doi.org/10.1108/JIMA-06-2020-0172>
- Mamalinta Normina A. (2023). ASSESSMENT OF RESEARCH MANAGEMENT PRACTICES OF THE HALAL GOAT PROJECT OF SKSU. *EPRA International Journal of Research & Development (IJRD)*, 107–113. <https://doi.org/10.36713/epra13545>
- Pakeechay, K., Klomklaw, K., Niwes, A., Amsaard, P., Wilamas, C., & Thongaram, J. (2022). An Adaptation of the Goat Business throughout the Supply Chain in the Spread of Viral Diseases Corona 2019 in Phra Nakhon Si Ayutthaya Province, Thailand. *International Journal of Early Childhood Special Education*, 14(1), 1516–1531.
- Putra, E. D. (2023). Halal Assurance on Products in Indonesia as a Majority Muslim Country (pp. 176–185). https://doi.org/10.2991/978-2-38476-074-9_20
- Sabow, A. B., Sazili, A. Q., Zulkifli, I., Goh, Y. M., Ab Kadir, M. Z. A., Abdulla, N. R., ... Adeyemi, K. D. (2015). A comparison of bleeding efficiency, microbiological quality and lipid oxidation in goats subjected to conscious halal slaughter and slaughter following minimal anesthesia. *Meat Science*, 104, 78–84. <https://doi.org/10.1016/j.meatsci.2015.02.004>
- Salvaña, F. R. P., Sepelagio, E. G., Sanchez, C. B., Besana, C. M., Kamamang, J. S., & Cardenas, L. B. (2019). Inventory and diversity of forages utilized by farmers raising goats in Halal way: The case of Region XII, Philippines. *Journal of Livestock Science*, 10(2). <https://doi.org/10.33259/jlivestsci.2019.118-125>
- Sanchez, C. B., Salvaña, F. R. P., Sepelagio, E. G., & Cardenas, L. B. (2020). Challenges in goat production faced by halal goat raisers in region xii (Soccsksargen), Philippines. *Agricultural Science Digest*, 40(1), 77–83. <https://doi.org/10.18805/ag.D-209>
- Soehardi, D. V. L. (2022). Development of Human Resources in the Field of Halal Tourism in the Era of Disruption. *Proceeding of Annual Conference on Islamic Economy and Law*, 1(2), 118–129. <https://doi.org/10.21107/aci.v1i2.81>
- Susilawati, N., & Bon, A. T. B. (2023). Purchase of Halal Products for Muslim Households in Indonesia. *Migration Letters*, 20(6), 545–553. <https://doi.org/10.59670/ml.v20i6.3504>
- Tengku Mansor, T. R., & Daud, Z. (2020). The Effects of Entrepreneurial Resources on The Performance of Malay-Owned SME in the Halal Food Industries in Malaysia. *Albukhary Social Business Journal*, 1(1), 46–60. <https://doi.org/10.55862/asbjv1i1a005>
- Tongol, M. A. S., Pillones, C. T., & Pardillo, N. A. (2023). Management Practices of Backyard Goat Raisers in Negros Occidental, Philippines. *International Journal of Scientific and Research Publications*, 13(3). <https://doi.org/10.29322/ijsrp.13.03.2023.p13511>
- Undong, M. E. (2023). Awareness of Beneficiaries on the School-On-Air (SOA) Program of the Department of Agriculture on Halal Goat Production in Maguindanao. *Asian Research Journal of Agriculture*, 16(2), 23–36. <https://doi.org/10.9734/arja/2023/v16i2384>



- Waijittragum, P. (2016). Design Trends of Thai Halal Products Packaging for Muslim Country: Malaysia Convenience Goods. *International Journal of Social Science and Humanity*, 6(2), 98–102. <https://doi.org/10.7763/ijssh.2016.v6.626>
- Yuli, S. B. C., & Wojtyla, E. (2020). Challenges and strategies in developing human resources for the halal industry: Evidence from Indonesia. *Journal of Innovation in Business and Economics*, 4(02), 77–86. <https://doi.org/10.22219/jibe.v4i02.8270>

