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TECHNOLOGY NEEDS ASSESSMENT (TNA) REPORT	
AGENCY NAME:	**Occidental Mindoro State College (OMSC)**
ADDRESS:	Brgy. Labangan, San Jose Occidental Mindoro

SCOPE OF ASSESSMENT*

The TNA covered the following areas:

1. Strategic Direction
   a. Vision and mission
   b. Plans and Objectives
   c. Strategic alliances and current agreement

2. Management Aspect
   a. Human resource management
   b. Purchasing
   c. Work environment
   d. Corporate social responsibility
   e. Occupational health and safety management

3. Technical Aspect
   a. Operational and outsourcing practices
      -production system
      -production planning and control
      -production lay-out
      -work improvement
      -equipment management and maintenance
      -quality assurance system
      -outsourcing practices
   b. Product and Process Performance and Improvement
      -reengineering and Research and Development
      -Procedures for continuous improvement
      -Product Quality standards
   c. Environmental Management System
      -Waste management

4. Marketing Aspect
   a. Marketing plan
   b. Market outlets and number

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Name of TNA Team Leader

Attested by Jerry B. Mercado Signature _____ Date 09/28/23
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c. Promotional strategies
d. Market competitors
e. Packaging

5. Finance
   a. Cash flow and other related documents
   b. Sources of capital
   c. Accounting system

*** Scope of TNA is based on Technology Assessment Plan (TAP)**

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SUMMARY OF ASSESSMENT

BACKGROUND

Based on the 2021-2026 Philippine Salt Industry Roadmap, Occidental Mindoro is considered as the largest salt producer in the country contributing to approximately 65, 000 MT for 876 ha annually (Khongun, 2020). But a factor affecting the salt production in the province causes the decline and placed the salt industry in a thriving situation. The changing climate conditions, environmental factors, declining labor workforce and availability of materials for salt beds are considered as the major players triggering the reputation of the province in salt industry. Most of the salt ponds in the province still uses the traditional evaporation ponds with salt beds made up of tiles laid purposely to store the salt water, and provides an area for crystallization to occur and where harvesting of salt crystals took place. Clay tiles prevent the salt from coming into contact with the soil and avoid the intrusion of impurities in the white crystals. Therefore, salt bed tiles are vital components of salt farms that need to be examined to determine its capability to yield maximum production and good quality. Salt beds tiles or commonly known as "tisa" is a product of an oven-dried or kiln dried clay. At present there are almost 35, 000 salt beds in the province (TAMACO, 2023). Most of the clay tiles were from Ilocos Region but the province is now facing insufficient sources of raw materials: Vigan clay and the woods for kiln and as triggered by the shifting of traditional pottery to plastic technology. These problems were felt by the local salt producers as Vigan tiles are gradually disappearing. At most, 750 kilos of tiles is needed for a new salt bed; and an average of 2-3% for every three years tile replacement. But the availability of the kiln and furnaces are limited in the province and feedback from the users of local tiles stated weak property of the clay tiles to resist the salt intrusion and tend to pulverize in a small period of time. As the salt industry embraces

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the development of technology to optimize the salt production processes, one possible solution is the development of a fuel-efficient kiln to sustain the needs for salt bed tiles. This prompted the development of the proposed fuel-efficient cross-draft kiln that can offer an automated system considering the uniform heat distribution and optimum production capacity.

METHODOLOGY

The technology needs assessment (TNA) was conducted through an ocular inspection of the proposed fabrication area. Interview with the local salt farmers was done to get information on how the operation will go as well as the plans and requests of the Occidental Mindoro State College (OMSC). TNA leader also had his assessment and observations regarding the issues and future direction of the proposed project.

Summary of Findings

1. **Strategic Direction**

   a. **Vision and mission**

      A concrete mission and vision statement is not present since it is their first time to put up this kind of research on garlic. However, Occidental Mindoro State College (OMSC) envisions that project will help in improving the farm management of local salt farmers which aim to reduce cost of production.

   b. **Plans and Objectives**

      DOST-Mimaropa thru PSTO Occ. Mdo. With Occidental Mindoro State College (OMSC) aims to improve the farming management of local salt farmers of Occidental Mindoro through Technology-based Innovations.

      Once the proposed assistance is acquired, assessment will be made for the impact and effectiveness.

   c. **Strategic alliances and current agreements**

      The Occidental Mindoro State College (OMSC) has no specific strategic alliances or agreements related to this project.

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2. Management Aspect

a. Human resources

Occidental Mindoro State College (OMSC) will designated a project leader/focal person who will be accountable for the conduct of study.

b. Purchasing

The Occidental Mindoro State College (OMSC) has a procurement system that follows government rules, laws and regulations.

c. Work Environment

The Occidental Mindoro State College (OMSC) is ISO certified, which establishes a quality work environment.

d. Business Ethics and Social Responsibility

As a State University, OMSC is mandated through its fourfold function, to conduct extension and technical advisory services. The RA 8250 otherwise known as the General Appropriations Act mandates SUCs to conduct extension activities with the purpose of initiating, catalyzing, and sustaining the development of various communities, using expertise and available resources. Similarly, the RA 8435, also known as the Agriculture and Fisheries Modernization Act (AFMA), directs SUCs to prioritize research, extension, and development, and to primarily utilize research results through formal and non-formal education, extension, and training services.

Similarly, Republic Act 7722 mandates institutions of higher learning like State Universities and Colleges (SUCs) to respond to the call for societal transformation. The aim is to serve the poorest of the poor, the less privileged, the deprived and the oppressed (Elman,1998). Moreover, the DBM and CHED Joint Circular No. 1-B,s 2007 takes into account the level of performance of an institution in the areas of instruction, research and extension, as well as the management of resources.

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e. **Occupational Health and Safety Management**

The Occidental Mindoro State College (OMSC) is ISO certified, which means that health and safety policies, systems, standards, and records, is incorporated in the different activities and program of the institutions.

3. **Technical Aspect**

a. **Operational and Outsourcing Practices**

Production system

NA

Production Planning and Control

NA

Production Layout

NA

Work Study/Improvement

Not yet practiced/ implemented.

Equipment Management and Maintenance

Scheduled equipment maintenance will be practiced once the research study has been operationalized.

Quality Assurance System

No planned warranty system.

Outsourcing Practices

This practice will be done once necessity has been determined.

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b. Product and Process Performance and Improvement

Re-engineering and Research and Development

Upon the conduct of the study this will be practiced

Performance Measures and Results – Process

Upon the conduct of the study this will be practiced

Performance Measures and Results – Product

Upon the conduct of the study this will be practiced

Procedures for Continuous Improvement

Upon the conduct of the study this will be practiced

Product Quality Standards

Upon the conduct of the study this will be practiced

c. Environmental Management System

Waste Management

NA

4. Marketing Aspect

a. Marketing Plan

Once the technology is validated and proven effective the product will be sold to the members of the salt farmers cooperative (TAMACO)

b. Market Outlets

None

c. Promotional Activities

Promotional activities will be done one the technology is optimized.

d. Market Competitors

With the kind of the product to be produced there is no local competitors.

5. Finance

a. Cash Flow and other related documents.

None

b. Source of capital/credit

National Budget

c. Accounting System

Agency internal accounting system based on Philippine Laws, Rules and Regulations on accounting procedure.

CONCLUSIONS

Based on the interview and ocular inspection the TNA team concludes the following:

1. The Occidental Mindoro State College (OMSC) is committed to enhancing the salt production industry in the province by leveraging innovation. One of their key projects involves the development of a fuel-efficient kiln to produce salt bed tiles. This initiative aims to improve the efficiency of the salt production process by reducing the amount of fuel required, thereby lowering production costs and minimizing environmental impact. By focusing on such technological advancements, OMSC supports local producers in making their operations more sustainable and productive, contributing to the economic development of Occidental Mindoro.

2. To facilitate the successful integration of new technologies, OMSC will proactively introduce and optimize these advancements. This involves providing farmers with access to recommended technologies and ensuring they are adapted to the local context. Recognizing the importance of knowledge transfer and skill development, OMSC will conduct training sessions for local salt

farmers on utilizing the technology. These programs will cover various aspects, including proper application, understanding the benefits, and mastering necessary skills for successful implementation. By actively engaging and educating farmers, OMSC aims to empower them with the knowledge and tools needed to maximize the benefits of these technologies. OMSC's initiative not only involves recommending advanced technologies for salt production but also actively participating in their introduction, optimization, and providing training to ensure successful adoption by local farmers in Occidental Mindoro.

RECOMMENDATIONS

The following are recommended by the TNA team:

1. The Department of Science and Technology (DOST) MIMAROPA should extend its assistance to Occidental Mindoro State College (OMSC) in the development of their fuel-efficient kiln for salt bed tile technology. This support could be pivotal in advancing OMSC's innovative efforts to enhance salt production in Occidental Mindoro. By providing technical expertise, funding, and resources, DOST MIMAROPA can help ensure the successful development and implementation of this technology. Such collaboration would not only benefit the college and local salt producers but also contribute to the overall economic and technological progress of the region

2. The Department of Science and Technology (DOST) MIMAROPA should assist Occidental Mindoro State College (OMSC) in conducting studies, training sessions, and orientations on the fuel-efficient kiln technology for salt bed tiles to ensure its proper implementation. This assistance would involve supporting comprehensive research to optimize the technology, providing expert-led training programs to equip local salt producers with the necessary skills, and organizing orientation sessions to familiarize them with the technology's benefits and applications. Through this collaborative effort, DOST MIMAROPA can help OMSC achieve successful technology transfer, empowering local farmers to enhance their production processes and contributing to the sustainable development of the region's salt industry.

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