

**APPLICATION FOR TECHNOLOGY NEEDS ASSESSMENT**

Name of Community: Romblon State University - Center for Innovative Learning and Enterprise Development at the Romblon State University (RSU-CiLearnED)		
Contact Person: Dr. Bilshan F. Servañez	Position in the Enterprise: Director	
Office Address: Brgy. Liwanag, Odiongan, Romblon	Tel. No.	Fax No.
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Factory Address: Brgy. Liwanag, Odiongan, Romblon	Tel. No.	Fax No.
	E-mail Address:	
Website:		

**GENERAL AGREEMENTS:**

1. The applicant shall, at the earliest opportunity, make available to the DOST Regional Office No. 4B (DOST-MIMAROPA) all information (manuals, procedures, etc.) required to establish the technology status of the selected core business functions and management systems;
2. If DOST-MIMAROPA is not satisfied that all the requirements for business registration are complied with, it shall inform the applicant of the observed deficiencies before starting the assessment;
3. When the required inputs to the assessment are already supplied by the applicant, including Attachment A, the DOST-MIMAROPA will assess the firm through the core business functions and management systems, whichever is applicable, to identify technology needs and verify compliance to standards vis-à-vis existing practices;
4. When the DOST-MIMAROPA has completed the technology assessment, a report will be prepared on the results of the assessment with accompanying recommendations and opportunities for improvement. The report prepared will define the scope of activities, functions, management practices and locations assessed. The applicant shall not claim or otherwise imply that the report applies to other locations, product or activities not covered by the report;

5. The applicant agrees that the report will not be used until permission has been granted by the DOST-MIMAROPA;
6. The applicant agrees that the receipt or acknowledgment of the report ends the assessment stage; any technical assistance ensuing from the recommendations of the report will be viewed as a separate project.

#### **UNDERTAKING**

**I agree to undertake and observe the above General Agreements as stipulated by the Department of Science and Technology Regional Office No. 4B.**

  
**DR. BILSHAN F. SERVAÑEZ**

\_\_\_\_\_  
**Signature over Printed Name**

**Director, CiLearnED@RSU**

\_\_\_\_\_  
**Position in the Enterprise**

**July 31, 2024**

\_\_\_\_\_  
**Date**

**Enterprise Profile**

Name of Enterprise Romblon State University - Center for Innovative Learning and Enterprise Development at the Romblon State University (RSU-CiLearnED)

Production Site/Location Brgy. Liwanag, Odiongan, Romblon

Business Permit No. N/A Year Registered N/A

Brief Enterprise Background \_\_\_\_\_

The Romblon State University-Center for Innovative Learning and Enterprise Development (RSU-CiLearnED) serves as the university's business unit for Research & Development and Engineering. In the recent projects, the woodworking and metalworking school factories were established by DOST-MIMAROPA, equipping the facilities with state-of-the-art machinery that meets industry standards. This strategic initiative enabled the school factory to kickstart the production of various essential items, including student desks, faculty cubicles, bookshelves, computer laboratory tables, office tables, conference tables, and more.

Building on this foundation, the school factory further expanded its capabilities by producing bamboo-laminated student desks and tables, made possible through the provision of equipment by DOST and NEDA. This expansion reflects a continuous effort to enhance the quality and variety of products while adhering to sustainable practices.

In an earlier project, DOST-MIMAROPA provided marble packaging boxes for small and medium-sized marble novelty products such as lampshades, ashtrays, canisters, bowls, pencil cups, trays, shot glasses, and almires. However, some marble novelty products are larger and heavier, making them unsuitable for these packaging boxes. To address this, RSU-CiLearnED is exploring the design and production of laminated bamboo boxes and crates to accommodate these heavier products. This initiative aims to elevate the Romblon marble industry by leveraging laser technology to etch producers' names on the bamboo-laminated boxes and crates, thereby enhancing branding, appeal, and salability of marble products.

Year enterprise was established: N/A Initial Capitalization: N/A

Type of Organization: ☐ Single proprietorship

☐ Association

☐ Partnership

☐ Corporation

☐ Profit

☐ Non-profit

☐ LGU/bLGU

Enterprise Registration No. N/A Year Registered N/A

Classification according to capital (Php) Present capitalization N/A

☐ Micro (less than 1.5 M)

☐ Small (1.5 – 15 M)

☐ Medium (15 – 100 M)

Classification according to employment (number of employees)

- ☐ Micro (1 – 9)  
☐ Small (10 – 99)  
☐ Medium (100 – 199)

Number of Employees:

Direct Workers	M:	F:
Production	M: ____	F: ____
Non-production	M: ____	F: ____
Indirect/Contract Workers	M: ____	F: ____
Total	M: ____	F: ____

Business Activity:

- ☐ Food processing (please specify commodity) \_\_\_\_\_
- ☐ Furniture (please specify commodity) \_\_\_\_\_
- ☐ Gifts, decors, handicrafts (please specify commodity) \_\_\_\_\_
- ☒ / Metals and engineering (please specify commodity) Bamboo-laminated student desks and chairs
- ☐ Agriculture/Marine/Aquaculture (please specify commodity) \_\_\_\_\_
- ☐ Health products and pharmaceuticals (please specify commodity) \_\_\_\_\_
- ☐ Information and Communications Technology (ICT) products (please specify commodity) \_\_\_\_\_
- ☐ Others, please specify \_\_\_\_\_

1. Specific product or service the enterprise offers its customers:

To date, the woodworking and metalworking school factories of RSU-CiLearnED runs like a business enterprise with generating profit. The factory produces durable and quality finished office tables, conference tables, bookshelves, faculty cubicle, computer laboratory tables, and bamboo-laminated student desks and chairs.

2. Reasons why assistance is being sought:

In an earlier project, DOST-MIMAROPA provided marble packaging boxes for small and medium-sized marble novelty products such as lampshades, ashtrays, canisters, bowls, pencil cups, trays, shot glasses, and almires. However, some marble novelty products are larger and heavier, making them unsuitable for these packaging boxes. To address this, bamboo-laminated boxes and crates with etched producer's name would be

introduced. These will be manufactured by the school factory, enhancing branding through the use of laser technology.

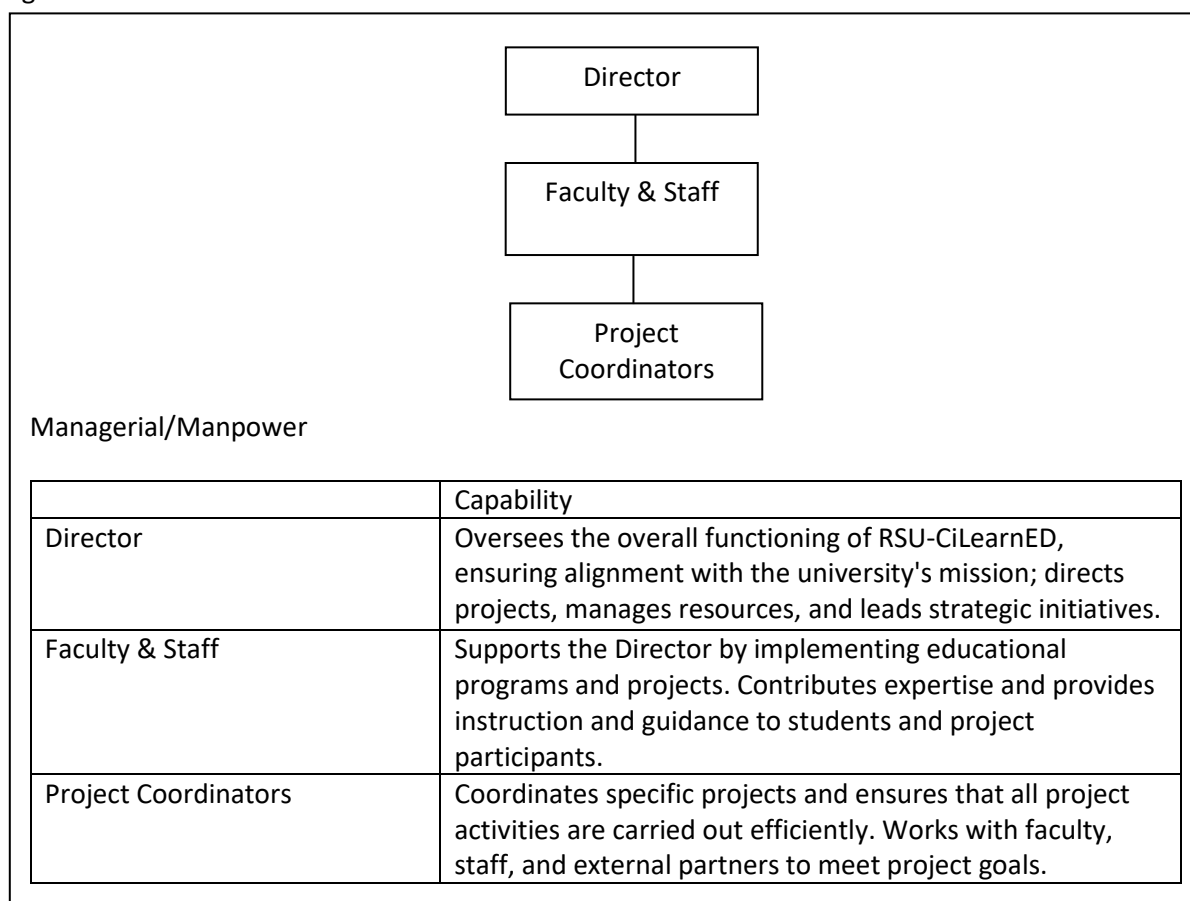
3. Have you consulted any other individual/organization for any assistance?

☐ If Yes, which company/ agency? Please specify the type of assistance sought

Yes, RSU-CiLearnED consulted with marble producers and the market regarding the need for marble packaging. Additionally, RSU-CiLearnED engaged with various experts from both government and non-government stakeholders to further enhance the quality and branding of Romblon marble novelty products.

☐ If No, why not?

#### Organizational Structure



4. Enterprise's plan for the next 5 years?

RSU-CiLearnED plans to expand its product offerings by advancing packaging solutions for Romblon marble novelty products, focusing on creating laminated bamboo boxes and crates to accommodate larger and heavier items. By integrating laser technology for precise branding and etching, the enterprise aims to enhance the marketability of its products, making them more appealing to discerning customers. Additionally, the use of laminated

bamboo underscores a commitment to sustainability, reflecting a long-term strategy to adopt environmentally friendly practices while supporting the marble industry.

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Next 10 years?

RSU-CiLearnED aims to lead in innovative, sustainable packaging for Romblon marble by adopting advanced technologies and renewable materials like laminated bamboo. It plans to expand into new markets, build strategic partnerships, and strengthen its position as a key player in the premium marble industry, known for eco-friendly, high-quality packaging solutions.

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#### 5. Current agreements and alliances undertaken

The RSU actively collaborates with partners in the province. For instance, through the DOST-MIMAROPA's government-academe-industry trilateral consultations, gaps in the industry that needs to be addressed and corresponding proposed solutions are identified.

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### BENCHMARK INFORMATION

#### ■ Production and Supply Chain

##### ➤ Raw Material

Raw Material	Source	Unit Cost (₱)	Volume Used/Year
N/A			

##### ➤ Production

Product	Volume of Production/Year	Unit Cost of Production (₱)	Annual Cost of Production (₱)
N/A			
TOTAL			

##### ➤ Production Equipment

Type of Equipment	Specifications	Capacity
N/A		

##### ➤ Problems and Concerns

The primary challenges involve developing stronger, more sustainable packaging solutions for heavier Romblon marble novelty products, which are currently inadequately supported by existing packaging. Additionally, optimizing the use of laser technology for branding is

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essential to enhance the market appeal and value of these products. Achieving these objectives would require strengthened collaboration between the academe, government agencies, and the marble industry.

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➤ Production Waste Management System

The school factory emphasizes the efficient use of raw materials to minimize waste. Wood and metal scraps generated during production are either repurposed for smaller projects or recycled. Accumulated sawdust and wood shavings are used as compost material, while metal off-cuts are collected for recycling. The school factory is committed to sustainable practices by ensuring that any non-reusable waste is responsibly disposed of, thus significantly reducing the environmental impact of its operations.

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➤ Production Plan

To enhance Romblon marble packaging by designing laminated bamboo boxes and crates for heavier marble novelty products, incorporating laser technology to enhance branding and market appeal.

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➤ Inventory System

N/A

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➤ Maintenance Program

Maintenance program includes regular inspection of the existing equipment to ensure consistent performance. Also, training on proper operation and maintenance of the equipment is usually provided before kickstarting of operation, ensuring the operators to handle maintenance tasks and promptly address any issues to maintain the quality and efficiency of the operation.

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➤ cGMP/HACCP Activities

To ensure the quality and safety of the facility, stringent monitoring of raw materials, proper handling of equipment, and regular sanitation are rigorously implemented. Operators are trained on Occupational Safety and Health to enhance workplace organization and efficiency, ensuring that the facility meets high standards and provides a safe environment.

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➤ Supplies/Purchasing System

The school factory taps local suppliers to ensure steady and sustainable supply. Income from production of office tables, desks and chairs, bookshelves, workspace cubicle and others is used to purchase supplies.

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▪ **Marketing**

➤ Marketing Plan

The RSU maintains networks and linkages with marble producers and distributors.

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➤ Market Outlets and Number

N/A

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➤ Promotional Strategies

Promotion and advocacy strategies to promote the products of the facility are undertaken. The strategies include development of IEC materials and dissemination through formal presentations during meetings and conferences.

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➤ Market Competitors

Competition is not an issue because the school factory has state-of-the-art equipment, while other competitors lack access to the same advanced technology.

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➤ Packaging

○ Nutrition Evaluation	N/A
○ Bar Code	N/A
○ Product Label	N/A
○ Expiry Date	N/A

▪ **Finance**

➤ Cash Flow or other related documents

The RSU has its own finance and administrative division to handle and manage its finances.

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➤ Source(s) of capital/credit

The RSU has its own source of revolving capital for the operations of the school factory under the RSU-CiLearnED.

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➤ Accounting System

The RSU follows the usual accounting rules and regulations for government entities.

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▪ **Human Resources**



➤ Hiring and Criteria

The Human Resource Management Office (HRMO) of the RSU handles and manages its human resources as governed by the guidelines of the Civil Service Commission.

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➤ Incentives to Employees

N/A

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➤ Training and Development

Necessary training is provided to operators, including proper operation and maintenance of equipment, capability training programs to enhance product quality, and other related technology training opportunities.

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➤ Safety Measures Practiced

Safety measures are practiced during production based on the training provided.

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➤ Other Employee Welfare

N/A

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▪ Other Concerns

N/A

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Prepared by:

  
**DR. BILSHAN F. SERVAÑEZ**  
Director, RSU-CiLearnED

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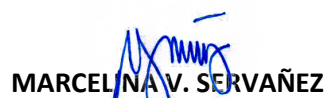
Printed Name and Signature of  
Owner/Chair/Representative

July 31, 2024

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Date

Validated by:

  
**MARCELINA V. SERVAÑEZ**  
PSTD, DOST Romblon

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Printed Name and Signature of  
PSTD/Cluster Manager

August 5, 2024

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Date

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## TECHNOLOGY NEEDS ASSESSMENT (TNA) REPORT

<b>COMPANY:</b>	RSU-CILEARNED
<b>ADDRESS:</b>	LIWANAG, ODIONGAN, ROMBLON

### SCOPE OF ASSESSMENT

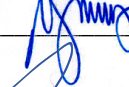
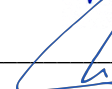
- A. Strategic Directions
  - a. Vision and Mission
  - b. Goals and Objectives
  - c. Strategic Alliances
- B. Management Aspects
- C. Technical Aspects
- D. Marketing Aspects
- E. Financial Aspects

### SUMMARY OF ASSESSMENT

#### BACKGROUND:

The marble industry had recently been given a boost by the RSU in partnership with government line agencies like the DOST, NEDA and CHED. State-of-the-art equipment for marble processing as well as for processing marble cutting plant wastes are now in place. Training on the utilization of these equipment had been conducted to industry players and their workers. Researches on the utilization of ground calcium carbonate as paint additive, concrete strength enhancer, soil ameliorant are also ongoing. Other completed researches are on marble spool insulator. This last research has generated a utility model for the spool design. The RSU and the industry have benefitted from these endeavors through modern equipment acquisition and new knowledge generated particularly on the use of numeric controlled equipment.

In an earlier project, packaging of marble novelty items has also been done with beautifully-made cardboard packaging materials that will protect the product and enhance the marble appeal and salability. Marble novelty products such as lampshades, ashtrays, canisters, bowls, pencil cups, almires, shot glasses and more can now be supported with this marble packaging. However, some marble novelty products are larger and heavier, making them unsuitable for these packaging boxes. To address this, RSU-CiLearnED is exploring the design and production of bamboo-laminated boxes and crates to accommodate these heavier products. This initiative aims to elevate the Romblon marble industry by leveraging laser technology to etch producers' names on the

Reported by <u>MARCELINA V. SERVAÑEZ</u>	Signature 	Date <u>August 8, 2024</u>
Name of TNA Team Leader		
Attested by <u>JERRY B. MERCADO</u>	Signature 	Date <u>August 29, 2024</u>
ARD		

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laminated bamboo boxes and crates, thereby enhancing branding, appeal, and salability of marble products.

## METHODOLOGY

The TNA was conducted through an interview with Dr. Bilshan F. Servañez, Director of CiLearnED@RSU, to identify the packaging needs of the marble industry, particularly for heavier marble novelty products, and to explore ways to add value and enhance branding. Additionally, the TNA included interviews with marble producers to determine which products require improved packaging. A site visit and ocular inspection of the RSU-CiLearnED school factory were also conducted to assess the facility's capabilities and resources.

## SUMMARY OF FINDINGS

### 1. Strategic Direction

#### a. Vision and mission

RSU envisions being a leader in sustainable marble technology, enhancing Romblon's marble industry through innovation, education, and cutting-edge solutions. Its mission is to empower local producers with advanced, eco-friendly practices, driving the province into economic growth.

#### b. Plans and Objectives

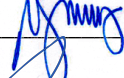
RSU aims to innovate marble packaging with sustainable bamboo solutions, enhance branding through laser-etching, and strengthen industry collaboration to boost Romblon's marble market value and economic growth.

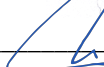
#### c. Strategic alliances and current agreements

The RSU actively collaborates with partners in the province. For instance, through the DOST-MIMAROPA's government-academe-industry trilateral consultations, gaps in the industry that needs to be addressed and corresponding proposed solutions are identified.

### 2. Management Aspect

#### a. Human resources

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Name of TNA Team Leader

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The Human Resource Management Office (HRMO) of the RSU handles and manages its human resources as governed by the guidelines of the Civil Service Commission

**b. Purchasing**

As a government entity, the RSU follows the usual rules and regulations on procurement based on the as laid out by the Government Procurement Policy Board.

**c. Work environment**

RSU is collaborative and innovation-driven, blending academic research with practical, hands-on projects that support local industries, particularly the marble sector. It fosters a culture of creativity and learning, where faculty, students, and industry partners work together using state-of-the-art equipment and sustainable practices.

**d. Business ethics and social responsibility**

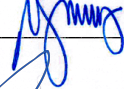
RSU upholds strong business ethics and social responsibility by prioritizing sustainable practices, promoting transparency in all operations, and ensuring fair treatment of all stakeholders. It is also committed to support local industries, particularly the marble sector, through sustainable innovations and practices. It emphasizes the importance of community development, responsible resource use, and the creation of positive social impacts, aligning its activities with the broader goals of economic growth in the province of Romblon.


**e. Occupational health and safety management**

RSU prioritizes occupational health and safety by maintaining strict safety protocols, ensuring that all equipment is operated under controlled conditions, and providing comprehensive training to operators. Personal protective equipment (PPE) and proper ergonomic practices are emphasized to prevent accidents and injuries, ensuring a secure and healthy environment for all.

**3. Technical Aspect**

**a. Operational and outsourcing practices**

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**Production system**

The production system involves utilizing bamboo processing equipment at RSU to create laminated bamboo boxes and crates for marble products packaging. Bamboo is cut, laminated, and assembled into packaging, with laser etching added for branding. Production is managed by CiLearnED personnel, with students contributing through paid work.

**Production planning and control**

It involves scheduling the production of bamboo boxes and crates to meet demand while optimizing resource use. The process includes forecasting demand, planning raw material procurement, and scheduling production tasks. Also, quality control checks from bamboo processing to final assembly and laser etching, ensuring consistency and product quality. Production is monitored to adjust for any variations in demand, ensuring timely delivery and minimizing waste.

**Production layout****Work Study/Improvement**

Focus on optimizing production efficiency by streamlining processes, reducing waste, and enhancing worker and operators with capability training to ensure consistent quality and productivity, ensuring that the production system remains cost-effective and responsive to changes in demand.

Reported by MARCELINA V. SERVAÑEZ Signature [Signature] Date August 8, 2024  
 Name of TNA Team Leader

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**Equipment management and maintenance**

The RSU ensures procurement of equipment outlay covers the commissioning and conduct of relevant trainings on operation, management and maintenance to ensure longer service life of equipment.

**Quality assurance system**

N/A

**Outsourcing practices**

N/A

**b. Product and process performance and improvement****Re-engineering and research development**

N/A

**Performance measures and results – Process**

N/A

**Performance measures and results – Product**

N/A

**Procedures for continuous improvement**

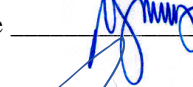
N/A

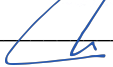
**Product quality standards**

N/A

**c. Environmental management system****Waste management**

The school factory emphasizes the efficient use of raw materials to minimize waste. Wood and metal scraps generated during production are either repurposed for smaller projects or recycled. Accumulated sawdust and wood shavings are used as compost material, while metal off-cuts are collected for recycling. The school factory is committed to sustainable practices by ensuring

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that any non-reusable waste is responsibly disposed of, thus significantly reducing the environmental impact of its operations.

#### 4. Marketing Aspect

##### a. Marketing plan

The RSU maintains networks and linkages with marble producers and distributors.

##### b. Market outlet

The market outlet for marble products includes local and outside the province marble retailers, specialty gift shops, and online marketplaces. Additionally, corporate clients seeking premium, branded products for giveaways or resale are key targets.

##### c. Promotional activities

Promotion and advocacy strategies to promote the products of the facility are undertaken. The strategies include development of IEC materials and dissemination through formal presentations during meetings and conferences.

##### d. Market competitors

Competition is not an issue because the school factory has state-of-the-art equipment, while other competitors lack access to the same advanced technology.

#### 5. Finance

##### a. Cash flow and other related documents

N/A

##### b. Source of capital/credit

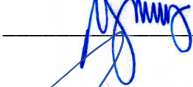
N/A


##### c. Accounting system

N/A

#### CONCLUSIONS:

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

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Name of TNA Team Leader

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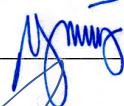
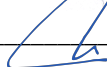
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1. The proponent has an organized management that is willing to implement activities under DOST-MIMAROPA'S project on Packaging Development for Marble Novelty Products: Part 2-Branding. The proposed community could carry additional facility, workforce movement, and new processes.
2. The proponent has good management skills. However, since new equipment will be introduced, training activities and other interventions are needed.
3. The needed intervention applied under GIA would be the adoption of 1-unit, 50W fiber laser marking machine and 1-unit, 130W laser cutter engraver machine to produce bamboo-laminated boxes and crates for packaging heavier marble novelty products.

**RECOMMENDATIONS:**

The following are recommended by the TNA team:

1. DOST MIMAROPA should extend relevant interventions such as provision of 1-unit, 50W fiber laser marking machine and 1-unit, 130W laser cutter engraver machine to produce bamboo-laminated boxes and crates for packaging heavier marble novelty products at the school factory in RSU.
2. If needed the DOST-MIMAROPA should assist in providing training and other necessary interventions.
3. The proponents should submit additional requirements to go with the proposal.

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