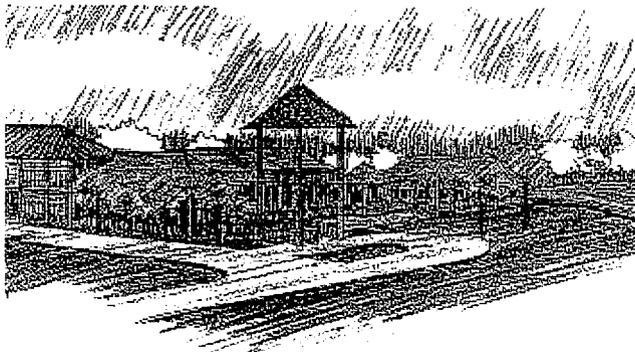


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# SILLIMAN UNIVERSITY ENVIRONMENTAL INTERPRETIVE PLAN

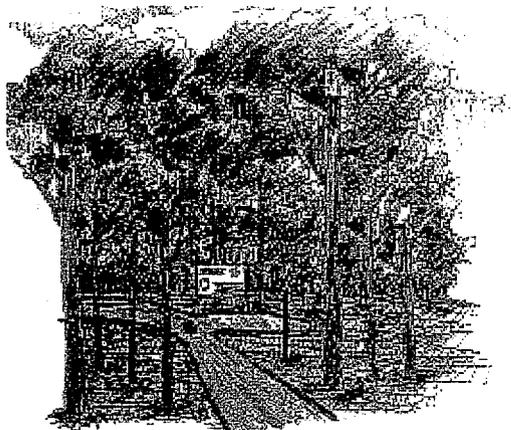
## Interpretation & Education: Tools for Coastal Resource Management



MARINE LABORATORY



SILLIMAN HALL



CENTROP

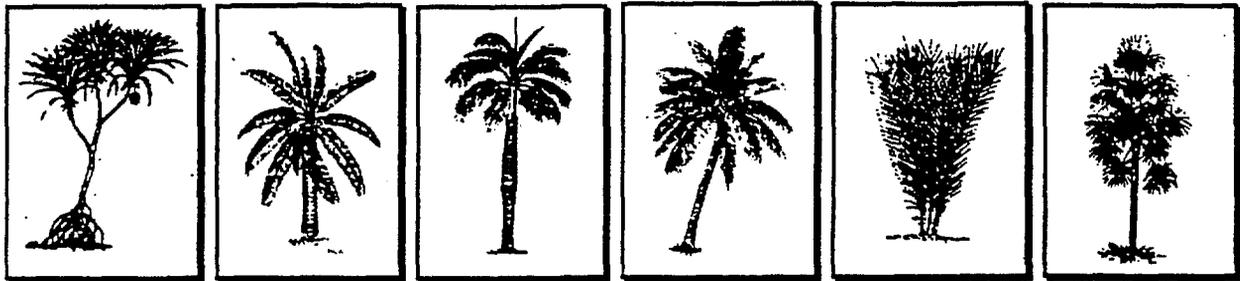
Dumaguete City , Philippines  
September 10, 1996

Submitted by:  
Silliman University Interpretive Team and  
USAID/GreenCOM Interpretive Team

SILLIMAN UNIVERSITY

ENVIRONMENTAL INTERPRETIVE PLAN

Interpretation & Education:  
Tools for Coastal Resource Management



MARINE LABORATORY • CENTROP • SILLIMAN HALL

DUMAGUETE CITY, PHILIPPINES

SEPTEMBER 10, 1996

Submitted by:

SILLIMAN UNIVERSITY  
INTERPRETIVE TEAM

and

USAID/GreenCOM INTERPRETIVE TEAM

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# SILLIMAN UNIVERSITY

## PREFACE

Silliman University is a school with Presbyterian beginnings having been founded in 1901 by American missionaries led by Dr. David Sutherland Hibbard. It started as a technical institute for boys where the values of hard work and Christian view of life were ingrained. The establishment of the school was made possible because of the philanthropic heart of an industrialist from Cohoes, New York named Horace Brinsmade Silliman. Because of the relatively strategic location of Dumaguete, the favorable ambiance of the place, and the amiable and hospitable disposition of its people, it was chosen as the site of one of the first American schools established in the Philippines after the Philippine Revolution of 1898. In the 1930s, the institution achieved University status.

The province of Negros Oriental and its environs where Silliman University is located has always provided an ideal setting for a social laboratory. The school is uniquely situated in a place where the mountains, lowlands and the sea converge making learning, research and social service a natural extension of the University's life. As such Silliman University has had a long tradition of pioneering work in the areas of community development, resource conservation and management, cultural and arts development, and science and environment education.

Starting in the 1970s, Silliman University experimented on marine sanctuaries as an approach to sustainable coastal resource management. This experiment which was initiated by the Marine Laboratory led to the involvement of people in the management resources as shown by the University's experience in Apo Island. Today, Apo Island stands as an island model for the community-based coastal resources management. In the early 1990s, the University saw the establishment of the Center for Tropical Studies (CENTROP) which looked into the study of terrestrial ecosystem, the study of wildlife, and captive breeding of endangered endemic species. These developments have made Silliman University become true to its Christian commitment of the stewardship of our God-given resources.

Silliman University's vision today is to become the "leading Christian institution in Asia committed to total human development for societal and environmental well-being." A major thrust of its ten-year development plan (1996-2001) which seeks to realize her vision is for Silliman University to be developed and to be known as a center of excellence in the environment.

With support from the United States Agency for International Development (USAID) and technical assistance from the Academy for Educational Development (GreenCOM), Silliman University is being developed as a Center of Excellence in Coastal Resources Management. A major component of this undertaking is the development of an Environmental Interpretive Outreach Program for Silliman University having for its core the Marine Laboratory, CENTROP, and the Silliman Hall.

What is presented by GreenCOM is a conceptual design for an Interpretive Program which should guide future planners and implementors for Silliman University's Environmental Interpretation Program.

# 1.0 INTRODUCTION

## PURPOSE:

The purpose of this plan is to develop a concept that will integrate the Marine Laboratory, CENTROP, and Silliman Hall into a cohesive working unit in support of the Center of Excellence in Coastal Resources Management.

## GOALS:

Specific goals for the centers are to:

1. Develop a Marine Interpretive Center as an integral part of an expanded marine biological laboratory which will highlight the cultural significance related to the historical and current roles of Philippine communities in coastal resources management, basic marine ecology, and major laboratory projects.
2. Focus the existing Botanical Garden of CENTROP on the role of the forest as wildlife habitat and source of fresh water.
3. Develop Silliman Hall as an interpretive and adult education center that integrates marine, terrestrial and anthropological themes.

## OBJECTIVES:

Primary objectives for the individual sites follow:

### **MARINE LABORATORY AND EDUCATION CENTER:**

1. To show major marine and coastal ecosystems and their interconnections.
2. To show the impacts and threats to coastal ecosystems.
3. To explain or humanize ecological and environmental processes.
4. To show how the Silliman University Marine Laboratory scientists build up a body of knowledge for the use of mankind.



### **CENTROP:**

1. To show the relationship between upland, lowland and coastal ecosystems.
2. To show impacts of upland and lowland activities on coastal ecosystems.
3. To demonstrate sound wildlife management, forest management, agricultural practices, and other forms of land use.

### **SILLIMAN HALL:**

1. To encourage people to adopt a value or attitude towards sustainable utilization of resources which will be translated into practice and action.
2. To show the relationship between peopling stages and cultural influences as they effect present practices of coastal resources management.
3. To make people aware of their role and urgent need for their active and productive participation in promoting and attaining a sound and healthy environment.

The final team product will be this plan which defines a unifying interpretive concept and architectural design of the three centers and provides an analysis of environmental eco-tourism approaches and opportunities. This plan provides an assessment of the three sites and detailed instructions and options of how the sites can be designed, renovated, constructed, organized, operated, and maintained at a reasonable cost and in such a way that it meets the environmental education goals of USAID and Silliman University.



## 2.0 EXECUTIVE SUMMARY

### 2.1 DESIGN CONCEPTS:

Good architecture visually organizes and makes each structure more user-friendly by enhancing its layout and efficiency. Good architecture also serves to establish a positive and progressive image for Silliman University. The underlying criterion for architectural intervention for all three sites is to maximize the use of the spaces, to produce an architectural master plan for each site to rationalize its overall character and functions, and more importantly, to establish Silliman University as not only a Center of Excellence in Coastal Resources Management but also as being sensitive to the conservation of heritage environments while undertaking a forward-looking construction program within the campus.

The primary challenge of the program is to use the existing resources of Silliman University as the basis to symbolize the university as (a) a center of excellence, as (b) the foundation for an upgraded coastal resources management and interpretive program, and to (c) introduce Silliman (particularly the Marine Lab, Silliman Hall and Centrop) as a national and international ecotourism destination. The vast architectural resources in the university are in need of conservation, upgrading, maintenance and organization into an ecotourism system.

### 2.2 INTERPRETIVE CONCEPTS:

#### VISION:

#### INTERPRETATION AND EDUCATION: TOOLS FOR COASTAL RESOURCES MANAGEMENT

The vision for Interpretation at the Marine Lab, Centrop and Silliman Hall is not only to increase awareness, understanding and appreciation of coastal resources but also to build skills and encourage environmental action that will lead to proper stewardship of those resources.

#### GOALS:

The primary goal of this plan is to develop a concept that will integrate the Marine Laboratory, CENTROP, and Silliman Hall into a cohesive working unit to support the Center of Excellence in Coastal Resource Management.



A second goal is to educate the general public, school groups and adult special interest groups, arouse interest, and lead these audiences to action to benefit coastal resources management.

**AUDIENCES:**

The interpretive program will target three primary audiences:

1. People who visit the sites. Interpretation will be the primary tool to reach this audience.
2. Formal educators, teachers and students from Kindergarten through University. Environmental Education will be the primary method for working with this group.
3. Adult groups or individuals with special interests who influence coastal resource management or who are influenced by coastal resource management decisions. Adult education or conservation education will be the primary method for reaching this group.

**MESSAGES:**

Primary messages include:

- The Philippines is endowed with rich natural and cultural heritage resources; from the mountains to the sea.
- These natural and cultural heritage resources are in a critical state because of the impact of population growth and modern technology.
- Now is the time to act to ensure sustainable use of these natural resources and for the benefit of Philippine cultural heritage.
- Research is a critical and important component in the search for a sustainable use of coastal and upland natural resources.
- Every individual must act in a responsible way to ensure a sustainable future for our coastal and upland natural and cultural heritage resources.

**INTERPRETIVE CONCEPTS (BY SITE):**

**MARINE LAB AND EDUCATION CENTER:**

- The Education Center will be integrated with the work of the Marine Lab, CENTROP, and Silliman Hall to tell the complete interpretive story.



- Primary Education Center topics for interpretation will include:
  - the Water Cycle: from the Mountains to the Sea\* and back again.
  - Biodiversity: The basis for a sustainable ecosystem
  - Adaptation, Co-Existence and Survival: Humans struggle to co-exist
  - Laws To Live By: Basic environmental laws that control our lives
  - Research and Coastal Resources Management: Sound resource data guides sound coastal and upland resources management
  - Stewardship: Each human is responsible for caring for and working toward a sustainable ecosystem

**CENTROP:**

- Work at CENTROP will be integrated with the Marine Lab and Education Center and Silliman Hall to tell the full interpretive story
- Primary CENTROP topics for Interpretation include:
  - Biodiversity: Biodiversity, or the lack of it, substantially affects the coastal community.
  - The Water Cycle: What goes down must go up. The hydrologic cycle illustrates the relationship and impacts of upland degradation on coastal resources and people's lives.
  - Adaptation and Co-Existence: Humans must learn to co-exist with plants and animals to ensure a sustainable ecosystem for the future.
  - Laws To Live By: Humans live by natural laws just like we live by human and religious laws. We should understand these laws just like we understand human and religious laws.
  - Research and Upland Resource Management: How humans manage upland forests has a direct effect on the quality of life along the coast and in the ocean. Research helps humans understand the best way to manage for a sustainable ecosystem.
  - Stewardship: These are our forests, our seas, our lives and it is our responsibility to act in a way that supports a sustainable ecosystem.



### **SILLIMAN HALL:**

- Silliman Hall will work in cooperation with the Marine<sup>®</sup> Lab and Education Center and with CENTROP to tell the complete interpretive story.
- Primary interpretive topics include:
  - **Philippine Cultural Heritage and Technology:** As population increases and technology improves, human impact on Philippine coastal natural resources increases and resources decrease.
  - **Science and Research:** Science and research shows the way to a sustainable future.
  - **Co-Existence:** Humans are part of the natural ecosystem and compete with plants and other animals for a place to live and food to eat.
  - **Resource Management:** Because of our sophisticated technology, we can compete better than other animals.
  - **Stewardship:** As we develop, we must know what we are losing as well as what we are gaining. We must seek a sustainable balance between our needs and our impact on natural resources.
  - **Silliman University:** Silliman University students have a long and distinguished heritage of accomplishments; particularly in natural resources research.
  - **International Influence:** Many international cultures have influenced Silliman University. Arabia, Spain, China, India, Japan and the United States of America have each in their own way had a substantial influence on Silliman University, Dumaguete and the Philippines.

### **PHASING:**

The Interpretive program will be developed in three phases:

- ***PHASE 1:*** DEVELOPMENT OF THE "CORE" INTERPRETIVE PROGRAM: Phase 1 will be the development of the "core" interpretive services program including primary personal services like guided tours and interior and exterior exhibits at the Marine Lab and Education Center. An Interpretive Program Manager may be recruited from Peace Corp , Retired Executive Corp or a similar organization in the USA or the Philippines to develop the initial interpretive program, test exhibit ideas, train volunteers, and work with Silliman University teaching interpretive and environmental education communication concepts in the Communication and Education departments.



- **PHASE 2:** EXPANSION OF THE "CORE" INTERPRETIVE PROGRAM: Phase 2 will be development of the formal Environmental Education program (K-University), development of the adult education component of the interpretive program, development of more sophisticated exhibitry, pre-testing new exhibit ideas and audio-visual products and post-testing existing interpretive products. This phase will also involve additional training and education of interpretive and volunteer staff.
- **PHASE 3:** FULL OPERATION: Phase 3 will be full and complete operation and maintenance of the interpretive program by Silliman University staff.



## 3.0

# MARINE LABORATORY AND EDUCATION CENTER

The Marine Laboratory is Silliman University's symbol for its commitment to excellence in marine research and conservation. The laboratory and Interpretive Center complex will house research facilities and educate the academe and general public to Silliman's activities in the field of marine biology and conservation.

### 3.1 EXISTING CONDITIONS:

#### 3.1.1 Condition of existing buildings:

- a. The present Marine Laboratory is a hodgepodge of small, semi-permanent and temporary structures, residentially-scaled buildings that are not connected to each other.
- b. All existing structures suffer from poor maintenance
- c. All existing structures are constructed in the most visually valuable section of the site (in front of the shore) without any master planning and blocks most of the visual contact with the sea.

#### 3.1.2 Site conditions:

Since site was formerly rice fields and agricultural land, soil testing must be conducted to determine bearing capacity and other structural engineering considerations.

### 3.2 DESIGN CONCEPTS:

#### 3.2.1. Symbol:

- a. of Silliman's traditional links to coastal culture and landscape
- b. of the excellence and broad extent of the university's commitment to marine research and conservation.

#### 3.2.2. Architectural image:

- a. Interpretive Center: easily constructed, "eco-friendly" Filipino-inspired architecture: exposed wood, thatch, bamboo, etc.
- b. Laboratory: large facility in straightforward, minimum maintenance architectural design



- c. Grouping of lab and pavilion-type open buildings (except for one medium-sized enclosed, air-conditioned area for sensitive exhibits) are clustered over and around a big salt water touch pool; elevated walkways connect all structures, continuing to the mangrove forest, rice paddies and turtle breeding grounds on far end of site before looping back to entrance

### 3.3 INTERPRETIVE CONCEPTS:

#### OBJECTIVES:

Primary interpretive objectives for the Marine Lab and Education Center are to:

1. To show major marine and coastal ecosystems and their interconnections.
2. To show the impacts and threats to coastal ecosystems.
3. To explain or humanize ecological and environmental processes.
4. To show how the Silliman University Marine Laboratory scientists build up a body of knowledge for the use of mankind.

#### PRIMARY AUDIENCE(S):

Primary audiences will be those people who visit the site, formal educators, students and teachers for ages 4-16, and University students and researchers.

#### INTERPRETIVE TOPICS AND THEME CONCEPTS:

Primary interpretive and educational messages to be delivered at the Marine Lab and Education Center:

#### TOPIC:        **BIODIVERSITY**

Theme Concept:

1. The Philippines is endowed with rich coastal resources.
2. The coastal resources are in a critical state due to human impact on natural resources on the coast and in the mountains.
3. Something can still be done to ensure sustainable use of coastal resources.
4. Research is integral in the conservation of coastal resources.
5. A diverse ecosystem is a stable ecosystem.
6. Our many faces (plant, animal and human) contribute to a sustainable ecosystem.
7. Our many faces are our strength.
8. In Bais, organic flow across ecological habitats (mangrove, seagrass, coral reef and soft bottom communities) connects them together. What happens in one habitat effects the other communities.



9. Protected islands (Apo island) have a more diverse plant and animal community than unprotected islands (Sumilon island).
10. Humans have developed artificial means to alleviate pressures on coastal resources.
11. Maintaining biodiversity in the ocean supports a sustainable ecosystem.
12. A diverse ecosystem is the source of new ideas and new products.
13. Global biodiversity in the ocean is rapidly decreasing through deforestation, pollution, agricultural practices and human development.
14. Humans, as part of Earth's biodiversity, are responsible for maintaining a livable ecosystem. This is Our Sea, Our Life.

**TOPIC: WATER:**

Theme Concepts:

1. Water falls in the mountains, flows to the sea, evaporates and returns to the mountains.
2. What people do in the mountains affects this water cycle, affects people's lives downstream and affects the ocean.

**TOPIC: ADAPTATION, CO-EXISTENCE, SURVIVAL**

Theme Concepts:

1. All plants and animals adapt in order to survive.
2. Plants and animals (including humans) find their own special niche (their own special place to live and their own special foods to eat) in order to survive.
3. This special niche can not be occupied by two species at the same time.
4. All plants and animals adapt to their environment to find their own special place to live and food to eat.
5. To find their own special place (niche), plants and animals "learn" to co-exist with other species in order to survive.
6. Those plants and animals that can not adapt, become extinct.
7. Extinction is a natural process. Humans accelerate the process.
8. When one plant or animal becomes extinct, because of interconnected food chains, perhaps 30 or more species may become extinct with them.
9. Humans do not know enough to predict exactly what will happen when an ecosystem suddenly changes.
10. Science alone can not save us.
11. We must learn to live peacefully together.
12. Our diversity is our strength.



**TOPIC: LAWS TO LIVE BY**

Theme Concepts:

*There is NO FREE LUNCH:\**

1. For every gain (a new housing development, shopping mall, or hectare of grazing land) there is a corresponding loss of biodiversity.
2. We must measure what we are losing to know if the gains are worth the loss.

*EVERYTHING HAS TO BE SOMEWHERE:\**

1. Every plant and animal needs a place to live, water to drink and food to eat.
2. No two plants or animals can share the same "niche" at the same time.
3. Humans compete with plants and other animals every day for a place to live, water to drink and food to eat.

*IT ALL GOES SOMEWHERE:\**

1. You can not throw things away.
2. Whatever you throw away or burn may change form (solid to liquid to gas) but it does not go away. It just goes somewhere else.
3. Most things "thrown away" end up in the air or in the ocean.
4. It is important to our own health to know where things are going.

*NATURE KNOWS BEST:\**

1. Natural systems are in stable balance developed over thousands of years.
2. A sudden event (like a volcanic eruption or a bulldozer clearing land for a new development) can suddenly upset and change this ecosystem balance. The balance may never return.
3. Humans do NOT know better than nature how to maintain a stable, sustainable ecosystem. We are still learning.

- from Barry Commoner, *The Closing Circle*

**TOPIC: RESEARCH AND COASTAL RESOURCES MANAGEMENT**

Theme Concept:

1. All land is managed to some degree, even wilderness.
2. Sound research is the basis for sound resource management decisions.



3. Research is critical to help us understand our relationship to the ecosystem and our plant and animal partners.
4. Without sound research we do not know what we are losing or what we are gaining, the damage we are doing, or how to fix the damage as we develop land for our own benefit.
5. Coastal problems exist today that we must solve for our own benefit. These include:
  - Air and water pollution in Dumaguete
  - Coral reef and fisheries destruction
  - Deforestation from agriculture, wood gathering, and development
  - Population growth and pressures

**TOPIC: STEWARDSHIP**

**Theme Concept:**

1. This is your forest, your sea, your life, your decision to protect and use it.
2. Our children depend on us to take care of their natural resources.
3. Every person must speak and act for a clean, sustainable coastal environment.
4. You, personally, can make a difference.
5. This is your sea
6. This is your life
7. This is your decision
8. You can help reduce coastal resource damage
9. That is good for all of us

**MEDIA:**

See Appendix D for an example of what media for the interpretive and education center might be like. In this first phase, media should be predominantly flat panel, aquarium tanks and exhibit cases. These will be easy to design, install and maintain during the first few years of operation, will be relatively easy to change, will provide flexibility during the early years and allow the interpretive staff to post-test the design concept to see if they really work. The interpretive center could also contain sounds of the Visayas culture, color and textured exhibit materials and banners characteristic of the cultural heritage of this region, architectural and exhibit materials suitable to Dumaguete, colorful wall murals illustrating the water cycle from the mountains to the sea, a 3 station work bench with microscopes to explore the small world, a touch table with hand specimens for close inspection and a flexible space for temporary exhibits and testing new exhibit ideas.



Most children and many adults learn by doing. People should have the opportunity to observe, study and interact with the exhibits and the site. Interactive exhibits should be provided in the interpretive center in Phase I to the extent that they can be operated daily and maintained. Quiz boards, mechanical and tactile exhibits and arrow-window boards could be used initially to tell stories of coastal food chains, food webs and adaptation.

More sophisticated video tape programs could be developed to tell more complicated stories like the water cycle and coral reef and lagoon biodiversity.

A computer interactive program similar to the one developed for Founder's Day, could be used as a decision making matrix for studying coastal resource management issues.

Depending on funding, a self-guiding brochure could be developed for the exterior nature trail through the mangrove wetland, old rice field and coconut plantation.

Core interpretive media should include directional signing, a welcome sign, preliminary exhibits and informational signing, a self-guiding trail brochure and publications for sale in the museum shop. Core interpretive media will also include a large outside touch tank for visitors and school group use and a series of larger tanks for viewing (but not touching) giant clams and groupers. Additional tanks may be added in phase two.

In addition to the work station in the exhibit area, at least one of the meeting rooms in the marine lab should be developed as a wet lab for students with appropriate scientific study equipment like aquarium holding tanks, audio-visual equipment, microscopes and specimen storage. This lab could accommodate higher grade level science classes and also be used for small group adult education meetings.

A museum gift shop should be developed that will provide a cool place to rest, shop and buy minimum refreshments. Profits from this shop should be used to offset operation and maintenance costs for the center.

Phase two can involve more sophisticated audio-visual products and more elaborate exhibits based on post-testing in phase one and pre-testing of new interpretive ideas for potential changes for phase two. Phase two should include an audio-visual show to be used as an introduction to the Marine Lab and Education Center and to introduce the concept of coastal resources management. In phase two, the Center should develop a school outreach van for taking environmental education programs to local schools. This van could have panels on the sides that lift up to display exhibits and aquarium or terrarium tanks with live specimens for demonstration to students. The rear



panel of the van could fold down to provide access space to interior storage and to provide a stage for interpretive programs and performances.

### **PERSONAL SERVICES**

In phase one, interpretive services will be limited to information at the information desk, some demonstration of on-going Marine Lab research projects, a limited schedule of guided walks along the interpretive trail through the mangrove wetland and perhaps limited special events like a demonstration of local boat building and fishing equipment and techniques. Personal services will depend entirely on the skills and abilities of the interpretive and volunteer staff with the support of the Marine Lab biologists.

During Phase two, these interpretive services can be expanded based on customer interests and abilities of the interpretive and volunteer staff.

### **STAFFING:**

Initial staffing should include one full time interpretive program manager who can develop and implement the interpretive services program at the Marine Lab and Education Center, develop a public outreach program, test and evaluate existing exhibits, develop new exhibit and personal services programs, build a volunteer program and teach Interpretation and Environmental Education at Silliman University. This person should also provide interpretive support for CENTROP and for Silliman Hall. Silliman University could search for an experienced Peace Corp volunteer from a major American University with outstanding interpretive management skills and some practical experience managing small nature centers or museums or perhaps get a retired person through an organization like a Senior Citizen Retired Volunteers Program to lead this effort for 1-3 years to get the program off the ground and develop local staff skills. Another consideration for staffing is the Philippine Museum and Curatorial Community. Most likely, there is Philippine expertise on interpretive management, design and curation which can be sourced through the Manila design and museum associations.

It should also include a full time assistant manager (trainee), one full time maintenance person, a staff of part time volunteers and student interns, if possible. Staff should wear uniforms that clearly identify part of the Silliman Sites.

### **3.4 COST**

#### **PHASE 1**

- |  |               |
|--|---------------|
| a. Laboratory Building: 1200 sq. mts. Covered area @ P11,000/sq mt | 13,200,000.00 |
| b. Site Development (roads, parking, etc): 5000 sq mts of          | 1,750,000.00  |



area @ P350/sq mt  
 c. Lab equipment (genset, lab equipment, etc) 1,500,000.00  
**TOTAL 16,450,000.00**

**PHASE 2**

a. Interpretive Center Building: 610 sq mts @ P11000/sq mt 6,710,000.00  
 b. Exhibit production and installation: 300 sq mts @ P3000 900,000.00  
 c. Site Development: 1000 sq mts @ 350/sq mt 350,000.00  
 Includes: landscaping, mangrove walk, roads, parking, etc.  
 Touch Pool: 200 sq mts @ P3000/sq mt 600,000.00  
**TOTAL 8,560,000.00**  
**TOTAL (Phase 1 &2): 25,010,000.00**

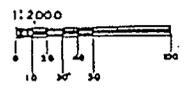


CENTROP

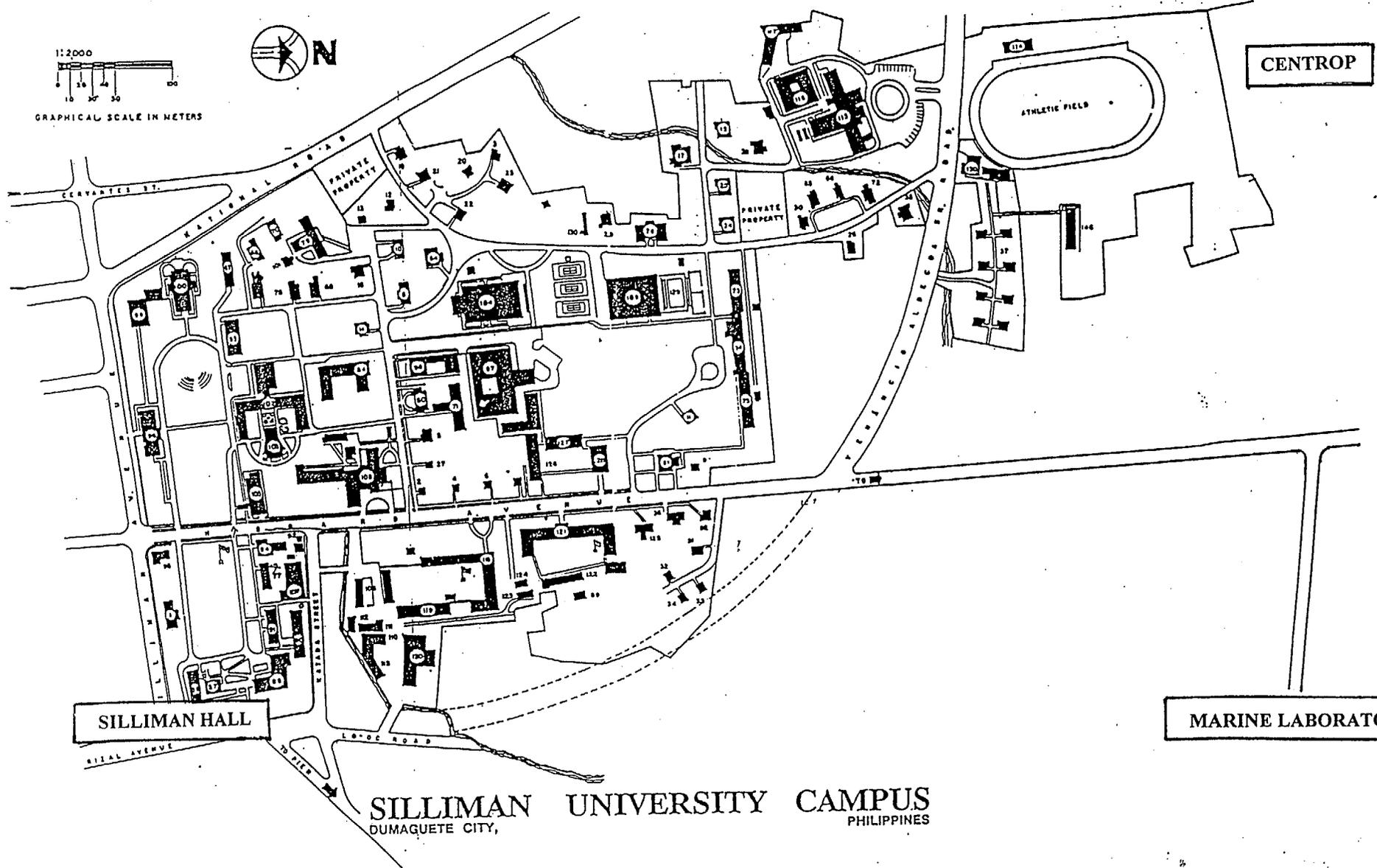


ATHLETIC FIELD

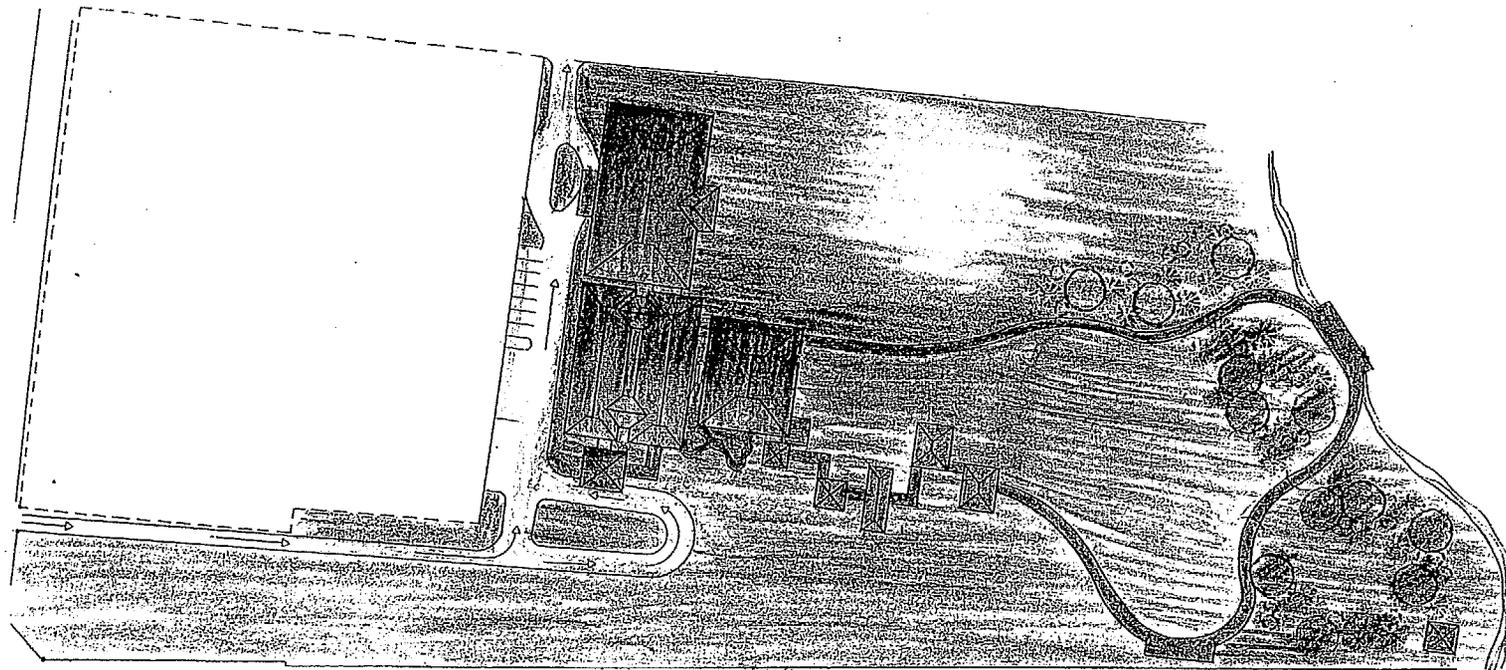
MARINE LABORATORY



GRAPHICAL SCALE IN METERS



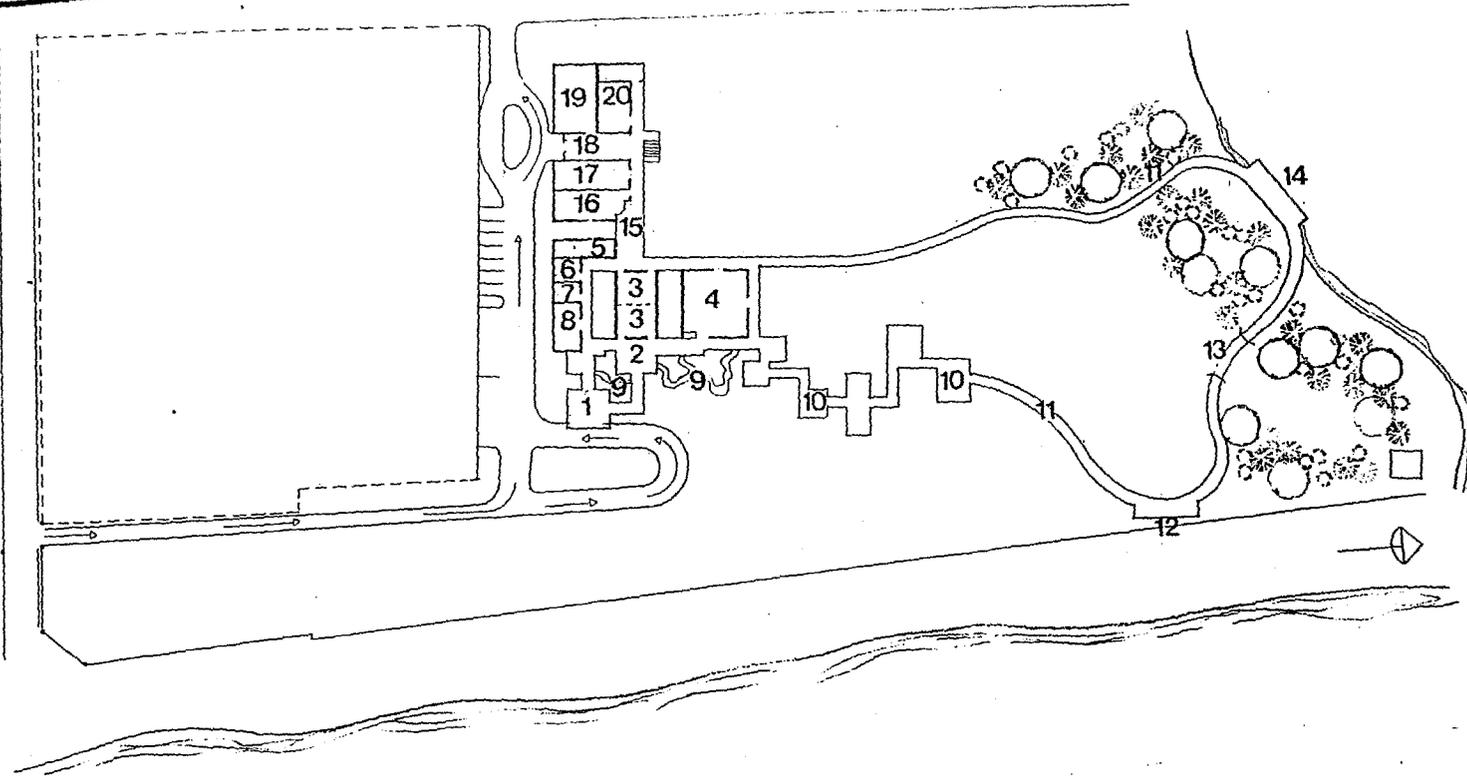
SILLIMAN UNIVERSITY CAMPUS  
DUMAGUETE CITY, PHILIPPINES



**MARINE LABORATORY**  
Silliman University, Dumaguete City, Negros Oriental, Philippines  
**SITE DEVELOPMENT PLAN**

**Silliman University Environmental Interpretive Program**  
Designed as part of the Environmental Education and Communication (GreenCOM) Project  
implemented by the Academy for Educational Development for the United States Agency for  
International Development.

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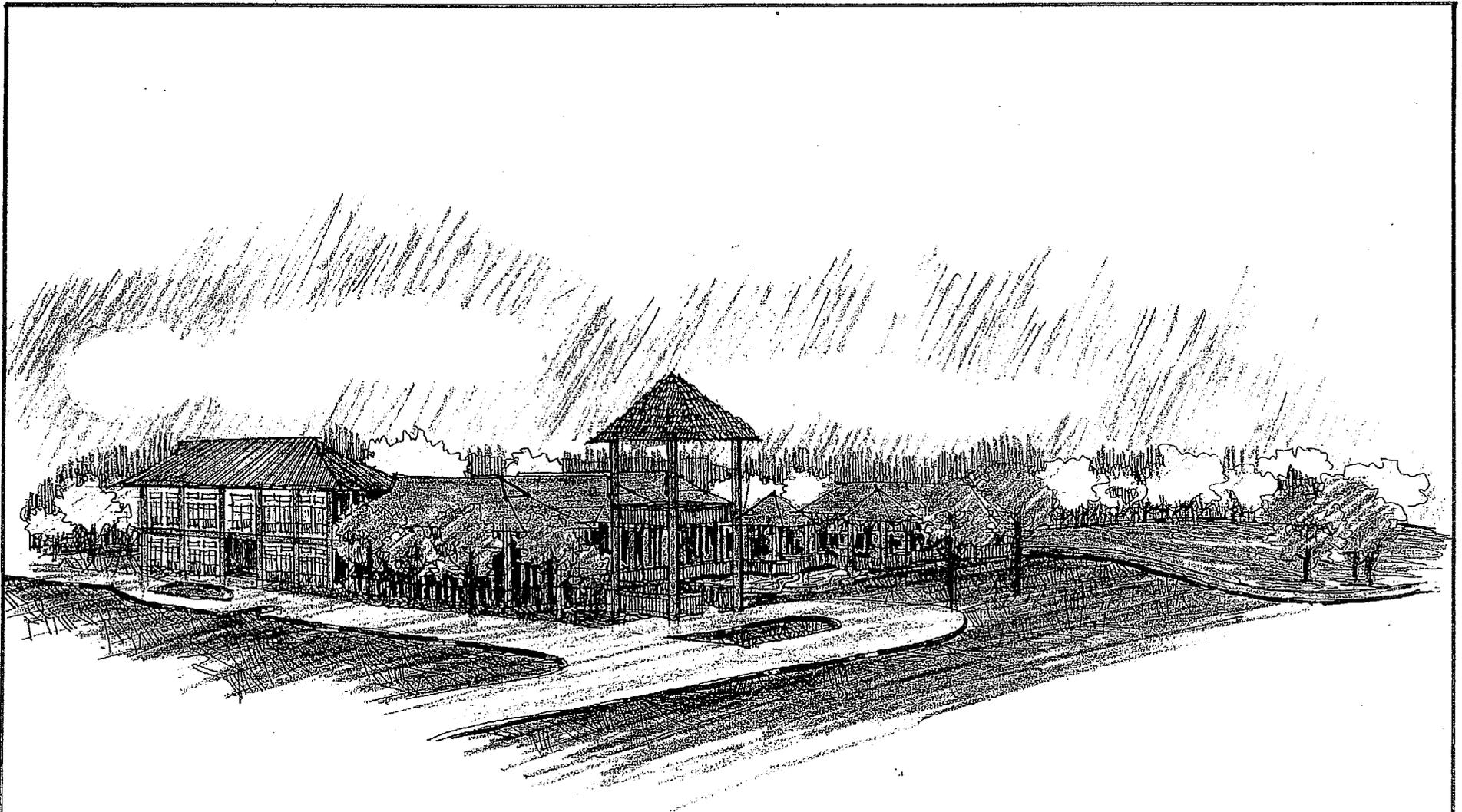
**LEGEND**

1. ENTRANCE
2. VISITOR HOLDING AREA
3. SEMINAR ROOM
4. INTERPRETIVE CENTER HALL
5. STORAGE
6. INTERPRETIVE CENTER ADMINISTRATION
7. TOILETS/SERVICE
8. GIFT SHOP/COFFEE SHOP
9. OPEN TIDE /TOUCH POOL
10. OPEN TANKS
11. MANGROVE WALK
12. HOLDING AREA/TURTLE BREEDING
13. BRIDGE
14. HOLDING AREA
15. VISITOR-SCIENTIST INTERACTION AREA
16. DEMONSTRATION LABORATORY
17. CONFERENCE ROOM
18. MARINE LABORATORY ADMINISTRATION
19. LIBRARY
20. LOBBY

**MARINE LABORATORY**  
 Silliman University, Dumaguete City, Negros Oriental, Philippines  
**FLOOR PLAN: GROUND LEVEL**

Silliman University Environmental Interpretive Program  
 Designed as part of the Environmental Education and Communication (GreenCOM) Project  
 implemented by the Academy for Educational Development for the United States Agency for  
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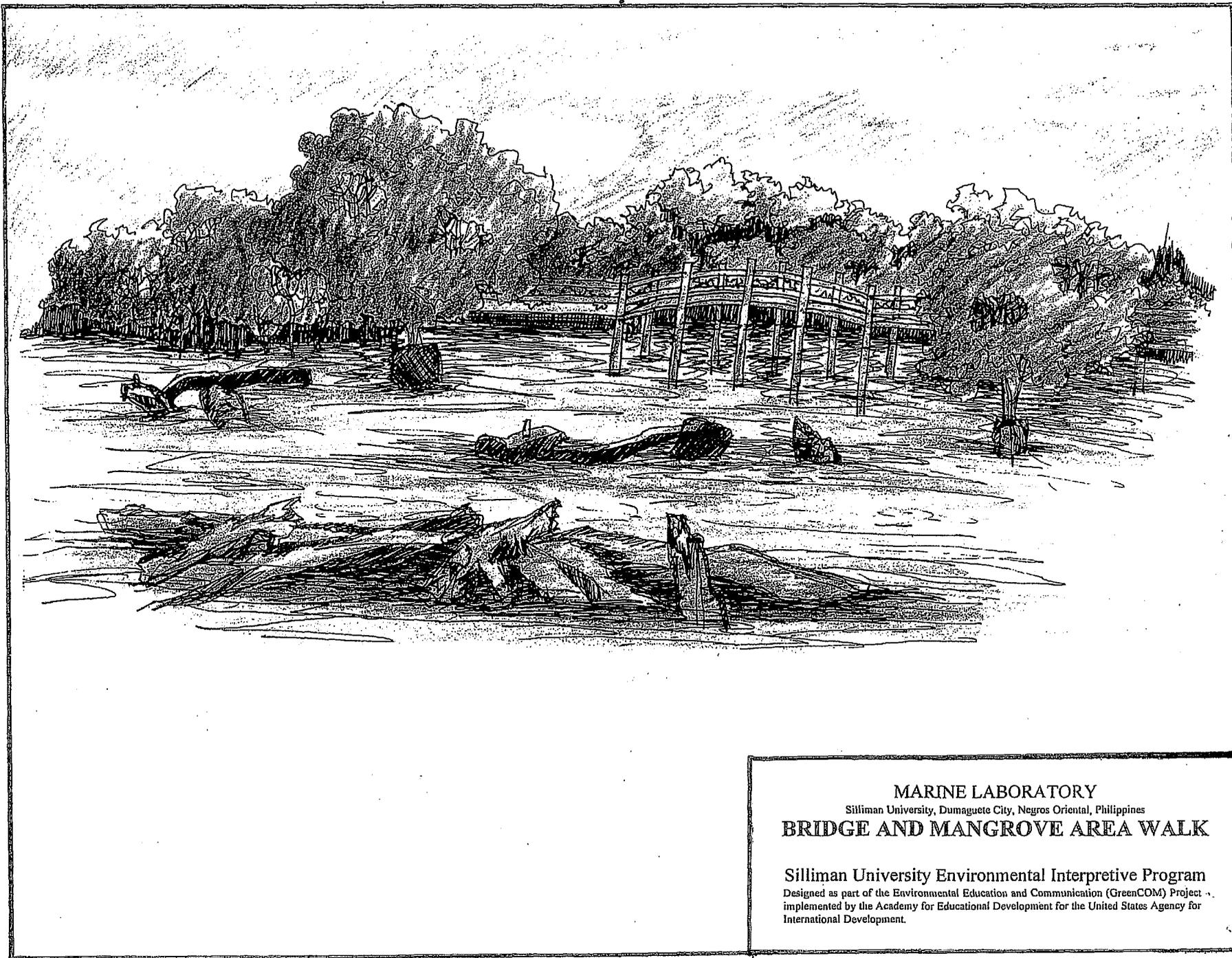
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**MARINE LABORATORY**  
Silliman University, Dumaguete City, Negros Oriental, Philippines  
**SITE PERSPECTIVE**

**Silliman University Environmental Interpretive Program**  
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12/20



**MARINE LABORATORY**

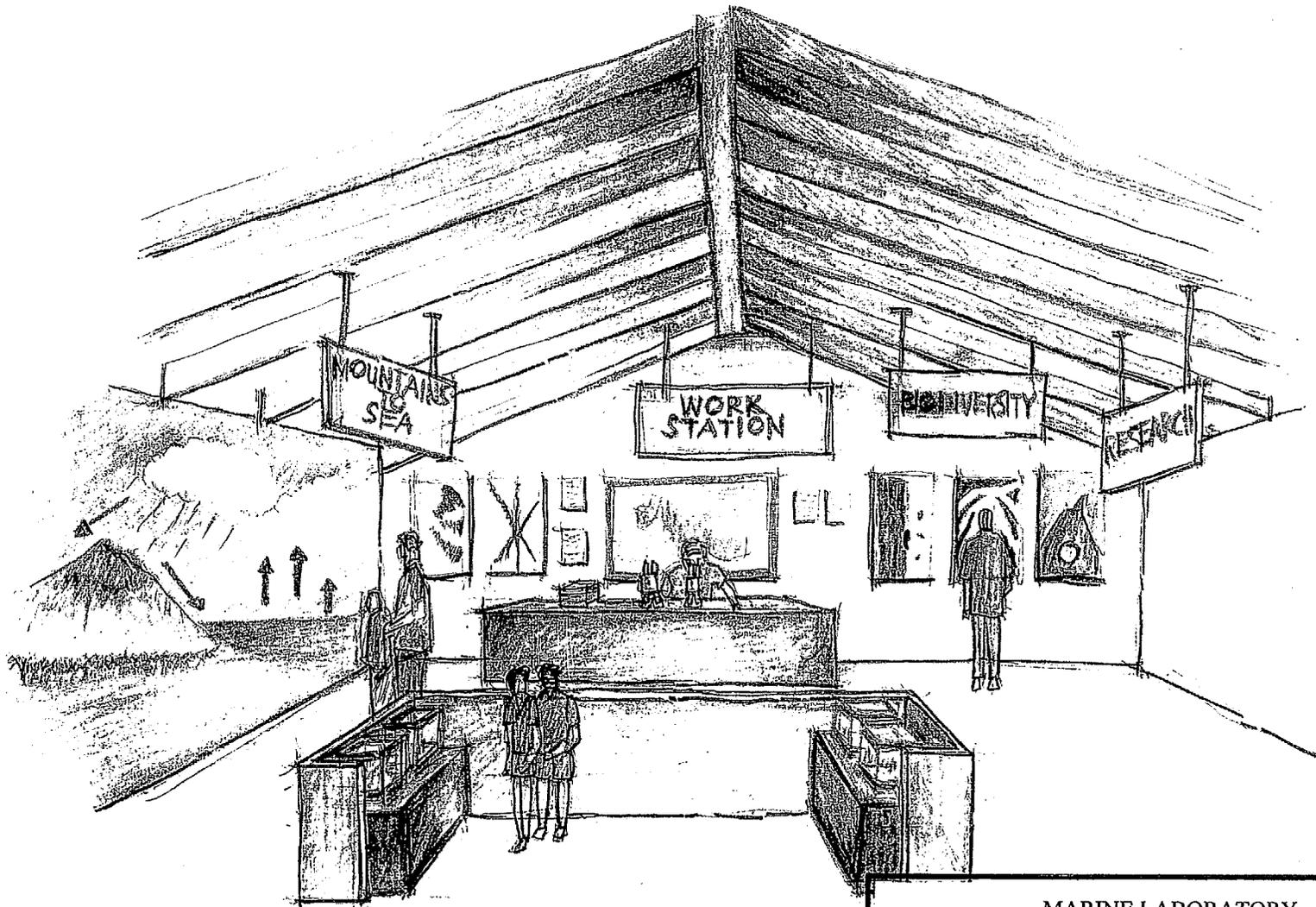
Silliman University, Dumaguete City, Negros Oriental, Philippines

**BRIDGE AND MANGROVE AREA WALK**

**Silliman University Environmental Interpretive Program**

Designed as part of the Environmental Education and Communication (GreenCOM) Project implemented by the Academy for Educational Development for the United States Agency for International Development.

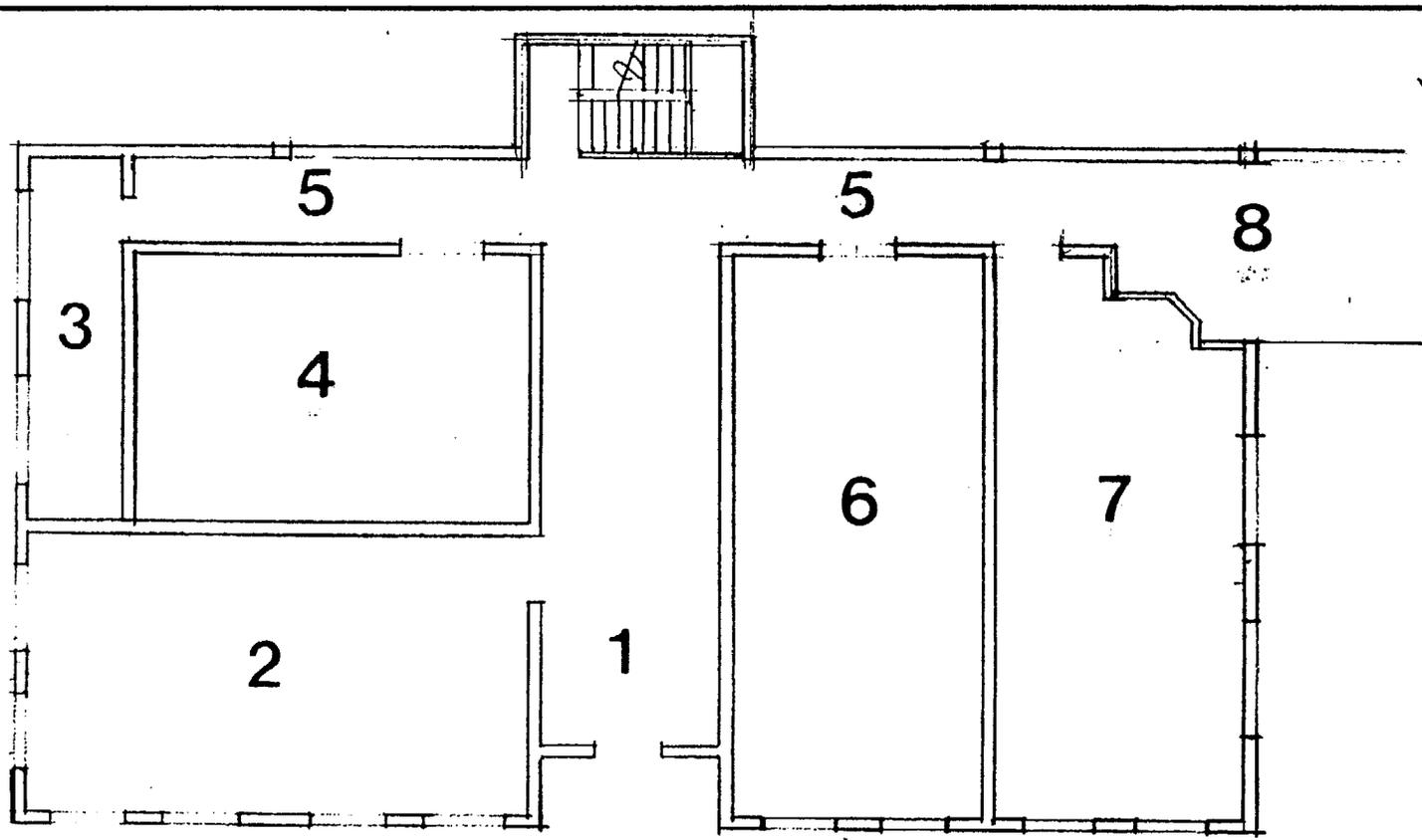
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**MARINE LABORATORY**  
Silliman University, Dumaguete City, Negros Oriental, Philippines  
**INTERPRETIVE CENTER EXHIBIT**

Silliman University Environmental Interpretive Program  
Developed and designed as part of the Environmental Education and Communication  
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United States Agency for International Development.

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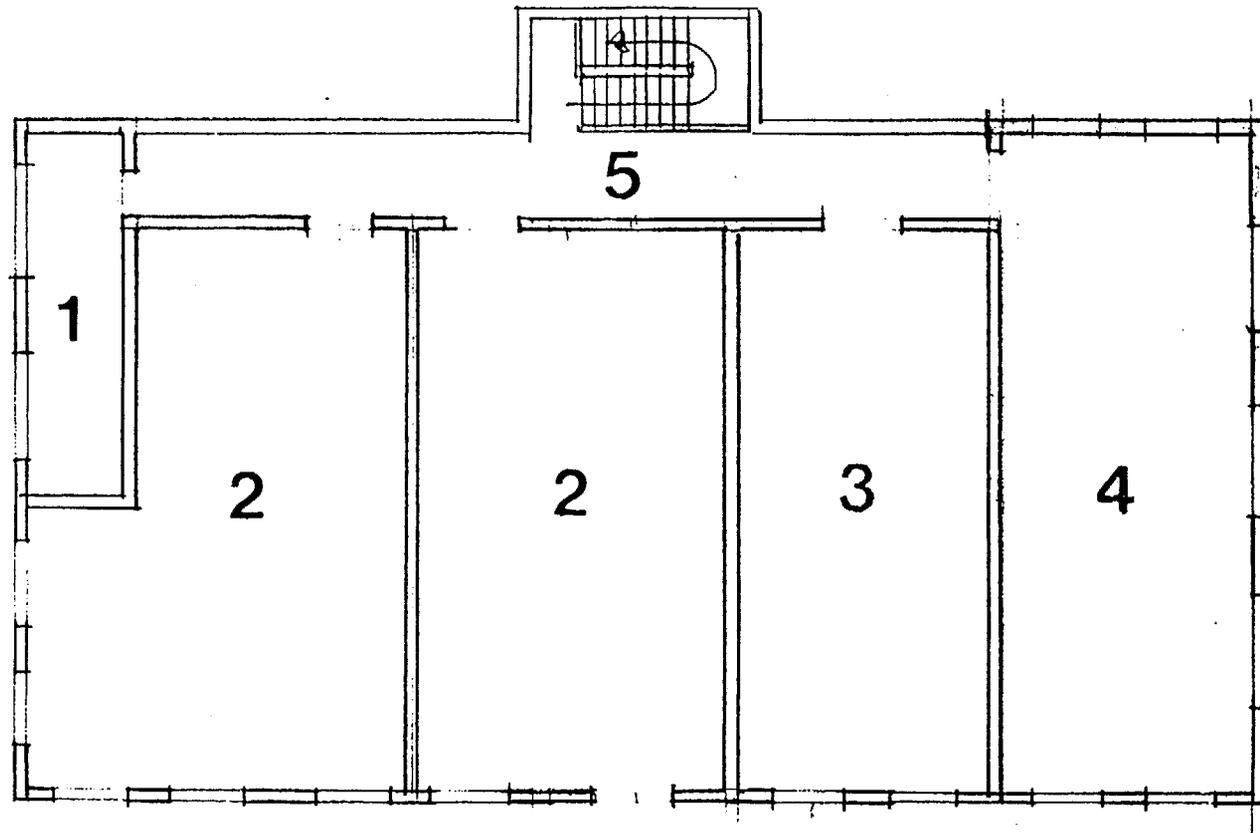
LEGEND

- 1. LOBBY
- 2. LIBRARY
- 3. SERVICE/TOILETS
- 4. ADMINISTRATION
- 5. LOGGIA
- 6. CONFERENCE ROOM
- 7. DEMONSTRATION LAB
- 8. VERANDAH TO INTERPRETIVE CENTER

**MARINE LABORATORY**  
 Silliman University, Dumaguete City, Negros Oriental, Philippines  
**MARINE LAB BUILDING: GROUND LEVEL**

Silliman University Environmental Interpretive Program  
 Designed as part of the Environmental Education and Communication (GreenCOM) Project  
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 International Development.

of



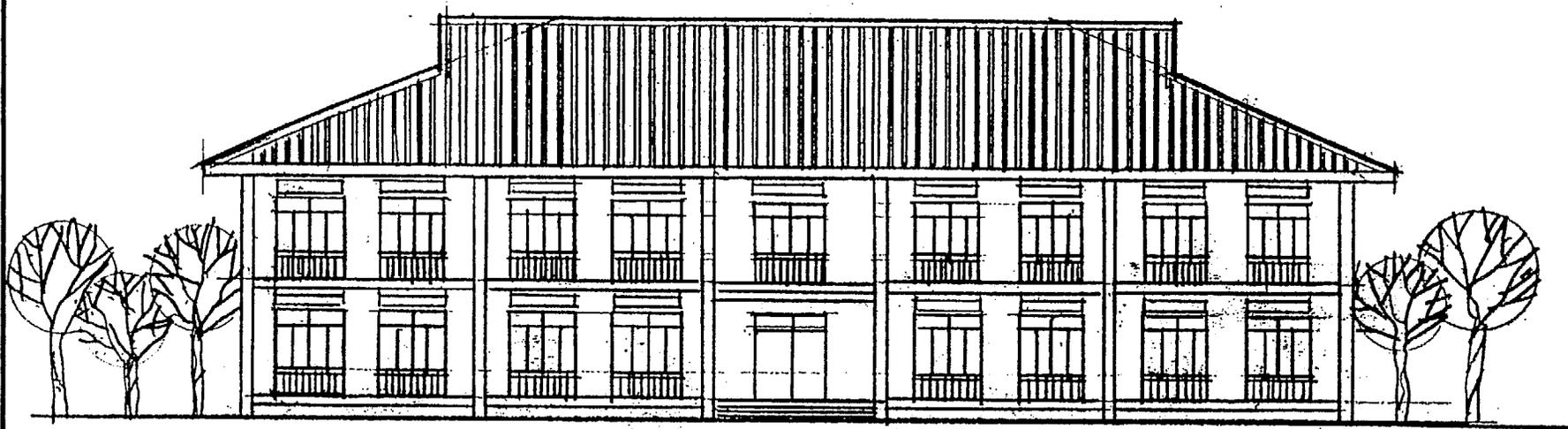
LEGEND

1. SERVICE/TOILETS
2. LABORATORY
3. SPECIMEN LIBRARY/DARKROOMS/STORAGE
4. VISITING SCIENTISTS AREA
5. LOGGIA

**MARINE LABORATORY**  
 Silliman University, Dumaguete City, Negros Oriental, Philippines  
**MARINE LAB BUILDING: SECOND LEVEL**

Silliman University Environmental Interpretive Program  
 Designed as part of the Environmental Education and Communication (GreenCOM) Project  
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**MARINE LABORATORY**

Silliman University, Dumaguete City, Negros Oriental, Philippines

**MARINE LAB BUILDING: FRONT ELEVATION**

Silliman University Environmental Interpretive Program  
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## 4.0 CENTROP

### 4.1 EXISTING CONDITIONS:

#### 4.1.1. Condition of existing structures:

- a. most of the existing permanent and semi-permanent structures are in a good state of maintenance
- b. wooden elevated walkway is in immediate need of repair, specially to strengthen the protective railings
- c. cages for animals are in need of refurbishment

#### 4.1.2. Site condition:

The site is in relatively good condition, although soil testing is recommended before any other permanent structures are constructed

### 4.2 DESIGN CONCEPTS:

#### 4.2.1. Symbol:

- a. Of the animal and plant diversity necessary for proper coastal resource management

#### 4.2.2. Architectural image: "walk through the forest"

- a. Redesign of existing animal shelters to improve visibility and eliminate "caged" feeling
- b. Well paved walk leading visitors through Centrop
- c. Numbered pauses along walk are keyed to maps and explanatory panels that highlight trees, animals, learning messages at different points along walk

### 4.3 INTERPRETIVE CONCEPTS:

#### OBJECTIVES:

Primary objectives for CENTROP are to:

1. To show the interrelationship between upland, lowland and coastal ecosystems.



2. To show impacts of upland and lowland activities on coastal ecosystems.
3. To demonstrate sound wildlife management, forest management, agricultural practices, and other forms of land use.

**AUDIENCES:**

Primary audiences for CENTROP include those people who visit the site and formal educators, students ages 4-16 and their teachers.

**INTERPRETIVE TOPICS AND THEME STATEMENTS:**

Primary interpretive messages for CENTROP are the following:

**TOPIC: BIODIVERSITY**

Theme Concept:

1. The Philippines is endowed with a rich indigenous and endemic flora and fauna.
2. Nature often works in cycles. The Water Cycles is a good example.
3. The Water Cycle shows the relationship between water use in the upland forest and the impact of that use on the lowland forest and the ocean.

**TOPIC: CO-EXISTENCE**

Theme Concept:

1. Humans impact the ecosystem in many ways, for example farming, forestry, hunting and gathering, building homes and cities, mining and industrial development.
2. Humans can also co-exist with plants and other animals by mitigating human impact and protecting natural resources.

**TOPIC: LAWS TO LIVE BY**

Theme Concept:

1. Dispose of waste properly.
2. Conserve water.
3. Recycle materials.
4. For every gain humans make there is a corresponding loss in nature.
5. Humans should know what they are losing as well as what they are gaining before making radical changes in the environment.



**TOPIC: RESEARCH AND RESOURCE MANAGEMENT PROBLEMS**

Theme Concept:

1. Our flora and fauna are rapidly disappearing due to overuse.
2. There is a need to protect and conserve our natural resources.
3. There are alternate ways of using our resources sustainably.
4. Wildlife research is important for humans too.
5. Wildlife research conserves biodiversity.
6. New ideas and products come from a diverse ecosystem.
7. Support wildlife research.
8. How humans manage forest resources in the mountains has a direct effect on the quality of life along the coast and in the ocean.

**TOPIC: STEWARDSHIP**

Theme Concept:

1. Care for your environment.
2. Support conservation projects.
3. Conserve water.
4. Recycle materials.
5. Go organic.
6. Give financial support to conservation work.
7. Volunteer on environmental work and rehabilitation projects.
8. Support eco-tourism and protected areas.
9. Our forests, Our Sea, Our Lives, Our Responsibility.
10. Action speaks louder than words.

**MEDIA:**

In phase one, media will be mostly flat panels and aquarium or terrarium cases. (See comments under media for the Marine Lab and Education Center.) As people enter the site from the parking area, there will be a small amphitheater or holding area with seating where the interpreter can gather small groups, including school groups, for an orientation to the site. Nearby will be an exhibit area with flat panels and terrarium cases to introduce visitor to the concepts of the water cycle, biodiversity, co-existence on the ground, at mid canopy and at canopy level, and basic laws to live by.

As mentioned at the Marine Lab and Education Center, people learn by doing. Interactive exhibits should be provided in the exhibit area in Phase 1, to the extent that they can be operated daily and maintained. Quiz boards, mechanical and tactile



exhibits and arrow-window boards could be used initially to tell stories of forest food chains and webs, adaptation and habitat. They could also be used near the exit of the Nature Trail so people could test what they learned on the trail.

More sophisticated video-tape programs could be developed for showing in the wet room to students and adults to tell more complicated stories like *Night Flyers* (bats), *Insects of the Canopy*, the *Water Cycle and You* and the *Value of Biodiversity*.

A computer interactive program similar to the one developed for Founder's Day could be used as a decision-making matrix for studying forest and wildlife resource management practices or issues.

Adjacent to the fixed exhibit area will be a very flexible outdoor, but covered, discovery space with aquarium, terrarium, microscopes and other equipment used for school group educational programs. This space could also have temporary fixed panel exhibits, easily changeable to meet the needs of local teachers and students. An enclosed room should be provided that will hold about 50 students which can be used as a wet lab and audio-visual room for school groups.

A self-guiding multi-language trail brochure with numbered stops may be developed to help with discussions of biodiversity, co-existence and adaptation as people tour the site. However, the brochure should be carefully thought out and be an interactive "necessary paper" otherwise, CENTROP will have litter problems. This brochure could be a kind of children's work-book which they would save for return trips. Depending on the substance and quality of the brochure; it could be purchased in addition to the entrance fee. This trail could start at ground level and rise to mid-canopy level as it leads people around and through the site. A tower with a wildlife "hide" could be used to focus visitors and school groups on this unusual look at a forest and discuss the biodiversity of the canopy level. The hide should be screened on the back and sides to focus the viewing area into the site. The trail will eventually lead back to ground level and a concluding exhibit on current research projects, the value of research, individual responsibility, stewardship of natural resources and a sustainable future for all of us.

Adequate maintenance and animal care space will need to be provided away from the public use area.



**PERSONAL SERVICES:**

Personal services in phase one will consist mostly of environmental education day use programs for local school groups with some adult/family drop-in visitors.

**STAFFING:**

Minimum staffing should consist of one full-time site manager, one full-time animal care specialist, one full-time maintenance person, with part-time volunteers and student interns, if possible.

**4.4. COST**

**1. Site Improvement**

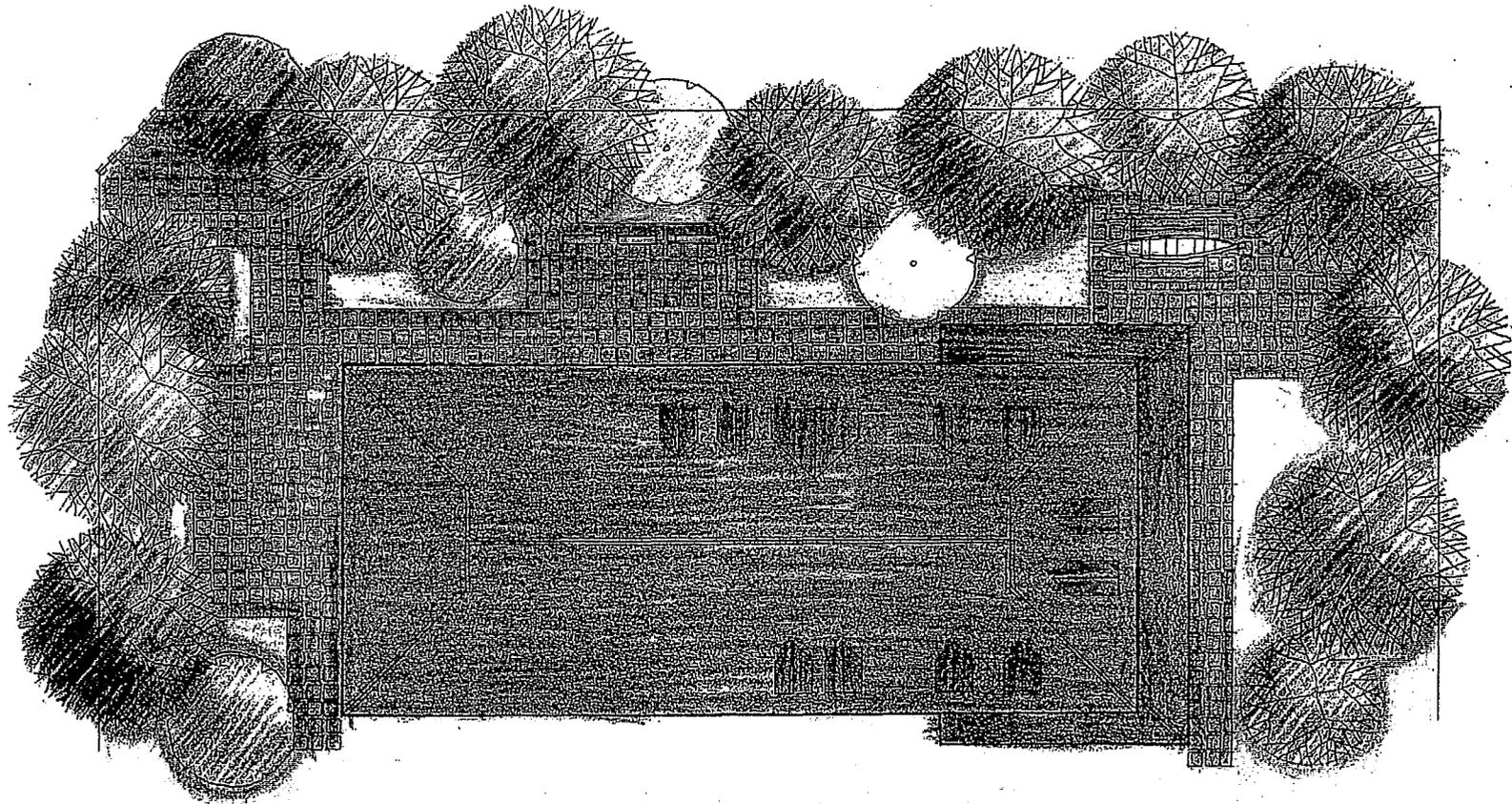
**a. Includes: buildings (including new aviary): 1230 sq mts @ P5000 6,150,000.00**

**b. Include: walks, new cages, aviary, landscaping, parking: 2200 sq mts @ P350/sq mt 770,000.00**

**2. Outdoor Exhibitions 250,000.00**

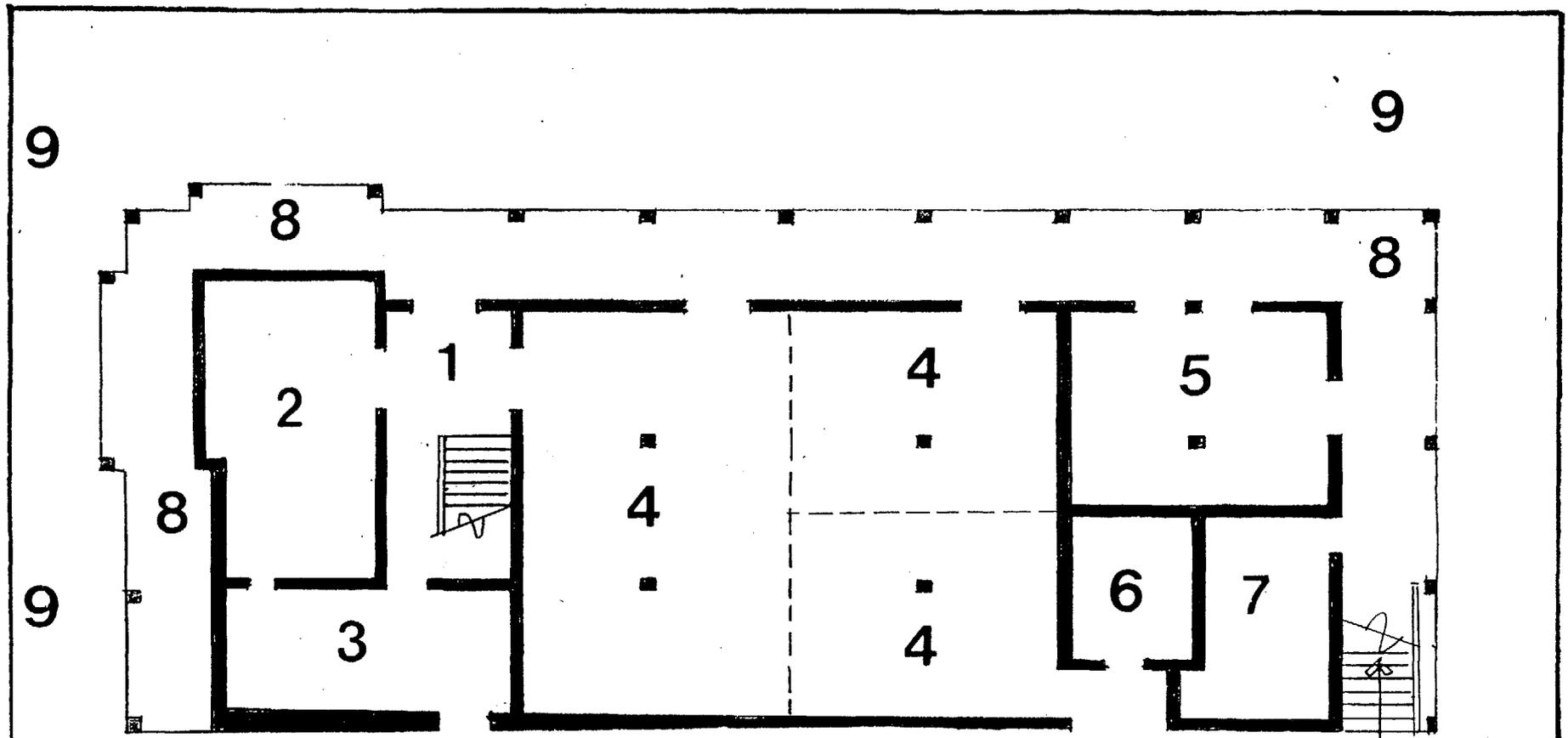
**TOTAL 7,170,000.00**





**SILLIMAN HALL**  
Silliman University, Dumaguete City, Negros Oriental, Philippines  
**SITE DEVELOPMENT PLAN**

**Silliman University Environmental Interpretive Program**  
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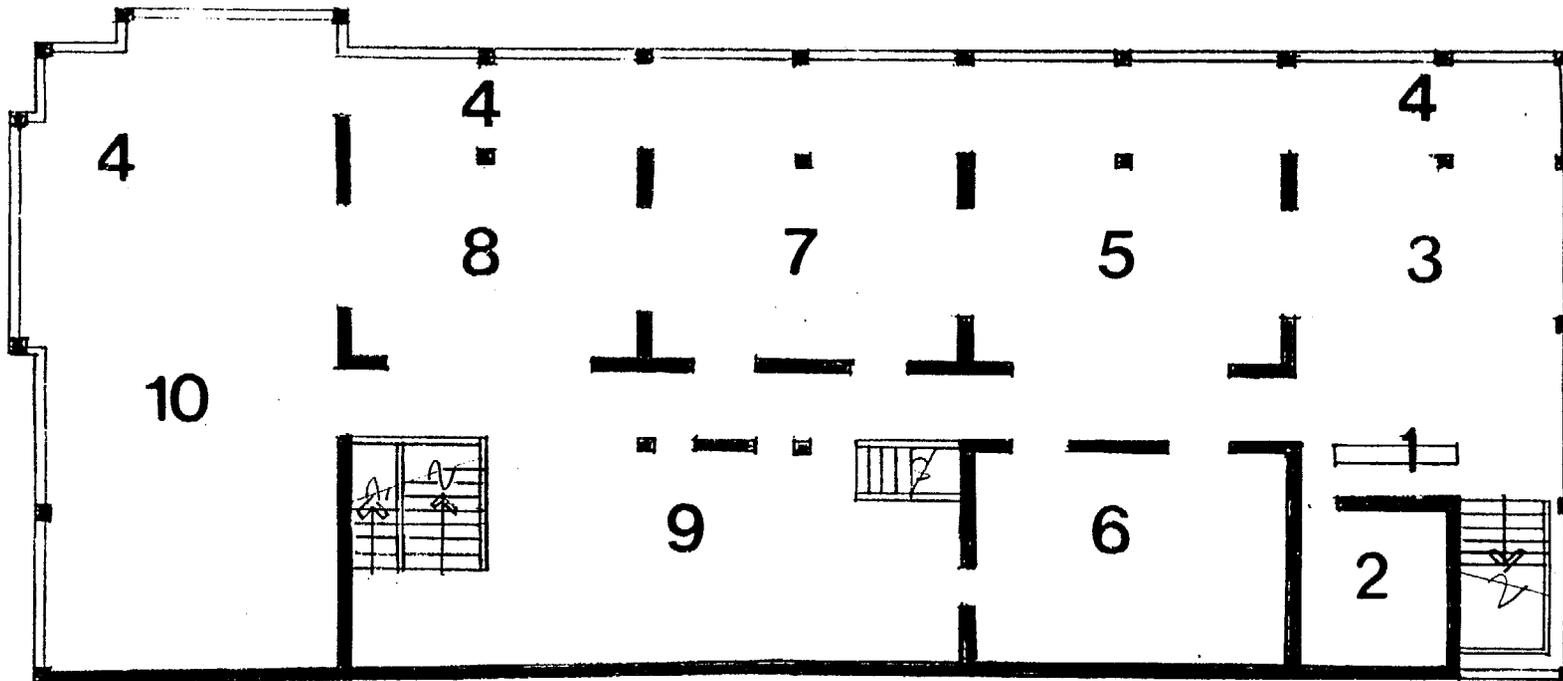
**LEGEND**

1. ALUMNI ROOM PRE-FUNCTION LOBBY
2. ALUMNI FUNCTION ROOM
3. KITCHEN
4. SEMINAR ROOM
5. CRAFT DEMONSTRATION AREA/MURAL ON FOUR TYPES OF SUBSISTENCE ACTIVITIES (NEGRITO, BUKIDNON, BISAYA)
6. TOILETS/SERVICE
7. GIFT SHOP
8. VERANDAH
9. OUTDOOR EXHIBIT: SIMULATED COASTAL LANDSCAPE

**SILLIMAN HALL**  
 Silliman University, Dumaguete City, Negros Oriental, Philippines  
**FLOOR PLAN: GROUND LEVEL**

Silliman University Environmental Interpretive Program  
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**LEGEND**

1. INFORMATION DESK
2. ADMINISTRATION/SERVICES/STORAGE
3. ORIENTATION AND VISITOR HOLDING AREA
4. VERANDAH
5. EXHIBIT: STONE AND METAL CRAFTS
6. EXHIBIT: CLAY, BAMBOO AND FIBER CRAFTS
7. EXHIBIT: SETTLEMENT PATTERNS AND HOUSE TYPES  
(PRE-HISPANIC, HISPANIC, AMERICANIZED, CONTEMPORARY)
8. EXHIBIT: WORLD VIEW (LIFE CYCLE RITUALS, HEALING  
SYSTEMS, FUNERARY OBJECTS, NATURAL ENVIRONMENT FOLKLORE)
9. EXHIBIT: CONTEMPORARY ART/TEMPORARY EXHIBIT GALLERY
10. COFFEE SHOP

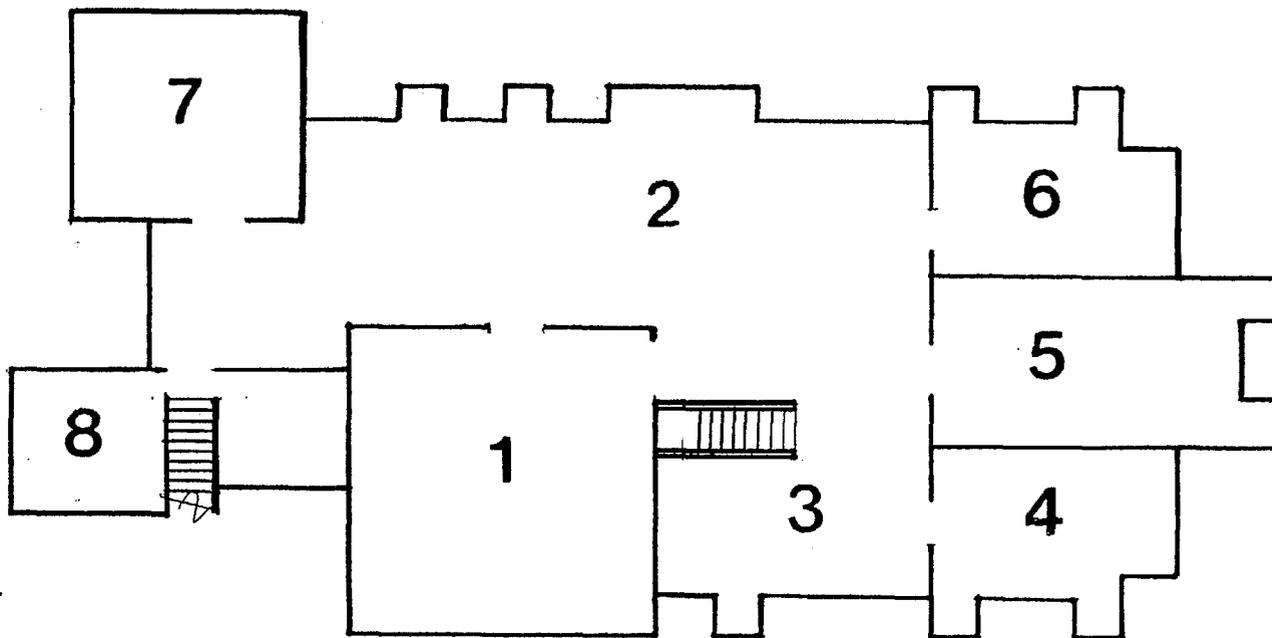
**SILLIMAN HALL**

Silliman University, Dumaguete City, Negros Oriental, Philippines

**FLOOR PLAN: LEVEL TWO**

Silliman University Environmental Interpretive Program  
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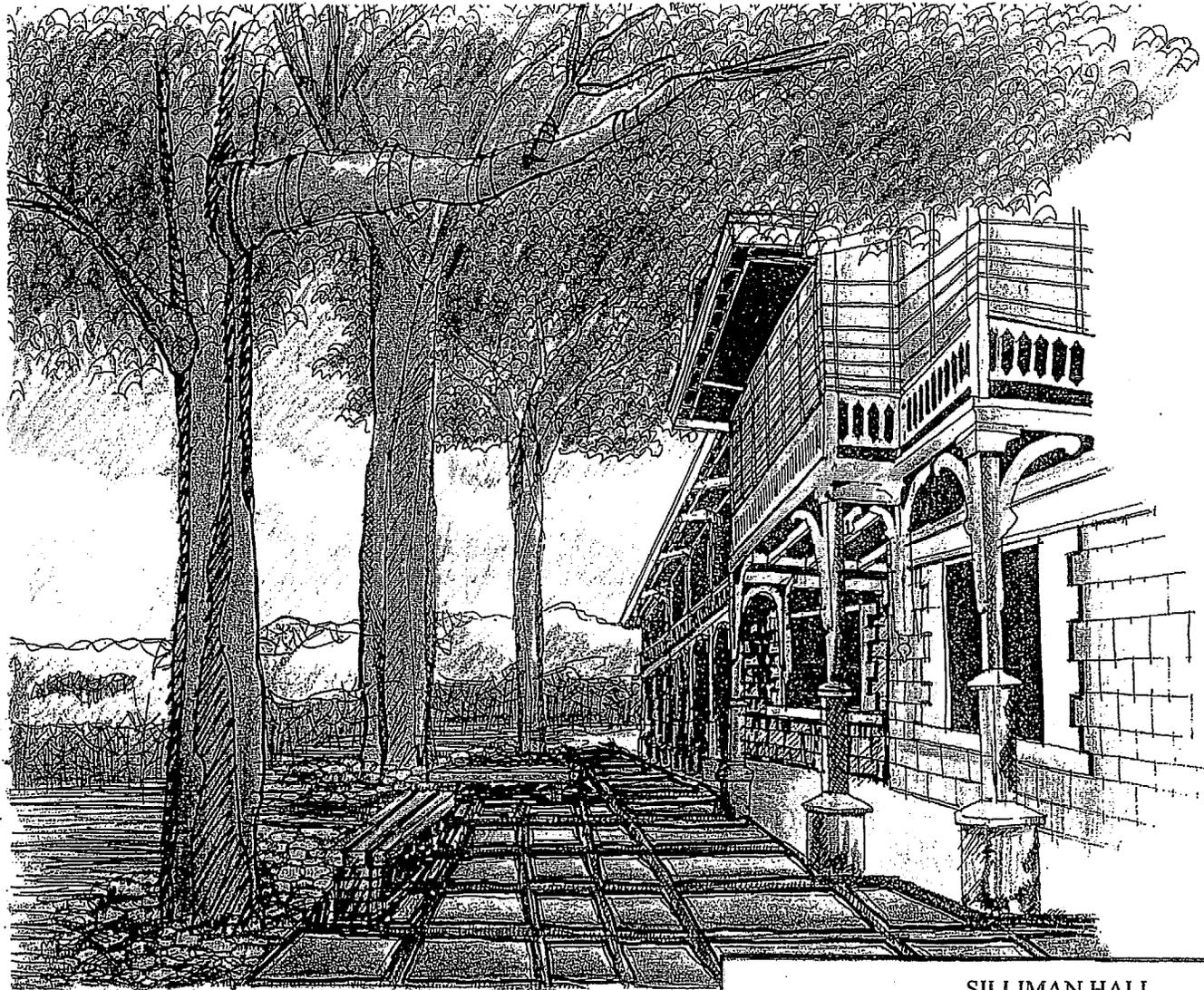
**LEGEND**

1. SMALL LECTURE ROOM
2. EXHIBIT: BISAYAN REPRESENTATION OF THE HUMAN BODY  
(JEWELRY, CLOTHING ARTICLES, GEOGRAPHY OF THE HUMAN BODY)
3. EXHIBIT: TEMPORARY EXHIBIT GALLERY
4. ADMINISTRATION AREA
5. STAFF MEETING ROOM
6. RESEARCH AND TEMPORARY FELLOWS' ROOM
7. MEMORABILIA FUNCTION ROOM
8. STORAGE

**SILLIMAN HALL**  
Silliman University, Dumaguete City, Negros Oriental, Philippines  
**FLOOR PLAN: LEVEL THREE**

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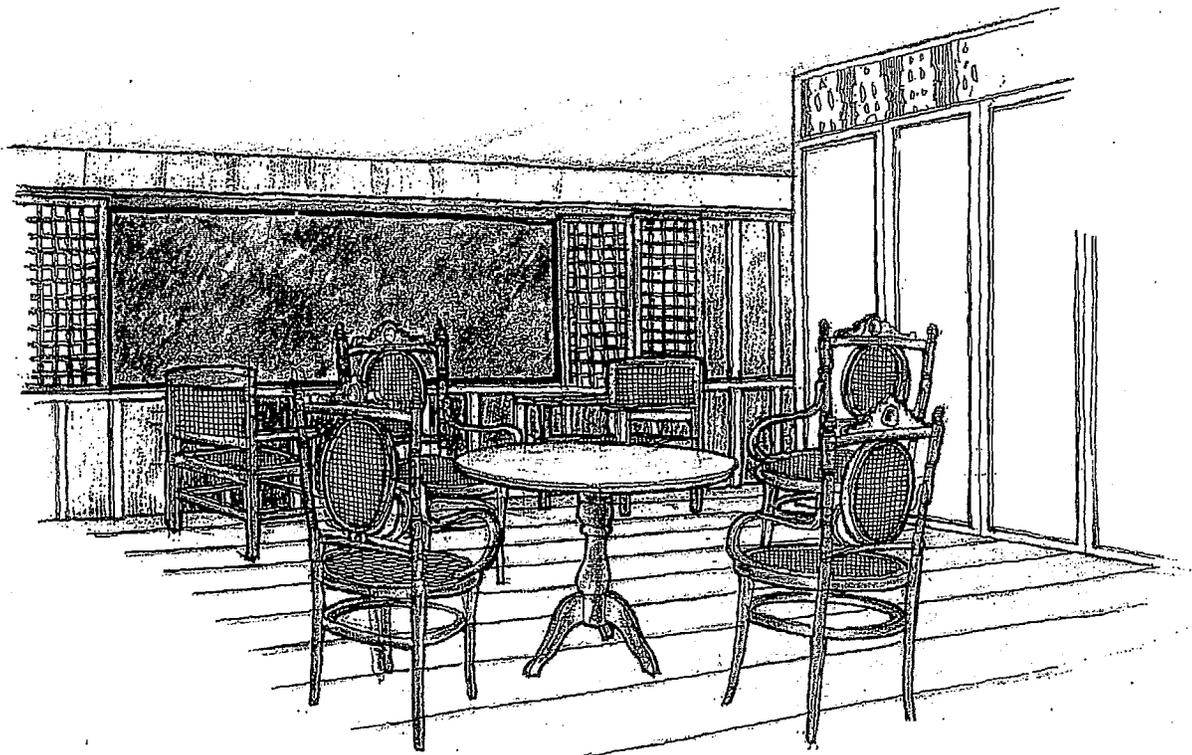
**SILLIMAN HALL**

Silliman University, Dumaguete City, Negros Oriental, Philippines

**OUTDOOR EXHIBIT AND VISITORS' AREA**

**Silliman University Environmental Interpretive Program**

Designed as part of the Environmental Education and Communication (GreenCOM) Project  
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**SILLIMAN HALL**

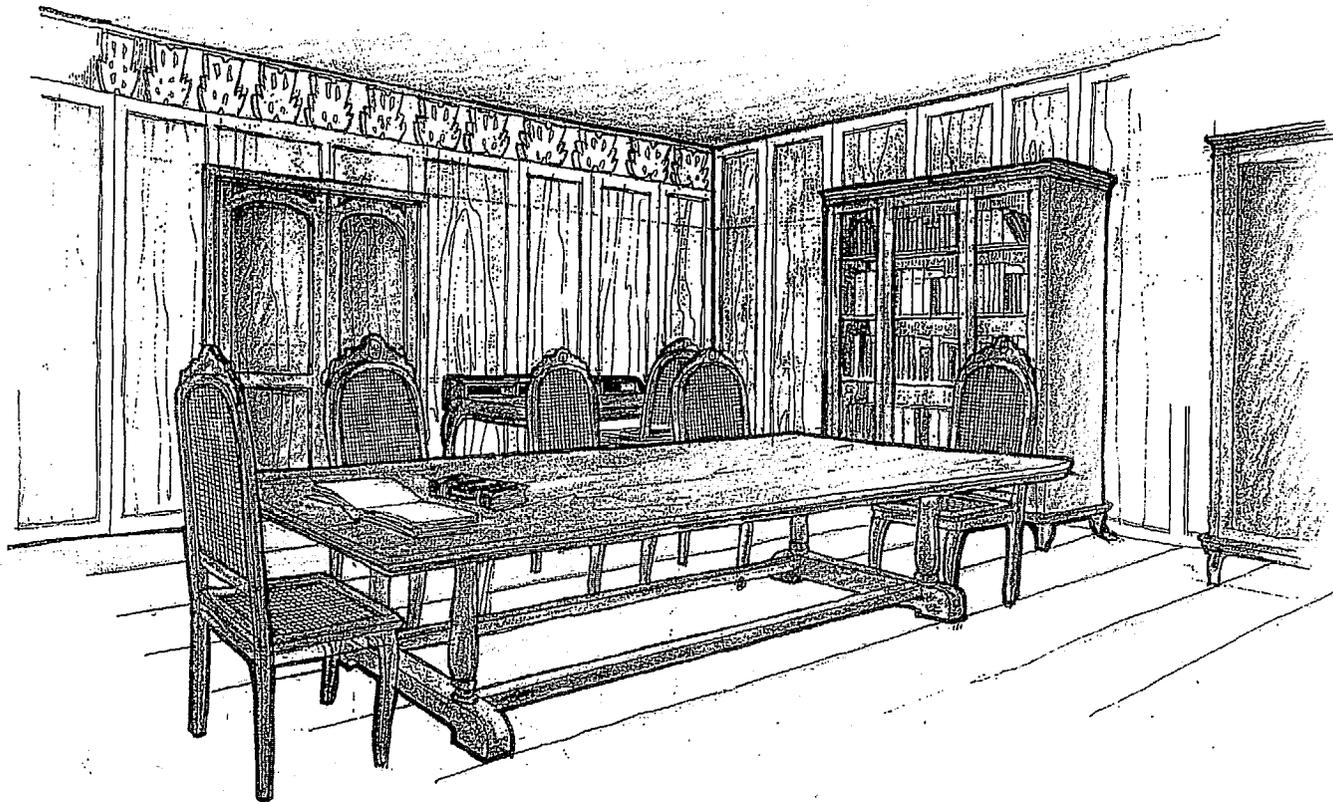
Silliman University, Dumaguete City, Negros Oriental, Philippines

**AMERICAN COLONIAL LIFESTYLE EXHIBIT**

**Silliman University Environmental Interpretive Program**

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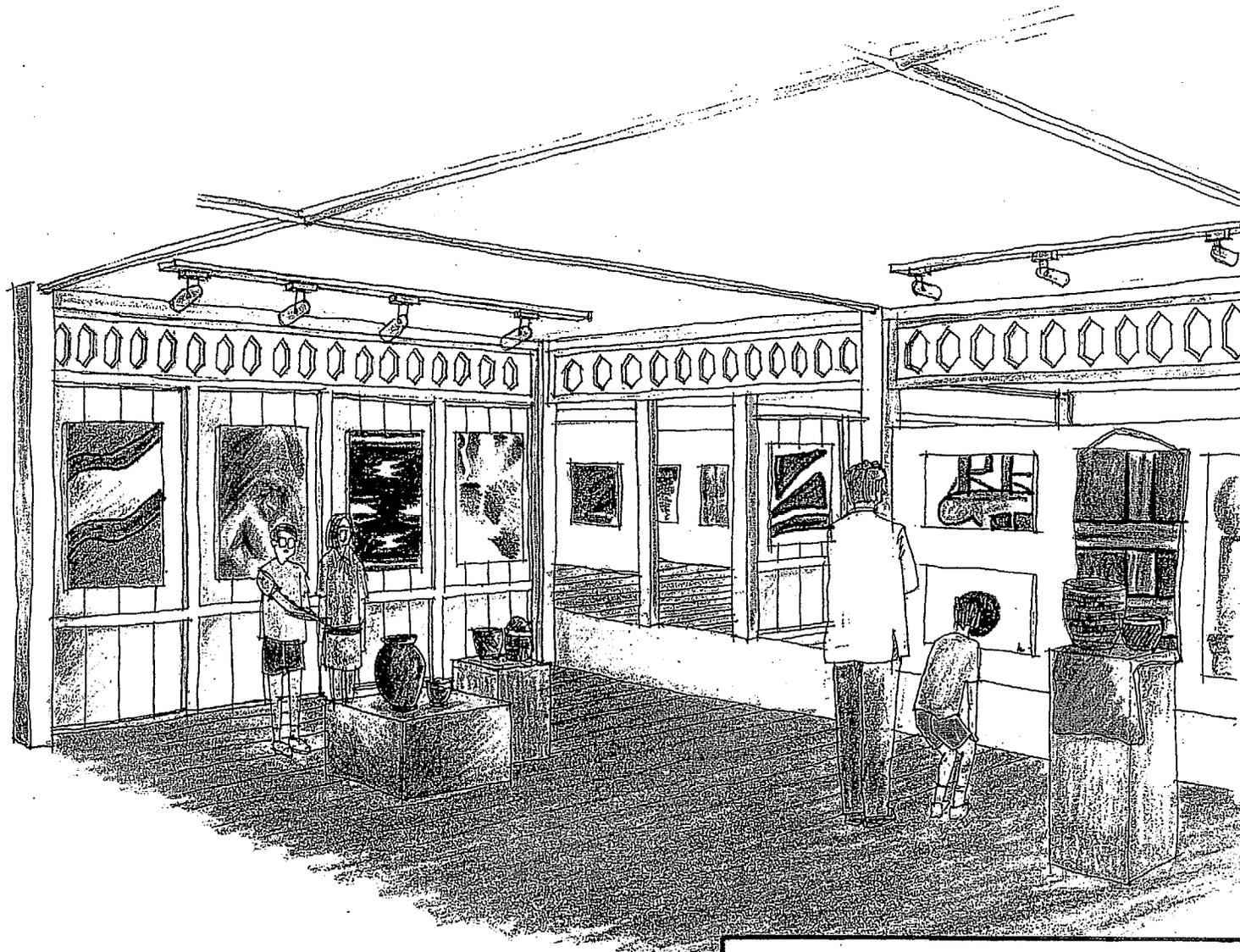
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SILLIMAN HALL  
Silliman University, Dumaguete City, Negros Oriental, Philippines  
**MEMORABILIA FUNCTION ROOM**

Silliman University Environmental Interpretive Program  
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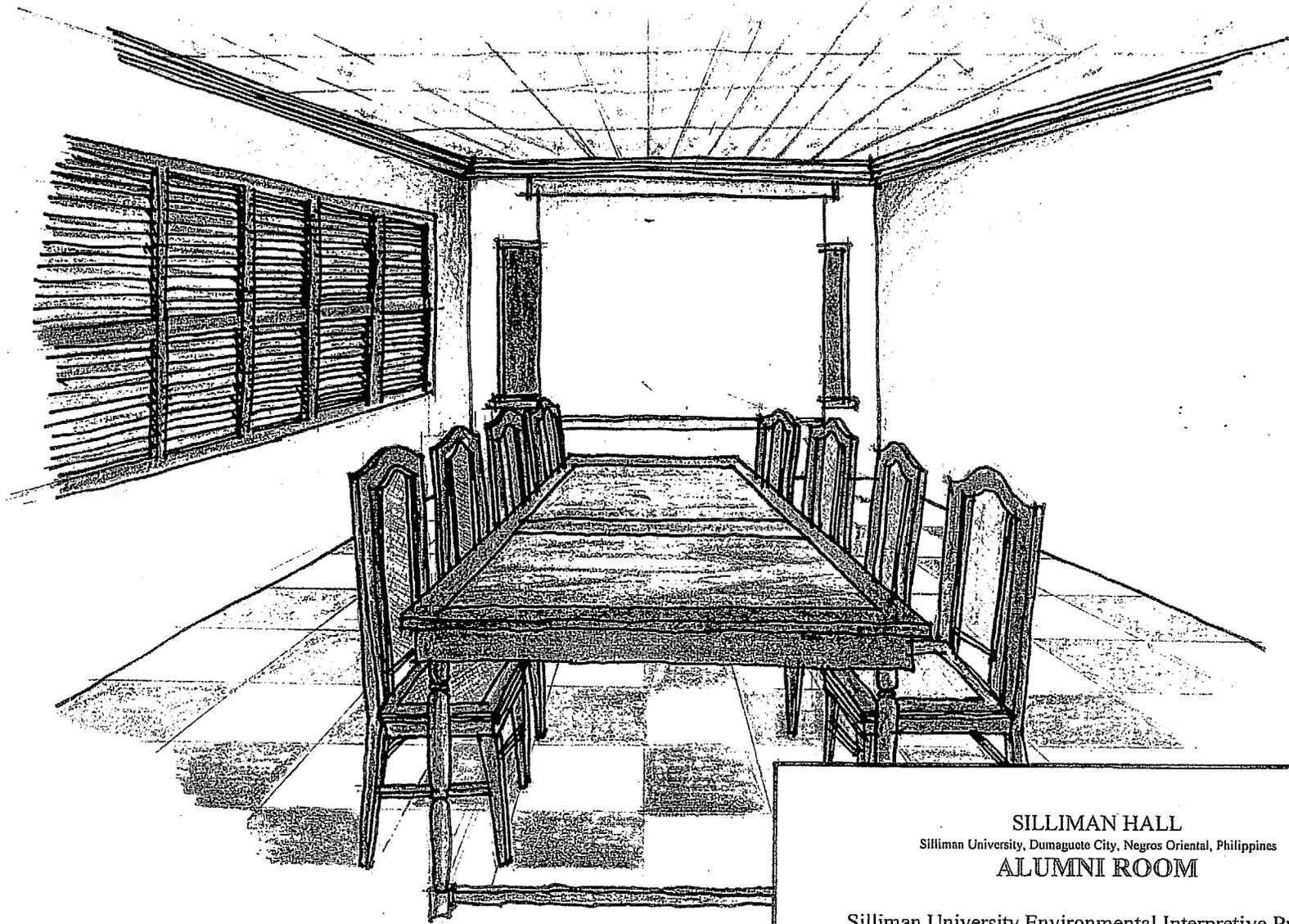
## SILLIMAN HALL

Silliman University, Dumaguete City, Negros Oriental, Philippines

### REFURBISHED EXHIBITION SPACE

Silliman University Environmental Interpretive Program  
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SILLIMAN HALL  
Silliman University, Dumaguete City, Negros Oriental, Philippines  
**ALUMNI ROOM**

Silliman University Environmental Interpretive Program  
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## 5.0 SILLIMAN HALL

Silliman Hall is one of the more revered symbols of the university. It is the visual link to the university's special heritage, an imposing visual marker of its unique place in Philippine - American history and educational excellence. Architecturally, the building is the centerpiece of the Silliman campus where one of the country's most extensive collection of American colonial architecture still survives. One of the country's most important heritage structures from the American colonial period, the exterior of Silliman Hall should be conserved and returned to its original appearance. The interiors of Silliman Hall can be architecturally re-cycled to accommodate its proposed new use as a mini conference center and interpretive center. The structural system should be reinforced to allow the increased demands by the new functions on the original, decayed structure.

In any developmental plans for the campus, conservation should be considered for the unique heritage structures that survive in the Silliman campus.

### 5.1 EXISTING CONDITIONS:

#### 5.1.1. Architectural assessment:

Since the existing structure is valued by the university, Silliman Hall should be conserved

- a. Almost all of the original design elements (fretwork, etc) within the structure still exist, making the task of architectural conservation easier
- b. the interior partitions of the structure, specially on the second floor are mostly non-structural and can be repartitioned to accommodate the requirements for the new use of the space

#### 5.1.2. Structural assessment:

(See Engineer's Report: Appendix E)

### 5.2 DESIGN CONCEPTS:

#### 5.2.1. Use:

As a social, conference and meeting center for not only Silliman faculty and students but also for the residents of Dumaguete, for adult education programs, as an interpretive center.



**5.2.2. Symbol:**

- a. Of Silliman University, its unique traditions and heritage
- b. Of the respected position in the academe and community shown by the positive contributions to Philippine (and international) society by its alumni
- c. Of the university's tradition of excellence
- d. Of the diversity of human cultural influences in coastal resources management

**5.2.3. Educational Message:**

- a. To preserve heritage structures as symbols of our country's past
- b. To recycle heritage structures to serve contemporary needs/uses
- c. To apply internationally accepted conservation practices for architectural restoration of building

**5.2.4. Architectural Image:**

- a. Heritage/cultural conservation
- b. "Continuing of Tradition" through re-use of Silliman Hall
- c. Building is the interface between Silliman and Dumaguete, between university and town

**5.3 INTERPRETIVE CONCEPTS:**

**OBJECTIVES:**

Interpretive objectives for Silliman Hall are to:

1. To encourage people to adopt a value or attitude towards sustainable utilization of resources which will be translated into practice and action.
2. To show the relationship between peopling stages and cultural influences as they affect present practices of coastal resources management.
3. To make people aware of their role and urgent need of their active and productive participation in promoting and attaining a sound and healthy environment.

**AUDIENCES:**

Primary audiences for Silliman Hall include people who visit the site, adults and groups who influence or are influenced by coastal resource management decisions, and those adults who are interested in Silliman University.



## **INTERPRETIVE TOPICS AND THEME STATEMENTS:**

Primary interpretive messages for Silliman Hall are:

### **TOPIC: CULTURAL HERITAGE AND TECHNOLOGY**

Theme Concept:

1. When population was small, technology was simple and natural resources bountiful.

Example: Negrito hunting and gathering

2. As population grows, technology improves and bountiful resources decline.

Example: Bukidnon slash and burn agriculture.

3. Superior technology means a better harvest.... But at what cost??

Example: Muro-Ami fishing methods.

4. What is the price of progress? What have we gained and what have we lost?

Example: Destruction of Sumilon Coral Reef.

5. We can co-exist with nature. We can achieve a balance between development and conservation.

Examples: Sumilon Island and Apo Island.

6. Migration and natural population increase are both a benefit and a concern in coastal resources management.

7. A benefit because diversity of opinion and human experience in a population strengthens that population.

8. A concern because increasing numbers of people and the subsequent demand on natural resources has an accelerating impact on the ecosystem.

9. Traditional healing practices still work today.

### **TOPIC: CO-EXISTENCE**

Theme Concept:

1. Coastal and upland cultures interact with foreign cultures.

2. This interaction has a direct influence on upland, coastal and marine natural resources.

### **TOPIC: SCIENCE AND RESEARCH**

Theme Concepts:

1. Science and research show the way to a sustainable ecosystem.

2. Science by itself will not protect natural resources.

3. People must act to protect the sustainable balance.



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**TOPIC: STEWARDSHIP**

Theme Concepts:

1. As we develop this land, we must know what we are losing as well as what we are gaining.
2. We must seek a sustainable balance between human needs and our impact on plants and other animals.

**TOPIC: SILLIMAN UNIVERSITY HERITAGE**

Theme Concepts:

1. Silliman University students have a long and distinguished heritage of accomplishments; particularly in natural resources research.

**TOPIC: INTERNATIONAL INFLUENCE**

Theme Concepts:

1. Many nations have contributed to Dumaguete, the Visayas and Philippine Heritage.

**MEDIA:**

In phase one, media in Silliman Hall should include mostly flat panel and case exhibits using a few, carefully selected existing artifacts available for display. These cases will be strategically placed along the corridors on the first floor leading to and from conference rooms and meeting spaces. Exhibit rooms can be developed on the second floor to address interpretive topics such as Cultural Heritage and Technology, Co-existence, Science and Research, Arabia , Spain, China, India, Japan and United States Cultural Impacts on Dumaguete and Silliman University Tradition.

As mentioned previously, many people learn by doing. Interactive exhibits should be provided in the exhibit area in Phase 1, to the extent that they can be operated daily and maintained.. Tactile exhibits, quiz board, mechanical exhibits and arrow-window boards could be used initially to tell stories of migration, traditional herbs for healing or the benefits of cultural diversity and also to test visitors' knowledge gained from the exhibits.



More sophisticated audio-visual and video-tape programs could be developed to illustrate Negrito hunting and gathering methods, slash and burn agriculture and Muro-Ami fishing methods.

A computer interactive program similar to the one developed for Founder's Day, could be used to illustrate the relationship between human actions (like agriculture, mining, fishing) and resource degradation.

Audio program of oral history could be developed for first-hand remembrance of regional heritage and cultural practices.

Phase two can incorporate more elaborate additions of audio-visual and publication elements to the exhibits as they become available.

### **PERSONAL SERVICES:**

Personal interpretive services should focus on adult conservation education related to coastal resources management, Silliman University tradition of excellence and the cultural heritage of Dumaguete and the Visayas. Interpretation could focus on special events like craft demonstrations, street dancing, traditional dance and music, fishing techniques, or boat building demonstrations that could be advertised and used as fund raisers to offset the cost of operation and maintenance for the program.

### **STAFFING:**

Minimum staffing should consist of one interpretive program manager, one exhibit curator, a staff of volunteers and university interns, if possible.

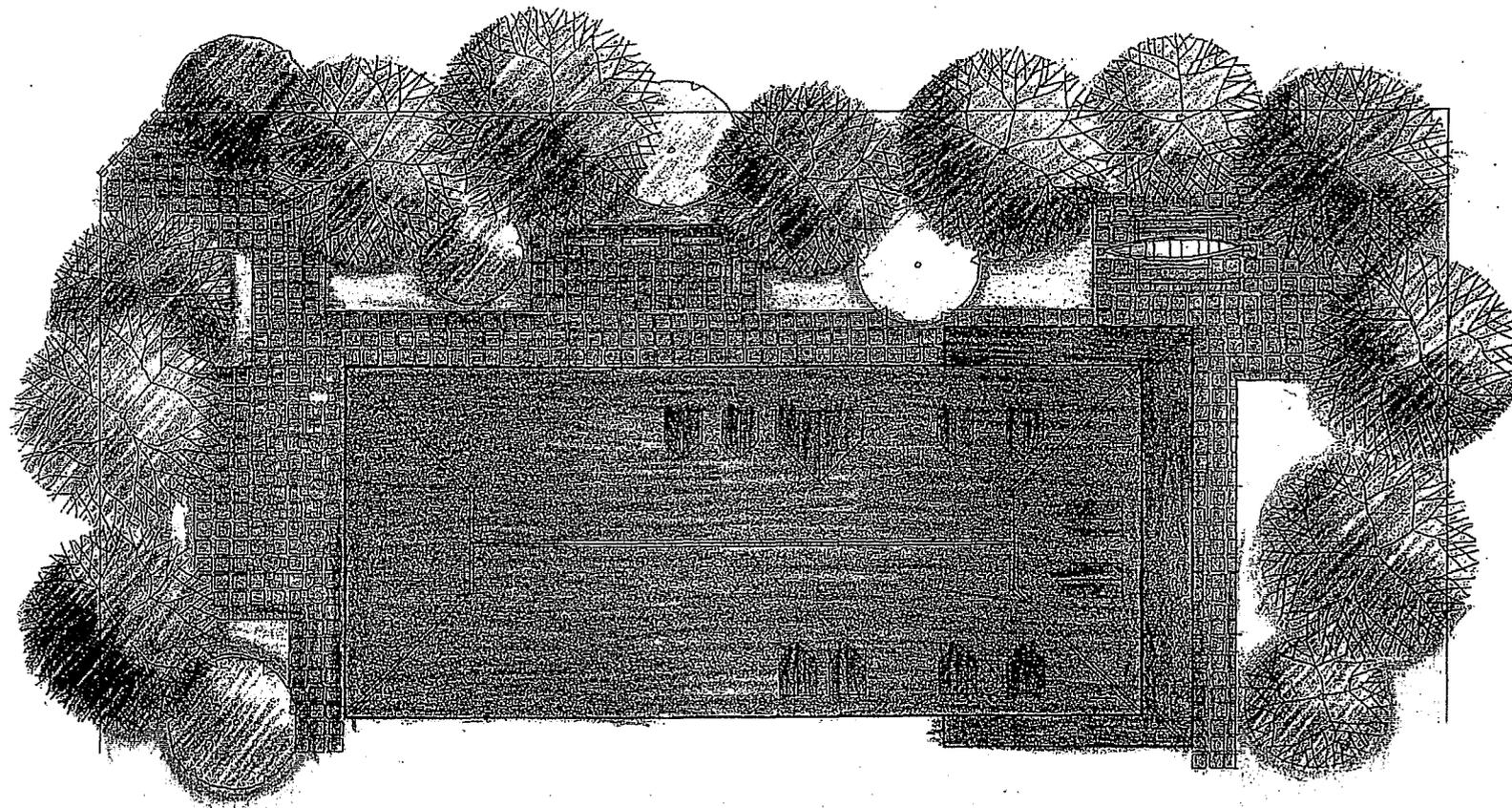
## **5.4 COST**

1. Conservation of existing structure (reinforce structure and return to original appearance)  
Includes reinforcement of structural system, new electrical and water systems, return of existing structure to original appearance (masonry, carpentry, painting, etc.)  
Cost: approx. 989 sq mts @P6,500/ sq mt P6,428,500.00
2. Site improvement and landscaping: 2,000 sq mts (approx.) @ P350/sq mt 700,000.00  
Interiors
  - a. Ground Floor: Function rooms, 649 sq mts @300/sq mt.  
Includes: cost of furnishing and equipping function rooms, etc 1,947,000.00
  - b. Second Floor: Exhibition Hall, 649 sq. mt. @ 3,000/sq mt.  
Includes: cost of hall refurbishment and exhibit installation



and lighting system	1,947,000.00
c. Third Floor: Offices & museum storage, 395 sq. mts. P2500/sq.mt	
Includes: cost of office and meeting room furnishing, labs/storage	987,500.00
<b>TOTAL</b>	<b>12,010,000.00</b>





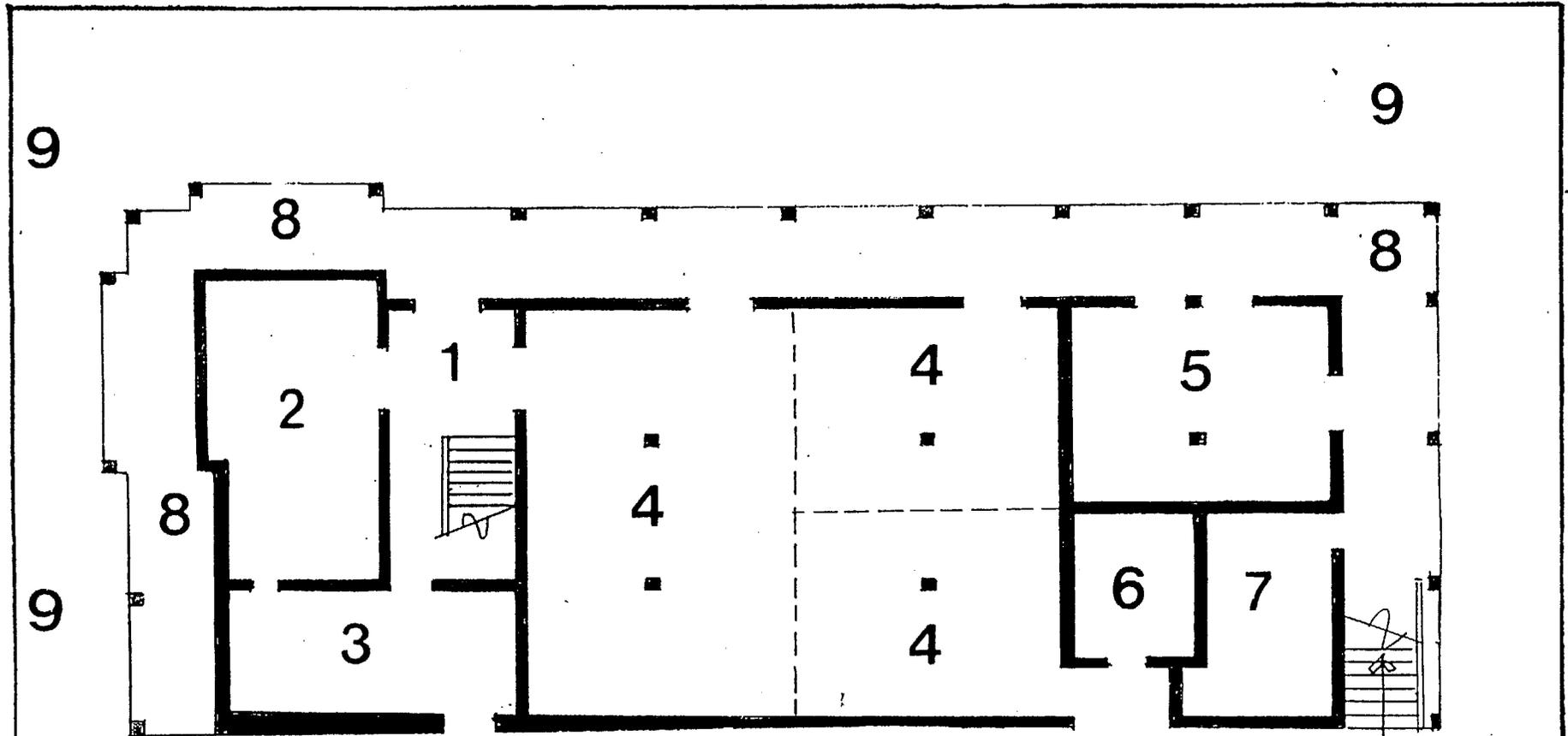
### SILLIMAN HALL

Silliman University, Dumaguete City, Negros Oriental, Philippines

### SITE DEVELOPMENT PLAN

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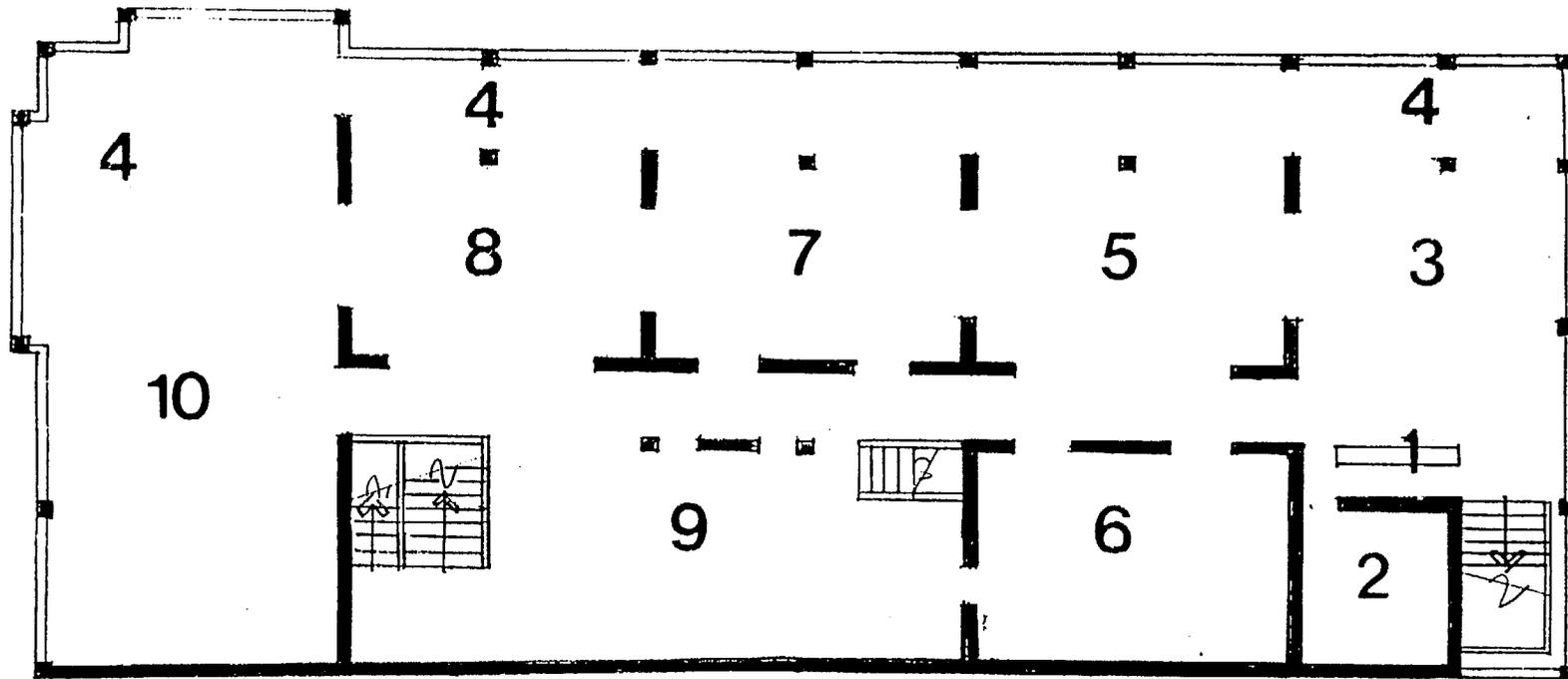
**LEGEND**

1. ALUMNI ROOM PRE-FUNCTION LOBBY
2. ALUMNI FUNCTION ROOM
3. KITCHEN
4. SEMINAR ROOM
5. CRAFT DEMONSTRATION AREA/MURAL ON FOUR TYPES OF SUBSISTENCE ACTIVITIES (NEGRITO, BUKIDNON, BISAYA)
6. TOILETS/SERVICE
7. GIFT SHOP
8. VERANDAH
9. OUTDOOR EXHIBIT: SIMULATED COASTAL LANDSCAPE

**SILLIMAN HALL**  
 Silliman University, Dumaguete City, Negros Oriental, Philippines  
**FLOOR PLAN: GROUND LEVEL**

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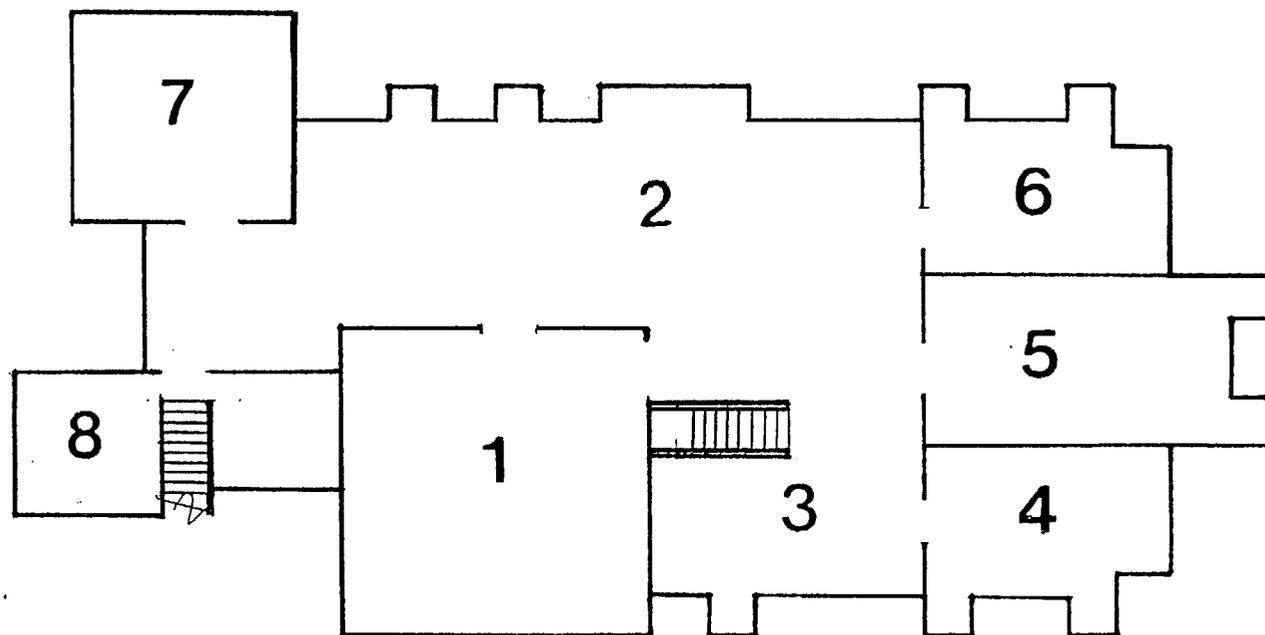
**LEGEND**

1. INFORMATION DESK
2. ADMINISTRATION/SERVICES/STORAGE
3. ORIENTATION AND VISITOR HOLDING AREA
4. VERANDAH
5. EXHIBIT: STONE AND METAL CRAFTS
6. EXHIBIT: CLAY, BAMBOO AND FIBER CRAFTS
7. EXHIBIT: SETTLEMENT PATTERNS AND HOUSE TYPES  
(PRE-HISPANIC, HISPANIC, AMERICANIZED, CONTEMPORARY)
8. EXHIBIT: WORLD VIEW (LIFE CYCLE RITUALS, HEALING  
SYSTEMS, FUNERARY OBJECTS, NATURAL ENVIRONMENT FOLKLORE)
9. EXHIBIT: CONTEMPORARY ART/TEMPORARY EXHIBIT GALLERY
10. COFFEE SHOP

**SILLIMAN HALL**  
Silliman University, Dumaguete City, Negros Oriental, Philippines  
**FLOOR PLAN: LEVEL TWO**

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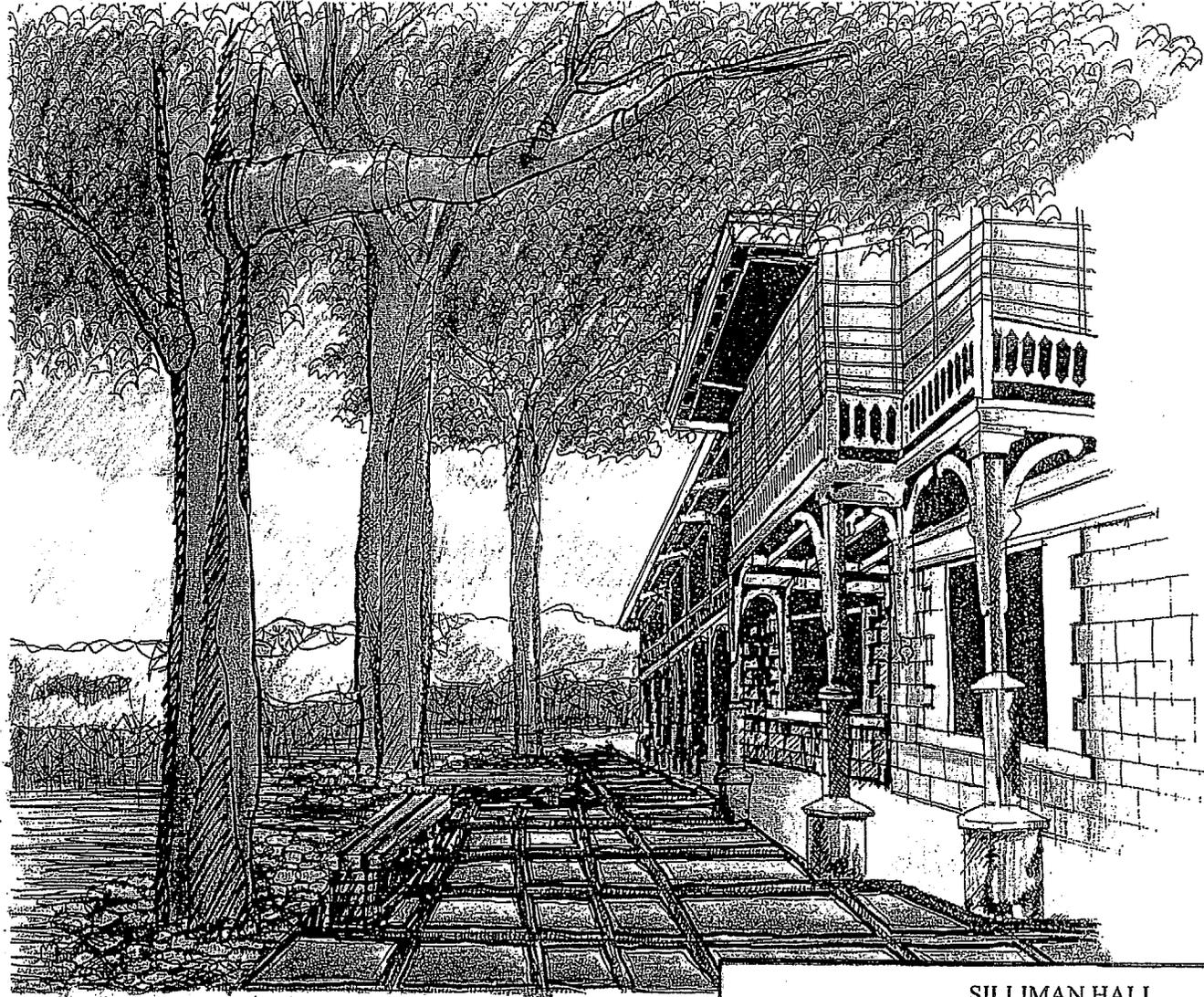
**LEGEND**

1. SMALL LECTURE ROOM
2. EXHIBIT: BISAYAN REPRESENTATION OF THE HUMAN BODY  
(JEWELRY, CLOTHING ARTICLES, GEOGRAPHY OF THE HUMAN BODY)
3. EXHIBIT: TEMPORARY EXHIBIT GALLERY
4. ADMINISTRATION AREA
5. STAFF MEETING ROOM
6. RESEARCH AND TEMPORARY FELLOWS' ROOM
7. MEMORABILIA FUNCTION ROOM
8. STORAGE

**SILLIMAN HALL**  
Silliman University, Dumaguete City, Negros Oriental, Philippines  
**FLOOR PLAN: LEVEL THREE**

Silliman University Environmental Interpretive Program  
Designed as part of the Environmental Education and Communication (GreenCOM) Project  
implemented by the Academy for Educational Development for the United States Agency for  
International Development

25



**SILLIMAN HALL**

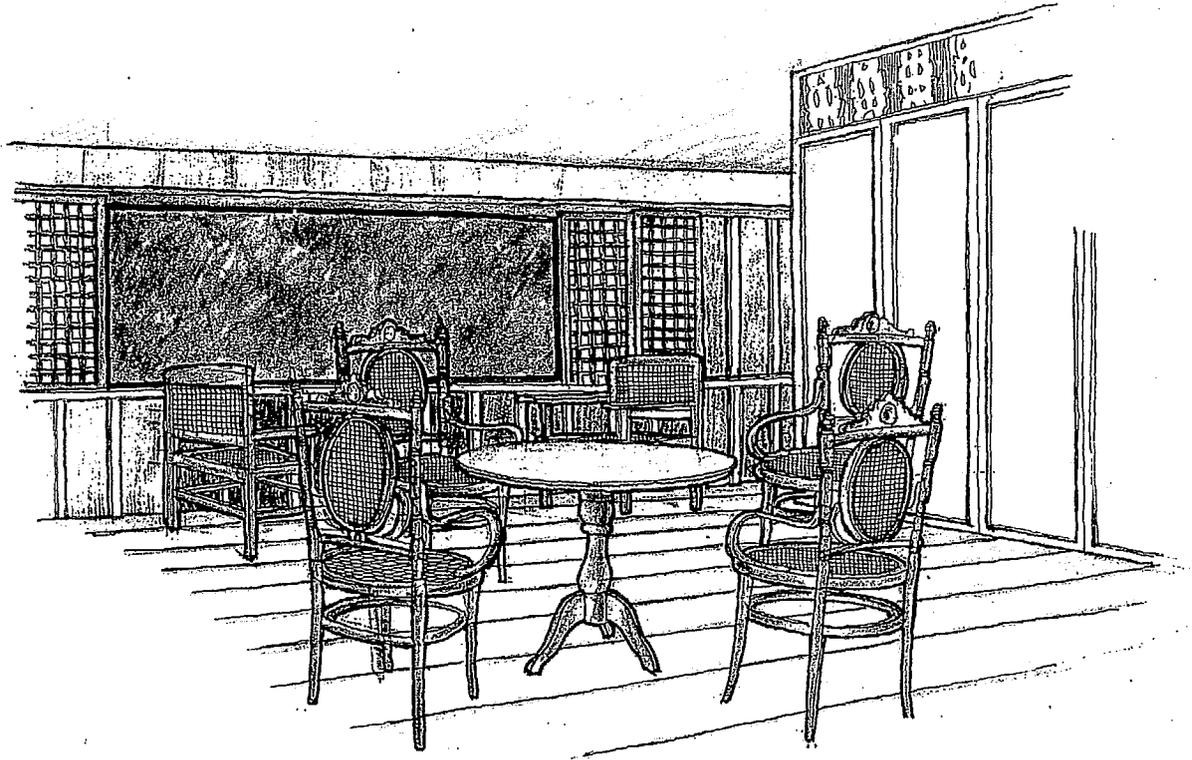
Silliman University, Dumaguete City, Negros Oriental, Philippines

**OUTDOOR EXHIBIT AND VISITORS' AREA**

**Silliman University Environmental Interpretive Program**

Designed as part of the Environmental Education and Communication (GreenCOM) Project  
implemented by the Academy for Educational Development for the United States Agency for  
International Development.

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**SILLIMAN HALL**

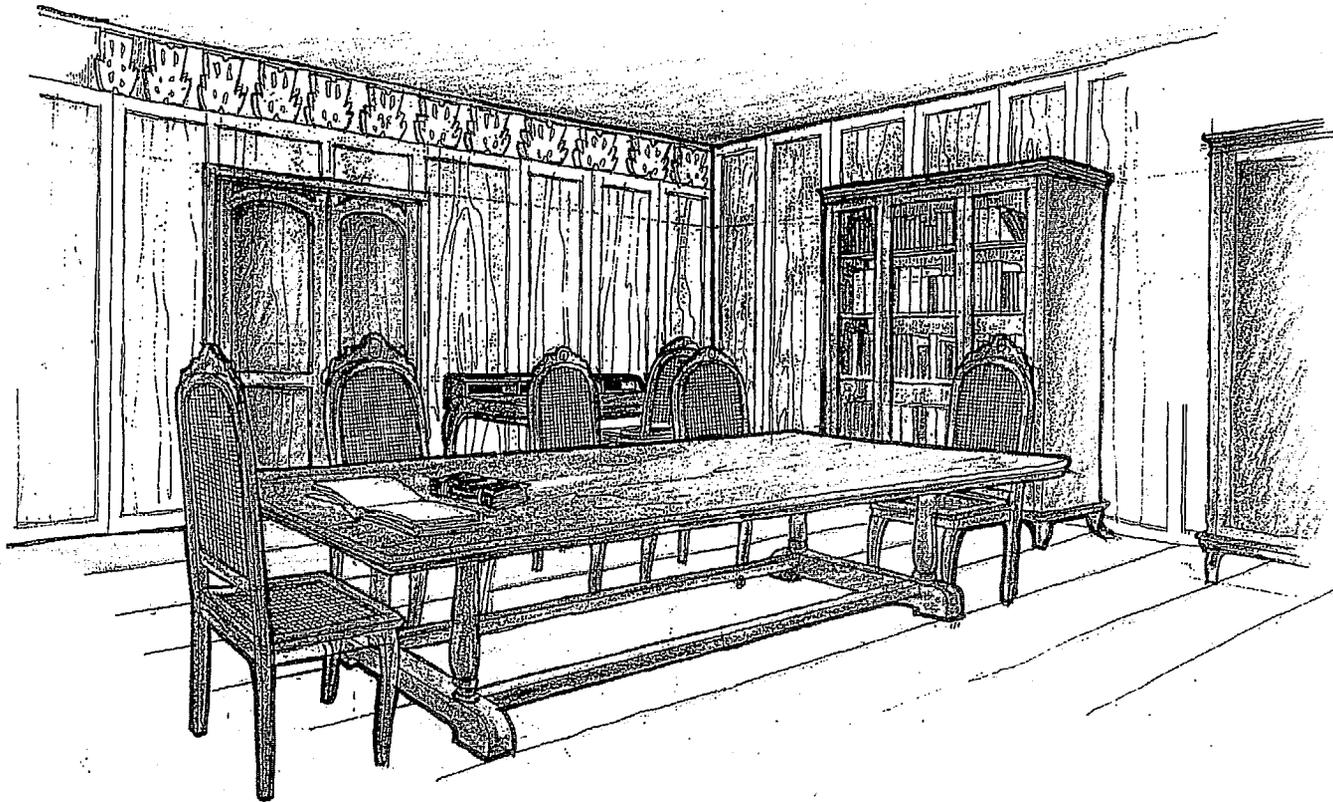
Silliman University, Dumaguete City, Negros Oriental, Philippines

**AMERICAN COLONIAL LIFESTYLE EXHIBIT**

**Silliman University Environmental Interpretive Program**

Designed as part of the Environmental Education and Communication (GreenCOM) Project  
implemented by the Academy for Educational Development for the United States Agency for  
International Development.

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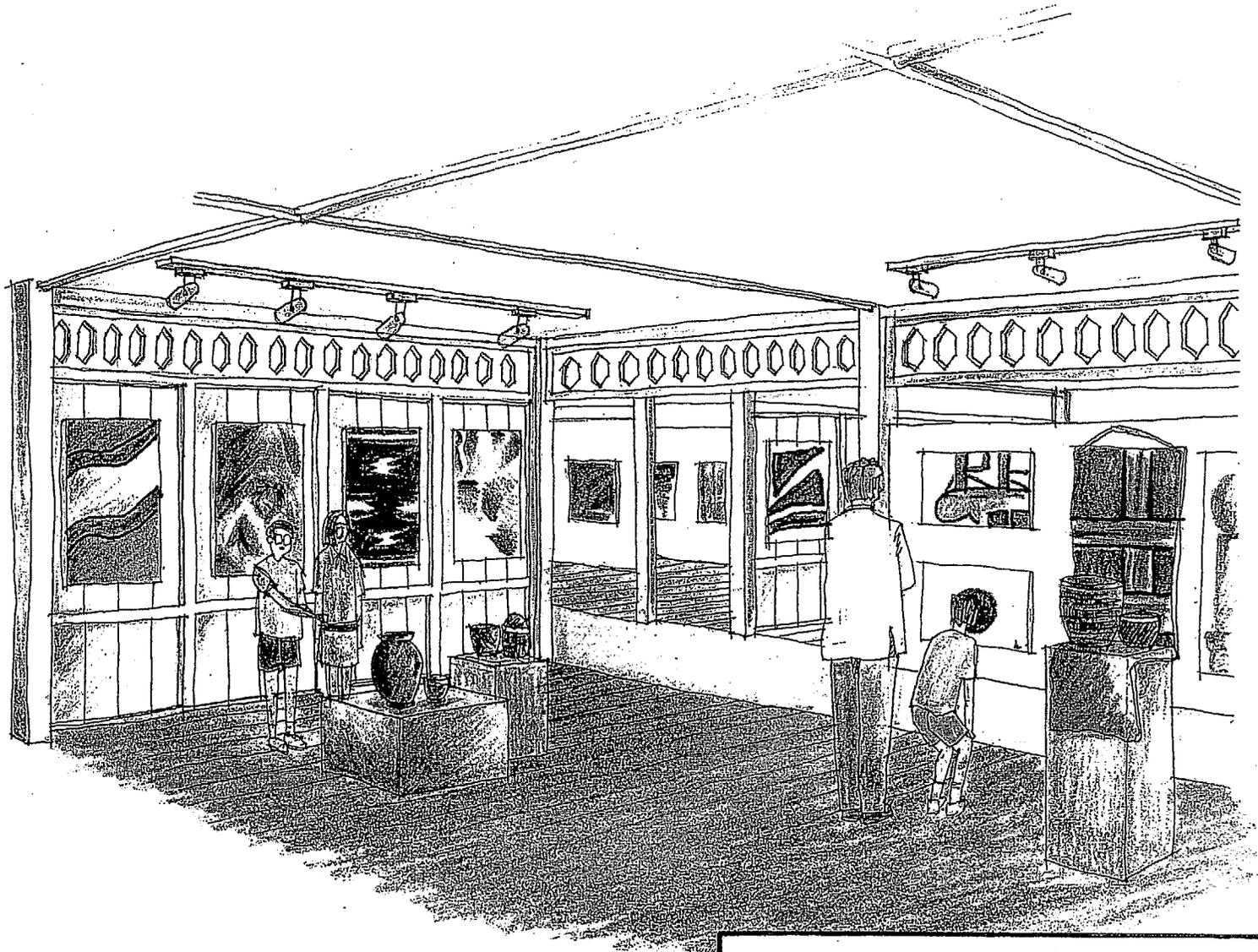
**SILLIMAN HALL**

Silliman University, Dumaguete City, Negros Oriental, Philippines

**MEMORABILIA FUNCTION ROOM**

Silliman University Environmental Interpretive Program  
Designed as part of the Environmental Education and Communication (GreenCOM) Project  
implemented by the Academy for Educational Development for the United States Agency for  
International Development.

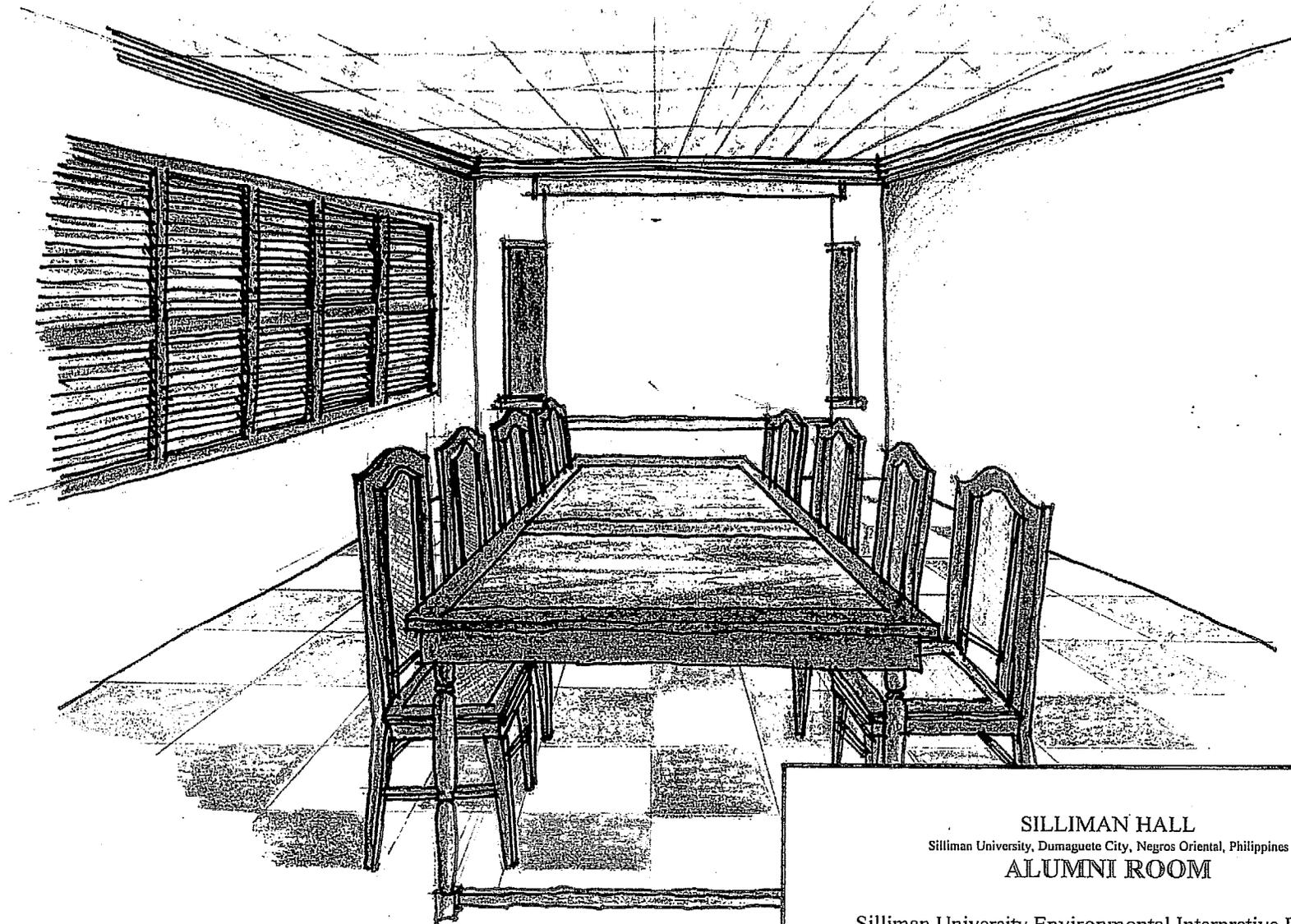
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**SILLIMAN HALL**  
Silliman University, Dumaguete City, Negros Oriental, Philippines  
**REFURBISHED EXHIBITION SPACE**

Silliman University Environmental Interpretive Program  
Designed as part of the Environmental Education and Communication (GreenCOM) Project  
implemented by the Academy for Educational Development for the United States Agency for  
International Development.

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SILLIMAN HALL  
Silliman University, Dumaguete City, Negros Oriental, Philippines  
ALUMNI ROOM

Silliman University Environmental Interpretive Program  
Designed as part of the Environmental Education and Communication (GreenCOM) Project  
implemented by the Academy for Educational Development for the United States Agency for  
International Development.

## 6.0 MARKETING

### ECO-TOURISM MARKETING and FUNDRAISING STRATEGY FOR SILLIMAN SITES

#### Marketing & Promotion Board

In order for the Silliman site(s) to be financially successful a focused marketing and communications effort will need to be happening. Silliman will need to establish a marketing office who's primary responsibility will be marketing and promotion of the sites and special events. This office should be formed in advance of the opening of the sites. A professional marketing specialist or communications firm should be hired to provide technical assistance to start up this office. This specialist should have a specific background in tourism marketing and public relations. They could work with student interns from the communications department at Silliman University with the ultimate goal of turning over the management of the office to a professional Philippine marketing director. The marketing office would be responsible for communicating with the local and international travel trade, the local and international press, Philippine and international environmental and cultural organizations, tourists and tour groups. Technical assistance should be provided in the area of marketing and business management assistance. There should be a 3-5 year marketing plan and a strategy.

The focus of this 3-5 year strategy will primarily be an image-building effort. The methods for promoting this strategy will be primarily public relations. There is no proposed budget for advertising since the production costs for advertising can be high.

#### Goals & Objectives

##### **Year 1-2 Goals:**

1. Establish a positive image of Silliman University's Heritage in Cultural & Environmental Stewardship.
2. Get 2,400 tourists to visit the Marine research and Interpretive Center (average 5 per day for 2 years)

##### **Year 3-5 Goals:**

1. Increase eco-tourism arrivals to the Marine Laboratory and Education Hall by 10% each year.
2. Get 2,400 tourists to visit the new, restored Silliman Alumni Center in year 3.
3. Book 144 conferences and events in the Silliman Hall Center from year 3-5.



**Method(s) for evaluating the success of the marketing strategy:**

1. 10-12 print articles appear in the international press about the Marine Laboratory and Education Center.
2. Entrance fees collected for eco-tourists at the Marine Laboratory and Education Center total at least 600,000 Philippine Pesos. (Assuming the entrance fee is 250 pesos)
3. Conferences are booked at Silliman Hall.

**Group Marketing**

Eco-Tourism has a special appeal for zoos, museums, aquariums, nature centers, and environmental organizations. These organizations recognize the potential for educating their members about the conservation issues through nature travel, and many of them have full time travel coordinators on staff. Therefore the nature of ecotourism marketing differs from traditional tourism marketing.

*Target Audience for Group Marketing:*

- Tour Operators in Cebu
- Adventure Tour Operators Internationally
- International Environmental organizations (World Wildlife Fund, The Nature Conservancy, The Smithsonian Institution)
- The Philippine Visitors & Convention Center
- The Media (Magazines, News & Information Broadcast & Print, Trade Print)

**Image-Building**

Currently there is *no* image of Dumaguete or Silliman in the international tourism trade. When a travel agent or tour operator in Japan, Europe or North America is looking for eco-tourism destinations in The Philippines they can usually get information about various places such as Mt. Pulog National Park, Palawan Wilderness, The Chocolate Hills, and other destinations. But there is little or no information available on Dumaguete/Silliman sites. The image of Silliman University is also almost non-existent outside the Visayas region of the Philippines.

There is a negative image of Dumaguete with the tour operators in Cebu. Complaints from tourists about the lack of first class accommodations in Dumaguete keep tour operators in Cebu from promoting Silliman as a tourist site. The Bais Bay Dolphin/Whale watching tour is currently being promoted by The Philippine Tourism Association from Cebu. However, this destination is perceived within the trade as a single destination from Cebu and not as part of a regional tour of Dumaguete/Bais.



An image of Silliman University as a center of excellence in Coastal Resources Management should be artfully portrayed in the marketing strategy. The development of a theme for promotion is a good way to start an image-building program.

### *Theme*

“Center of Excellence” is the theme which should be projected to the public. However, the way to project *excellence* may not be to use the phrase “Center of Excellence.” A more strategic way to project this theme may be the design of a logo and materials which tie together a unifying theme of excellence and the environment. The use of another tag line such as “A Heritage of Excellence” may be more in tune with the target audience; since the Silliman heritage is part of the interpretive product and history is an important factor in marketing eco-tourism.

The theme can be developed into a possible logo which can be used on a variety of medium.

### **Public Relations**

Public relations is one of the most effective methods for promoting a positive image of Silliman. The purpose of public relations is to get the media to promote a positive story about Silliman without paying for it. Studies have shown that stories which are reported rather than advertised are more believable to the general public. The Marketing and Promotion Board would be responsible for coordinating the public relations activities.

The Marketing and Promotion Board would be responsible for the following activities:

#### *Press Releases*

The Marketing and Promotion Board should target a group of print and broadcast media producers. This target group should be regional, national and international. The group could include magazines, newspapers, television and radio shows. A list should be developed which includes the names of the editors, producers and directors of each target. This list needs to be up-dated since editors, producers and directors change jobs frequently. It is also critically important that the promotion board be familiar with the format of each medium. For example, if one of the targets for publication is Outdoor® magazine, The Marketing and promotion Board should *read* that magazine. It's important to understand what types of stories magazine publishers and broadcast producers want.

After the target list is developed press releases can be sent out to the media. A good tip for pitching the media is to “remember calendar dates.” For example, on Earth Day most editors are looking for interesting stories. Perhaps there would be an interesting environmental story that can be placed in publication which is covering small environmental projects which get the community involved.



It is important that follow-up is done with press releases. For example, when a set of press releases is sent out someone from the Marketing and Promotion Board should call the editor and make sure the publisher has enough information about the Silliman sites to begin producing a good story. It is also important to have press kits available for follow-up information requested by any editor, producer or director.

Reference Material Necessary: Grays Media Directory  
For Press Releases: ASTA Travel/Trade Media Directory

### *Familiarization Trips*

Silliman should invite tour operators to the Marine Lab and Education Center and to the other sites (Silliman Hall and Centrop) after the restoration, renovation and interpretation is completed. The tour operators should be taken to the Marine Research Lab and given a nice luncheon presentation on the importance of the environment.

### *Seminars*

Silliman should prepare a dynamic 30-minute slide presentation and educational seminar that can be given at regional tourism meetings and environmental workshops. The seminars could also be held at the Silliman Hall once it is renovated. A dynamic slide presentation is also important to show to corporations for fundraising.

### *Corporate-Linkages*

Corporate Links are an important part of developing strong cultural and environmental programs. A corporate link is simply a project or program that involves money or technical assistance from a corporation. The Marketing and Promotion Board should liase with international corporations who have operations in The Philippines. Companies such as Shell Oil, Mobil Oil, Phillips Electronics, Apple Macintosh, NIKE, ESPRIT and others all have production facilities in The Philippines. They also have foundations within their corporate structure which allows them to make contributions to non-profit organizations. Most times a corporation does not require signage or conspicuous references to their contribution.

Possible corporate linkages are the following: (These are only ideas. None of the following corporations have been approached or have expressed interest yet.)

### *Sony® and Silliman Marine Lab*

As the interpretive centers develop they may want to use more sophisticated medium such as multi-guided tours through cassette tapes and recordings. Cassette tapes or equipment for exhibitions and the interpretive centers could be provided by Sony®. Perhaps Sony® can provide technical and design assistance for the project as well. A prospectus or grant application should be prepared which describes why this type of equipment may be necessary.



## 2. SHELL Oil Foundation/MOBIL Oil Foundation

Shell Oil Foundation has a track record of funding arts and cultural projects in The Philippines and in Cebu specifically. MOBIL Oil Foundation has an equally strong track record of funding cultural programs in areas where they have a corporate presence. As the Silliman Hall Building renovation/restoration begins and the costs for specific interpretive areas within the building are established a prospectus or grant application should be made to Shell Oil Foundation, MOBIL Oil Foundation and other foundations.

## 3. NISSAN Foundation

Nissan Foundation has a history of providing vehicles to non-profit environmental and tourism projects. As the interpretive portion of The Silliman Hall project evolves, there may be a need for a specially out-fitted, four-wheel-drive vehicle with interpretive panels and multi-media equipment. Since Nissan now has a new international campaign to position their cars and recreational vehicles as cross-cultural and "hip", they might be inclined to fund (or partially fund) a special project which is dedicated to the environment.

Reference Material Necessary  
for Public Relations:

Cranes Directory of Foundations  
ADAGE® Directory of Advertisers

## Promotional Materials

Dynamic printed promotional materials will be necessary in promoting The Silliman sites. The materials would be used for the direct promotion of tourism and visitation, press and media relations, fundraising and public outreach. Most traditional travel brochures are designed to fantasize, romanticize, and aggrandize a destination. The text is usually written with poetic metaphors and the layout can show opulent bedrooms, omnipresent valets, sumptuous formal feasts, breathtaking panoramas, torrid love affairs, and deep-brown suntanned perfect bodies in the photography. Usually the natural resources are more of a Hollywood-type back-drop to the hotel service.

Eco-tourism takes a different approach toward promotion. Eco-tourism brochures rarely use professional models and staged photographs. Rather the photography features a peep of nature frozen in time. For example the red-eyed tree frog in Belize is a tiny animal, used in that country's award-winning promotional materials. The indigenous cactus of Curacao, and the red-rock of Petra in Jordan are also non-traditional images that have been used to successfully promote eco-tourism in those places. For example, in Jordan the tourism promotional material actually included the antiquities law governing the purchase and theft of antiques and guidelines for how to dive and snorkel in the Red Sea with minimal negative impact on the coral reef. The Jordan promotional material was



designed in such an elegant manner that the information seemed interesting and informative. The reader felt as though they were a "privileged" guest.

Underwater photographs of the coral and marine life around Dumaguete would be beautiful. Photos of the dolphin at Bais Bay and the warthog at Centrop could also give a brochure the feel of biodiversity. It should be remembered that eco-tourists tend to come from a high income bracket and usually traveling a great distance to a destination. So the food and accommodations should be favorably photographed and accurately described in the printed materials as well.

A common mistake in producing eco-tourism materials happens when it's being produced. Many eco-tourism promoters are also enthusiastic amateur photographers - so they want to use their own photos regardless of the quality. The same problem occurs with text which is written by a hotel operator, wildlife researcher or amateur. It is important that eco-tourism materials be as professional looking as any other kind of tourism brochure. Usually design or advertising firms are the best equipped to produce effective promotional materials. Also, the outside objectivity of a professional firm can usually assure the materials are effective and not simply accurate.

All travel and tourism materials require full-color photography. It is important that the registration on all photos be accurate and clear. In the case of the Silliman sites it is important that the materials be printed on recycled paper with soy-based inks.

**Technical Assistance Necessary:**

1. *A Full-time Marketing Director for Marketing and Promotion Board (ex-pat or Philippine) - 2 years of technical assistance, possibly in several short-mid-term field consultancies. First 12 months of start-up, development of a marketing plan and training needs assessment. Should have at least 10 years of professional experience to:*

- . Develop a Marketing and Promotion Board  
*staff can be the Silliman students from the Communications Department*
- . Develop a 5-year marketing plan  
*to include a detailed projection of costs and fundraising activities*
- . Liaison with Silliman University and the Travel Trade
- . Liaison with National, International and Regional Press
- . Liaison with the Corporate Community
- . Training Needs Assessment Report for Silliman Marketing and Promotion Board
- . Training (Technology Transfer) of Silliman staff in Marketing and Public Relations



2. *Promotional Materials Designer*

(ex-pat or Philippine) should have at least ten years of professional experience designing eco/cultural tourism materials. A total of 100 days of time, possibly in Responsibilities include:

- . Develop concepts for a series of promotional brochures and printed materials
- . Design a Logo for the Silliman sites
- . Design. Write and prepare camera-ready mechanicals for all materials.
- . Photograph the Silliman sites and other attractions

**Estimated Costs:**

Marketing Director:                 \$140,000. (based on a salary of \$70,000 per year)  
Phone/Fax:                             \$7,000. (based on \$3,500. per year)  
Computer/Equipment: \$10,000.  
Designer:                               \$35,000  
Printing:                                 \$35,000.  
(for printing quantities of 2,000 6-panel brochures, press kits, stationary, full-color brochures and envelopes)  
Film/Developing:                     \$2,000.  
Miscellaneous:                         \$3,000.  
(for supplies, color proofs, SYQUEST disks, special effects in film developing and illustration)

**\*TOTAL:    \$232,000.**

\*Assuming the office will be located on the Silliman Campus / no office rental included.



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## 7.0 ECO-TOURISM

### THE CONSERVATION MARKETING ETHIC OF ECO-TOURISM

The International Eco-Tourism Society defines eco-tourism as *...purposeful travel that creates an understanding of culture and natural history, while safeguarding the integrity of the ecosystem and producing economic benefits that encourage conservation.*

The long term survival of this type of travel is linked to the existence of natural resources which support it. Consequently, travel agencies and ground operators that design and plan eco-tours must have a dedication and full understanding of the importance of natural resources. They have a conservation ethic which compliments the efforts of environmental preservationists. The conservation ethic is establishing itself within the travel trade (travel agents and tour operators). There are many successful eco-tourism projects which were conceived and executed by travel hotels, corporations, travel agents and other groups within the tourism industry. Dynamic marketing and development from this private sector is the leader in promoting tourism and conservation.

The key components of Eco-tourism are as follows:

#### *To Increase an Awareness of Nature*

In general eco-tourism should stimulate an understanding of the ecosystem and the need for preservation. Effective tours emphasize the interdependent relationships in nature; including the vulnerable human niche. A common misconception about eco-tourism is that tourists must have a challenging physical experience with nature. Eco-tours do not necessarily involve rigorous outdoor hiking, trekking, spelunking, diving or snorkeling. As long as the tourist has a positive experience with nature, eco-tourism has succeeded. In fact, one of the primary objectives of eco-tourism is to keep traffic out of fragile or potentially dangerous natural areas. Skillful interpretation of natural areas is critical in the success of an eco-tour.

#### *Maximize Economic Benefits for Local People*

At the local level, direct financial awards should be apparent to the individuals who provide food, crafts, accommodations, who share knowledge of flora, fauna and cultural history. If their livelihoods are based on, or to some degree dependent on, the preservation of habitat there is incentive to avoid less environmentally sustainable forms of support.



### *Encourage Cultural Sensitivity*

The preservation of a nation's cultural heritage, appreciation for the customs and traditions of the native peoples and a respect for their privacy and dignity are essential fundamentals of eco-tourism. The presence of foreign tourists is inevitably intrusive to locals. Specific guidelines should be introduced to tourists who want to be sensitive and still have a learning experience. In selling a cultural destination, many good tour operators actually distribute materials with suggestions on how to behave at local markets and tips for photographing people, etc. etc.

### *Minimize Negative Impacts on the Environment*

Tourism always has a negative impact on the environment. However, good eco-tour operators and promoters stay in close contact with preservationists in the area to determine a mutually agreeable carrying capacities for sites. Also, eco-tour operators should not construct new trails in protected areas. Good promoters and operators use either existing trails or work with preservationists to determine new paths. Also specific guidelines about conduct in wilderness areas are part of successful eco-tourism promotion. For example; instructions on not touching the coral reef when scuba diving or snorkeling, not wearing heavy textured soles or hiking boots, not talking loudly on hikes, no littering etc. etc. should be given to tourists in advance of travel to wilderness areas. Another trend in promoting responsible eco-tourism is giving tourists specific guidelines and laws regarding antiquities - and strong suggestions that tourist *not* take antiquities out of their place of origin.

## **MARKETING SILLIMAN AS AN ECO-TOURISM DESTINATION**

### **Factors for Marketability of the Silliman Sites**

#### ***Biodiversity***

Biodiversity is the most important attribute of an eco-tourism destination in terms of its attraction for travelers. Areas with an abundance and variety of flora and fauna are alluring subjects for potential tourists. While the three Silliman sites do not offer tremendous biodiversity in and of themselves, the island of Negros Oriental does have a complex ecosystem which includes in-land, upland and coastal regions. The mountain eco-system of Negros Oriental is directly linked with the coastal area in Dumaguete. This system is a perfect model for exhibiting the impact of man on the environment.

#### ***History***

Cultural history is a very important element in determining the marketability of a destination. Tourists want an opportunity to learn about cultural traditions and geographical history. While destinations such as Ghana, West Africa boast a cultural history that dates back thousands of years; historical significance of a sites can include recent history.



Silliman University has a fascinating twentieth century history. The Visayas region is very significant in the formation of The Philippines. There are also a myriad of other stories about the development of fishing techniques, cooking, language etc. which, if interpreted effectively could be very interesting to international and Philippine tourists. A pictorial history of Silliman University since it's founding would also be interesting to eco-tourists.

### ***Tourism Infrastructure***

For any eco-tourism destination to be successful there needs to be an existing infrastructure for tourism. The infrastructure need not be fully developed. However, first class accommodations and peripheral services need to exist in order for visitation to occur. The local government needs to have policies flexible enough to allow for the development of sustainable eco-lodges. Although eco-lodges often use little or no electricity, are built from recycled materials and focus on blending into the environment the service still needs to be at an international level. The local community needs to accept the idea of foreign visitors and their special service requirements. The physical infrastructure needs to be analyzed for it's use in an emergency. For example, a remote island resort does not need to build a landing strip for airplanes, but they do need a well-rehearsed medical emergency evacuation plan.

### ***Competition & Differentiation***

When developing an eco-tourism destination it is very important to understand what other tourism facilities exist in the vicinity. Determining what can differentiate a site from competing destinations is critical to the success of any new tourism project. In determining the competitiveness of a destination it is important that the natural resources are not overly strained to accommodate this market differentiation. For example, if another hotel is built in the Bais Bay region it is important that they not add new dolphin-watching boats to their package without consulting with surrounding boat tour operators. The new lodge may want to offer other interpretative or craft activities while they wait their turn to take the tour boat out to look at the dolphins. Clearly the dolphins would be at risk if there is no agreement on how many boats can be out with them at a time.

### **The Silliman Eco-Tourism Destination**

Cebu, Bohol and Iloilo in the Visayas region currently draw a majority of the tourists from Manila and overseas. However, the Bais Bay resort is a model eco-tourism destination which is only a one hour drive north of Dumaguette.

There is little biodiversity per se in Dumaguete or specifically at Silliman University to promote. The Marine Lab and Interpretive Center could attract some tourists as long as there is adequate promotion. However, Silliman Sites could be part of



a Negros Oriental destination. From Bais Bay to Apo Island there is enough interesting coastal life to make a very nice 2-day trip. Tourists could start at Bais Bay with a Whale/Dolphin watching tour for the first night and second day; then continue on that evening to Dumaguette for an overnight. The next day they could visit the Marine Research Lab and Interpretive Center and Apo Island.

As the Silliman Hall Building is restored and Centrop is developed Dumaguette/Silliman University could be a one-day destination; with tourists taking a break from their beach activities to have cultural and historical tour of Silliman Hall. However, during the first four years of promoting Silliman as an eco-tourism destination it will be considered part of a regional tour from Bais Bay to Apo Island - with the main attractions being:

- a) The Bais Bay Dolphin Watch
- b) The Marine Lab and Interpretive Center
- c) Apo Island Marine Sanctuary.

The promotional theme will focus on Silliman University and their involvement in the preservation of the coastal region.

#### • **MARKETING & PUBLIC RELATIONS AUDIENCE ANALYSIS**

In order to make sure the marketing and promotion efforts are effective it is important to understand the target audience. The following is an outline of the target audience for marketing and promotion.

##### **Tourists**

There is no recent demographic or psychographic information about the visitors arriving at Cebu International Airport. The Visitor's Information card was designed for the Philippine Tourist Office in Cebu. (see appendix) The regional director of that office has agreed to distribute the card to in-coming tourists from September 1996 - January 1997. The cards will be distributed on Philippine Airlines along with customs & immigration cards. Hopefully other airlines will agree to distribute the cards as well. That office will collect the cards. The information will be available for analysis on the Silliman Sites promotion. It was agreed in our consultation with the Cebu director of The Philippine Tourist Office that her office would also use the information for their own strategic marketing.

The following demographic and psychographic information comes from a 1990 World Tourism Association study, based out of Madrid. Some of the following information is also from the American Society of Travel Agents and the Eco-tourism Society.



## A Profile of Eco-Tourists

### *Japanese*

Generally interested in diving and snorkeling. They are avid amateur photographers. They like high-tech equipment and efficiency in travel and accommodations. Travel in groups. Strong family ethics. Buy their travel through packages from Japanese tour operators. High level of education. They buy commercial souvenirs. They don't tend to explore eating places. Needs lots of printed information (written in Japanese) in advance of travel.

### *Europeans*

Travel trends vary: Usually travels in the summer months (May-August) Travel routes are purchased through tour operators and agents in European countries. Generally, European tourists are looking for sun and water. Can usually speak English; however German is the preferred language for marketing Philippine tourism to Germans. Prefer to travel on their national airline. Generally, Europeans do not buy many souvenirs. Reads cultural magazines. Does not watch more than 3 hours of television per day. Is a member of an environmental organization, but not an activist. Understands world news and information. Northern Europeans do not like to travel in group tours. Italians like cultural and anthropological group tours. Europeans generally book travel plans through a travel agency or tour operator.

### *North Americans*

Travel trends vary: North American eco-tourists tend to be very enthusiastic amateur photographers. They tend to read popular news and information publications. They are members of environmental organizations such as World Wildlife Fund, Green Peace or The Nature Conservancy. They watch National Public Television, listen to National Public Radio. They are not too familiar with the history of The Philippines. They are enthusiastic about snorkeling and diving. They want comfortable accommodations. Most individual eco-tours are sold in the Mid-Western Plains States. Most eco-tours are booked for the winter seasons (November - March) to tropical destinations. Most repeat eco-tours come from The Mid-Western Plains States and Texas. Most eco-tours from these regions are booked through large whole-sale tour operators and travel agents.

## Travel Agents

### *Regional*

Tour operators and travel agents in Manila, Cebu and Iloilo are sensitive to costs and profits. Most of the operators and agents in this area are small business. Women-owned. Small profit margin. If the tourist has a negative experience the travel agent or tour operator receives complaints. Not big risk-takers on new destinations. They have not been instrumental in site development. These regional operators or agents usually



attend national and regional (Asian) travel trade shows. They need First-class accommodations for their tours. They need to book an overnight stay in Dumaguete in order to make money. They also need educated guides on the Silliman Heritage Tour. They need information about Silliman / Dumaguete in order to sell the destination. A primary concern for these operators is making money on the tours. Currently the main concern with this group is the lack of tourism infrastructure in Dumaguete. There is a negative image of the hotel, ground transportation and food service in Dumaguete with this group. They fear booking tours and getting bad feed-back which could hurt their businesses.

### ***International***

Tour operators involved in eco-tourism or cultural tours are interested in lesser-known destinations since the competition for exotic travel is strong. Many successful tour operators invest in hotel and lodge development. They also get involved in training guides and ground operators. Some big operators have actually funded the improvement of roads in places like Belize. The size of international tour operators varies: Start-up business can be very small. Some operators can be very big. American Express®, SOBEK, International Expeditions and Smithsonian Tours are some of the world's largest. But the common denominator is that they are looking for a unique experience in a long-haul destination. International tour operators attend large travel shows such as ITB in Berlin, ASTA and The World Travel Mart in London. They are also usually members of environmental organizations, museums and zoos. This group needs to get information about the Visayas region and specifically about Silliman University. They need to be invited to the region on a familiarization trip. They also need first-class accommodations. They need to see that the local government is promoting environmental stewardship. They need emergency medical evacuation plans and lists of targeted potential tourists

### **Hotels**

#### ***Regional***

Hotels in Cebu, need to offer interesting day trips for their guests . Hotels such as Shangri-La, The Blue Water and other large hotels are already equipped with a fleet of first-class boats. These hotels want to have a one-stop-shopping approach to the tourist. They usually use their own boats and provide box lunches from the hotel for any tours to Dumaguete of the Silliman sites. These larger hotels often collaborate with smaller hotels for day/ overnight trips for their guests. Often the larger hotel will provide training and marketing for the smaller hotel at the site in exchange for a larger percentage of the guest rate. Their main concern is that they control the quality of service.

Another common event is for a large international hotel chain to invest in the preservation and development of an actual site. For example, if The Silliman Hall is developed into an adult training, conference and convention center it should be managed



by a commercial operation with experience in hotel and conference management. This would be a public/private partnership at Silliman.

In the United States a good example of public/private partnership is The Arbor Day Foundation's Lodge in Nebraska City. The Arbor Day Lodge is a non-profit organization dedicated to tree-planting and environmental stewardship. They started at The University of Nebraska over one hundred years ago. In 1990 they decided to open The Arbor Day Lodge at their tree-planting farm. They wanted a high-profile facility which would serve as a first-rate learning facility for environmentalists. A beautiful conference facility was built in 1993. The facility uses recycled materials, has an environmentally sound waste disposal system, uses natural heating, lighting and cooling systems and the building does not disturb wildlife and vegetation. The Marriott Corporation invested in the lodge and has a management contract. Since it's opening in the spring of 1993 The Arbor Day Lodge has enjoyed almost 100% occupancy. They have hosted several environmental workshops. However, they make most of their money by booking conferences and conventions to the general public. The commercial success of The Arbor Day Lodge has allowed The Arbor Day Foundation to expand it's research on tree-planting programs.

### **Environmental Organizations**

#### ***Philippines***

There are several environmental organizations in The Philippines. The Haribon Foundation based from Manila is one of the strongest environmental organizations in The Philippines. The Haribon Foundation is focused on natural resource protection and public education. They are also an environmental watchdog for business development. There are several other environmental organizations and projects in The Philippines.

Probably groups like The Haribon Foundation are members of larger international environmental organizations. Usually environmental grass-roots organizations are not in favor of tourism development. They tend not to get involved with eco-tourism promotion. However, they can be very dynamic about bringing attention to environmental degradation. They are sensitive to the "integrity" of a project or development. Grass-roots environmental organizations are usually directed by educated people with some personal financial resources and influential community connections.

#### ***International***

Many international organizations such as World Wildlife Fund®, Conservation International®, The Sierra Club®, Ducks International® and The Wilderness Society® sell tours to wilderness areas for the purpose of promoting an understanding of the environment. They usually work with a professional tour operator to coordinate the logistics. Other organizations such as the Cousteau Society, National Geographic and The Royal Geographic are primarily dedicated to research and education through



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magazines, documentaries, exhibits and seminars. Most environmental organization offer "memberships" to the general public. These memberships allow people to learn about current research on environmental issues.

In general, environmental organizations share information. But there is competition for involvement with interesting projects in lesser-know destinations. If Silliman can provide first-class marine research facilities there could be some competition between organizations for who can send a scientist to Silliman.

## **The Media**

### ***Manila News & Information***

Interested in knowing exactly *who* is involved in projects, events and happenings. Interested in a political affiliation of project participants.

### ***International Tourism/Trade Magazines***

Interested in getting a new, un-reported destination. "New" stories are important. Specific research information is important. Subject matter must be tailored to the magazine reader's fog index. Trade magazines for the travel/tourism industry are interested in the level of service and quality of the visit. Interested in knowing the logistics of arrival and departure to Silliman. Need suggested itineraries and routes. Silliman must be visually interesting. Must have access to high level spokespeople and managers of the Silliman sites. Must verify facts. Interested in getting exclusive rights to publishing and routing.

### ***International Science, News & Information Trade Journals and Broadcast***

Interested in the global impact of regional research and development projects. Must verify scientific facts. Articles and broadcasts are usually written and produced by science experts/writers. Interested in sharing the environmental story to the general public as quickly as possible.



## INCOME GENERATING MECHANISIMS FOR SILLIMAN SITES

### 1. Entrance Fees

#### Current:

Currently the entrance fee to The Centrop Wildlife Interpretive Center is only 2 P2.00 per person. There is no entrance fee to the Silliman hall, but there is a box on the second floor for voluntary contributions. There does not appear to be an entrance fee to the Marine Research laboratory.

#### Potential:

The entrance fee to local school children should remain low so that it is affordable to schools and locals. Also, there should be a low entrance fee for locals from Dumaguete. However, there should be another rate for foreign groups. Depending on services provided to them the fees cold range anywhere from 100 - 500 pesos. If Silliman charged 250 pesos as an entrance fee to the Marine Lab & Interpretive Center for foreigners it would be affordable. Since the interpretive portion of the Silliman Marine center is going to be low cost, low tech. And primarily a flat panel presentation the entrance fee should be presented as if it is a contribution to preserving the reef. The cost for a guided tour could be covered.

### 2. Publications

#### current:

There is not a publication for sale to the general public which describes the history of Silliman or it's current cultural and environmental projects.

#### Potential:

A beautiful coffee-table book should be designed which can be sold to alumni as a limited edition fund-raiser. If the book is beautifully designed - using vintage photos and anecdotes from Alumni it would be quickly sold. The cost for the first edition could be very high. Later, revised editions of the book could be sold at a slightly lower cost to the general public - through gift shops at the Silliman Sites.

### 3. Silliman Conference / Convention Hall

#### current:

There is no commercially first-rate facility to host luncheons, conventions, conferences or meetings for VIP's, educators or business people at the Silliman University.

#### Potential:

If Silliman Hall were developed into a first class, beautifully designed adult conference and education center with a dining area it could be leased to environmental groups and private groups. Since the property around Silliman Hall is prime real estate which looks out onto the ocean it could be a great setting for national and international



conferences and dinners. The catering should be contracted through a private company or first class hotel. Perhaps a large hotel chain would invest in the development of Silliman Hall. From a profit perspective, conferences and conventions make more money than individual tours and drop-in tourists. The profits from conferences at Silliman Hall would be used to fund continued research at the Marine Lab and Centrop.

#### 4. Souvenirs

current:

There is no product line attached to the three sites at Silliman. Tourists currently have no souvenirs to bring home as a reminder of their visit. Also, the director of the Negros Oriental Entrepreneurs Association; a cooperative of craftspeople in Dumaguete, expressed little interest in designing anew product line for the Silliman University project. She said the members were all small, cottage industries.

potential:

If Silliman University developed a line of high quality souvenirs which could tie in the history of Dumaguete and the environmental theme of the exhibits it would help develop the sites as a tourism product. Also, the development of a line of crafts would help bring in participation from the local communities. While inexpensive crafts don't tend to be big income generators, they are necessary as part of developing an eco-tourism site or product. A crafts development project would need to be developed in order to get the Negros Oriental Entrepreneurs Association in place to produce good crafts.

#### 5. Public/Private Partnership

current:

The operations and management budgets for the proposed new sites require a steady income. Currently there is no private investment into the Silliman Sites. There has been no marketing plan or budget for promoting the sites. There is a concern at Silliman University that the sites not be "commercialized." However, if Silliman offered a joint-venture opportunity to some of the local hotels the sites would be promoted strategically and there would be more money coming into the Silliman endowment to conduct more research.

potential:

The trend in cultural and environmental resource management is not limited to environmental groups or academics. The tourism industry is the world's leading foreign exchange earner. According to the World Travel & Tourism Council "...tourism employs more people than any other industry in the world..." This large industry has made tremendous contributions to natural resource management. Obviously, if the natural resources are destroyed the tourism industry does not have a product - so there is a natural interest in preserving and protecting the resources. Hotels have historically taken the lead in developing tourism products. Large chains have the financial resources and marketing strategies to make new destinations financially successful. For example, in The



Hashemite Kingdom of Jordan, The Marriott Corporation has a joint-venture deal with The Petra National Trust and several tourism destinations surrounding the UNESCO Petra site. Marriott has done the marketing and management of the visitors centers and splits the proceeds with the Petra national Trust. Because of this public/private partnership The Petra National Trust has been able to fund the continuing archaeological restoration of this important site.

Silliman should approach some of the more successful hotel chains in Cebu for a similar kind of joint-venture arrangement. The best way to start a public/private partnership discussion is to invite key players in tourism to Silliman for a brain-storming session. Major Cebu hotel managers, The Tour Operators Association of Cebu, The Airlines, The Ferry Services and The Negros Occidental Crafts Producers Association; who have demonstrated great success with their program should also be invited to give suggestions for the development of Silliman as a tourism destination.



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## APPENDIX A

### INTERPRETIVE PRINCIPLES AND CONCEPTS

Interpretation is a communication process designed to reveal meanings and relationships of our cultural and natural heritage to the public through first-hand experiences with objects, landscapes or sites. (J. Veverka)

Essentially, cultural and natural resource interpretation is like language interpretation. One might translate French to Spanish, for example. Interpretation translates the language of science into a "lay-language" most non-scientists can easily understand and enjoy.

**TILDEN'S PRINCIPLES:** Good interpretation tends to follow Freeman Tilden's Six Principles:

1. Interpretation that does not somehow relate to something within the personality or experience of the visitor will be sterile.
2. Information, as such, is not interpretation. Interpretation is revelation based upon information.
3. Interpretation is an art, which combines many arts. Any art is in some degree teachable.
4. The chief aim of interpretation is not instruction, but provocation.
5. Interpretation should aim to present a whole rather than a part, and must address the whole person rather than any phase.
6. Interpretation addressed to children ( up to age 12) should not be a dilution of an adult presentation. It should follow a fundamentally different approach. To be at its best it will require a separate program.

#### CAPTIVE AND NON-CAPTIVE AUDIENCES:

There is a basic difference between people who participate in interpretive programs and those who participate in formal education programs. People who participate in education programs are for the most part "captive" audiences. They must stay with the educator to earn credit for the program. People who participate in interpretive programs are generally non-captive audiences. They are there because they



want to be and to have an enjoyable experience. They may come and go as they please. That completely changes the dynamics between the leader and the audience.

Characteristics of Captive and Non-Captive Audiences include:

**Captive:**

- Involuntary participation
- Fixed time commitment
- External rewards are important
- Must pay attention
- Will accept a formal, academic approach
- Will make an effort to pay attention, even if bored
- Motivation includes: grades, diplomas, certificates, licenses, jobs, money

**Non-Captive:**

- Voluntary participation
- No time commitment
- External rewards not important
- Do not have to pay attention
- Expect an informal atmosphere and non-academic approach
- Will switch attention if bored
- Motivation includes: fun, interest, entertainment, self-enrichment, a better life

(from Sam Ham, Environmental Interpretation)

**DIVERSITY OF LEARNING STYLES:**

People learn in many different ways. Four principle ways include reading, listening, doing and moving around. Good interpretation will match the media delivery method to the needs of each of these learning styles.

**THEMATIC INTERPRETATION:**

Many people confuse topic and theme concepts, often using the words interchangeably. In this report, TOPIC and THEME are two distinctly different concepts. TOPIC is subject to talk about. Examples of topics could include, the forest, coral reefs, birds, adaptation, color or biodiversity. THEME is the statement of the "big idea" the interpreter wants people to leave with when they go home. It is usually written in a full sentence. For example, "Coral reefs can be damaged by what people do in the mountains." Or, "Native birds are rapidly disappearing because their homes are being destroyed in the upland forest". Or, "Humans depend on a clean ocean for their food".



Theme answers the question, "So what?" about the interpretive presentation. When writing a theme statement, first chose a topic (for example, water). Second, be more specific and complete the following sentence, "Specifically, I want to tell people about...(the importance of keeping our water clean). Third, express your theme by completing the following sentence, "After reading this exhibit (or viewing my presentation), people will understand that... (keeping water clean from where it falls in the mountains all the way to the ocean is necessary to protect the ocean, our coral reefs and our own fishing life style).

Themes should:

- Be stated in short, simple, complete sentences.
- Contain one idea.
- Reveal the overall purpose of the presentation.
- Be specific.
- Be interestingly worded (use active verbs).

Examples of Themes:

- Our children depend on us to take care of their natural resources.
- Preserving biodiversity is like having a life insurance policy.
- All life is dependent on the sun.
- Energy is neither created or destroyed.
- Everything is on its way to somewhere else.
- Everything in life is related to everything else.
- Everything (plants, animals and humans) needs its own special place to live.

Why use themes? People remember themes and forget information, even if the information is related to a single topic. Themes are also easily learned and quickly understood which is particularly important when people are a non-captive audience.

## **DESIGN CONSIDERATIONS:**

In general, interpretation should be entertaining. People learn more when it is an enjoyable experience. That is not to say that interpretation is solely entertainment. It is entertaining, but at the same time, it provokes people to consider new ideas, it relates directly to their own personal experiences, it reveals a greater "truth", universal concept or "big idea" that is as applicable at home as it is at the interpretive site. I discusses a "whole" concept (one complete idea) rather than presenting numerous bits of information and the messages fit together to tell a larger story.



Design of exhibits and other interpretive programs should address the following considerations:

- **IDENTITY:** The exhibit should have some unifying visual symbol.
- **PURPOSE:** The exhibit should answer the question, "Why are we doing this exhibit?" and should answer the visitor's question, "What am I supposed to learn from this exhibit?" Ask yourself, "What do I want people who view this exhibit to do or know that they do not do or know now?"
- **SIGNIFICANCE:** Why is this place special?
- **PERSONAL CONNECTION:** What personal connection can people make to nature or cultural heritage on this site?
- **LEARNING STYLES:** People learn in different ways. Predominantly they learn by reading, listening, touching (manipulating) or by moving around. Good exhibits take all of these learning styles into account.
- **INFORMATION:** Information should be accurate.
- **SENSITIVITY:** All exhibits should sit "lightly" on the site and should fit into or be sensitive to the site.
- **WOW FACTOR:** People looking at the exhibit should say, "WOW, look at that! or WOW, I didn't know that!"
- **CRITICAL MASS:** All interpretive exhibits and programs need a critical mass to attract people, hold their attention, and provide a good learning experience.
- **TIMELESSNESS:** Exhibits should not become outdated easily. Try for text and graphics that will withstand the test of time.
- **VALUE FOR PESO:** Always strive for the best quality possible within budget for the project.
- **OPERATION AND MAINTENANCE:** Always consider the cost and ease of operation and maintenance of the exhibit area. When deciding between simple and complex exhibits, always consider the people who will be working with the site. They have to live with the designers mistakes.
- **BALANCE:** It is best to strive for a balanced interpretive program. A "core" interpretive program should have directional signing, an entrance sign welcoming the public, exhibits, publications and personal services programs (like guided walks) even if they are simplified versions of a much more elaborate and desirable program. For example, a beginning interpretive program might have simple flat panel exhibits, aquarium tanks, a brochure introducing people to the site layout, a simple outside self-guiding trail brochure, a limited number of guided walks for visitors, limited educational day use programs for school children and a few adult education outreach special emphasis programs. These generally are low tech, easy to maintain and operate exhibits and programs, but they offer the visitor variety and a "critical mass" of interesting programs. It offers the interpreter an opportunity to be flexible in interpretive programming, to field test new ideas, to evaluate exhibits and programs and incorporate needed changes. Later, when the interpreter has more detailed and



specific information concerning the audience, the program can be expanded to include sophisticated exhibits, a larger environmental education program, additional interpretive brochures and publications, audio tours, audio-visual programs including a variety of video-tape programs specific to the site, computerized game simulation and CD-Rom games and interactives.

**EVALUATION:** Always evaluate your interpretive programs! Evaluation comes in 3 parts:

- **PLANNING:** Evaluate your planning process. Did you answer the questions of purpose, audience, message and media? (See Appendix C)
- **PRE-TEST:** Always pre-test your interpretive programs, exhibit ideas, and publications ideas on an audience as similar to the final target audience as possible. Try out your ideas. Make changes. Try again until you feel good about the programs.
- **POST-TEST:** Evaluate how well your program meets the needs of your actual audience. Are they getting the message you hoped to send? What changes do you need to make in media or message to ensure that the audience actually understands your message or takes the action you had hoped they would? Fine tune until it works.

The bottom line in Interpretation is relatively simple. Always know Why you are doing any interpretive program (Purpose), know specifically who comprises your target audience (Audience), know specifically what message (Message) you need to deliver to each target audience to achieve your purpose. Look for the best media (Media) mix to deliver the message to the target audience to accomplish your purpose. Evaluate (Evaluate) your interpretive program. Is your interpretive program accomplishing what you hoped it would or do you need to make some changes? Experiment. You might be surprised with the results. Finally, tell your managers and supervisors about your success! Let them share in your success. Show them that the money you are spending is worth it.



## APPENDIX B

### SAMPLE PUBLIC OUTREACH PLAN

**PROBLEM:** Coral Reef and Fishery Destruction

**PURPOSE:** To revive protection of Sumilon Island, the coral reef and the fishery.

**AUDIENCE:**

- Local, regional and national elected officials
- Local, regional and national media
- Local fishermen
- Local dive boat operators
- Local influential people
- Local school children

**PUBLIC OUTREACH CAMPAIGN:**

**AUDIENCE:** Elected Officials

**MESSAGES:**

- You were elected to help protect our coastal resources
- Our fishing heritage is disappearing, only rich people benefit.
- You must help us.

**MEDIA:**

- Personal contact
- Media interviews and press releases
- Public demonstration
- Briefing packages with detailed statistics and hard facts and photos
- Interpretive tour for elected officials to see actual problems on the site first hand.



AUDIENCE: The Media

MESSAGE:

- Our national heritage is being lost while a few people get rich. Is that fair?

MEDIA:

- Press briefing package with hard statistical facts and photos
- Human interest first person stories (see how my family has been hurt)
- Interpretive tours for the media to visit the site and see the problem first hand.
- TV coverage and radio coverage of the tours
- Seminar at Silliman University focusing on the problem

AUDIENCE: Local Fishermen

MESSAGE:

- Unite to save your heritage
- Unite to improve fishing
- Unite to survive.

MEDIA:

- Group meetings with local fishermen and their families to organize
- A comic book to show the problem, organization and what is needed for a sustainable coral reef fishery.
- Spots on local radio station with information about the Sumilon Island fishery problem and local meetings.

AUDIENCE: Dive Boat Operators

MESSAGE: Destruction of the coral reef destroys the fishing and your livelihood too.

MEDIA:

- Interpretive tour for dive boat operators
- Training course in how to use the reef in a friendly way.
- A publication to pass out to dive boats and divers; "Read This Before You Dive".
- Underwater interpretive tour route to focus use.



- Interpreters on dive boats for information, interpretation and law enforcement.
- A short video tape on safe and responsible diving in the Philippines to be shown on dive boat tours before the dive.
- A dive permit to accompany their dive card. Money to stay in the area for operation and maintenance costs.

AUDIENCE: Influential People.

MESSAGE: It is your responsibility to your Country to help stop coral reef and fisheries destruction.

MEDIA:

- One-on-one personal discussion with other influential people and colleagues.
- Publication with hard facts and explicit photos.
- A list: "What you can do to help!".
- A list: "Other sponsors who are helping".
- An interpretive tour of the site to see the problem first hand.

AUDIENCE: Teachers and Students

MESSAGE: You hold the future of coral reefs and fisheries in your hands. What will you do?

MEDIA:

- Teacher training in Environmental Education
- School administrator training in how to support environmental education.
- Field trips for students, teachers and administrators. Include both day trips and 3-5 day field camps.
- Include all age groups and all subject matter areas. Integrate EE into the entire school curriculum.



## APPENDIX C

### KEY QUESTIONS FOR PUBLIC COMMUNICATIONS PROGRAMS

When developing any public communication program or product, always answer these questions in writing at the start of planning.

1. **WHY DO YOU WANT TO DO THIS PROGRAM?** What is the reason, purpose, goal, objective for this particular public communication effort? How will this effort help your manager achieve his or her goal? Specifically, what do you want the target audience to know or do that they do not know or do now?

Finish the following sentence, "After attending this program (or viewing the media materials), the audience will be able to..."

2. **WHO SPECIFICALLY IS THE INTENDED AUDIENCE?** Be very specific. Fishermen is not specific enough. Try fisherman and their families that fish the coral reef around Sumilon Island.
3. **WHAT IS THE MESSAGE, CONCEPT OR BIG IDEA YOU WANT PEOPLE TO LEAVE WITH OR WHAT ACTION DO YOU WANT THEM TO TAKE?** Do not include more than 3 or 4 ideas in each program or product. People will just not remember more than that at one time.
4. **WHAT RESOURCES DO YOU HAVE TO WORK WITH TO GET YOUR IDEAS ACROSS?** If you want to discuss slash and burn agriculture, can they see slash and burn methods? If not, do you have photos to show the technique? What financial and staff resources do you have available to operate and maintain the program or facility?
5. **WHAT FACILITIES, MEDIA OR PROGRAMS ARE BEST SUITED TO DELIVER THE MESSAGE TO THE SPECIFIC TARGET AUDIENCE IN ORDER TO BRING ABOUT THE CHANGES YOU SEEK?** Where is the best place to deliver the messages? What implementation options do you have?
6. **HOW WILL YOU KNOW IF YOU ARE SUCCESSFUL?** How will you evaluate the success of your program or product? How will you show your manager that it works, helps achieve management goals, and is worth the money you spent?



7. WHAT IS THE COST? Can you afford it?
8. WHAT ARE YOUR FUNDING STRATEGIES AND OPTIONS? Can this product be used to generate operation and maintenance funds? Can you partner with someone?



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## APPENDIX D

### MEDIA

#### MARINE LAB AND EDUCATION CENTER: AN EXAMPLE

Following is a description what the media for the interpretive center at the Marine Lab and Education Center could look and sound like.

##### TOPIC 1: ENTRY

At entry to the center: a banner done in many bright colors in a folk art design illustrating a variety of human activities in the coastal zone; living, farming, fishing.

Message: Our Sea  
Our Life

On entering the center, visitors will hear traditional Visayan songs and music being played over the sound system to set the feeling for the center.

##### TOPIC 2: WATER CYCLE

An visual mural or diorama immediately visible on entry illustrating the land from the mountains to the deep ocean and the associated water cycle with insets of text and factoids. A tray along the front will hold the base and several upright feet of a major tree. Soil and ground cover related to the various ecosystems will fill the tray including upland forest, coastal lowlands, farmland or rice paddies, mangrove wetlands, beach, near-shore lagoon, coral reef and deep ocean.

Message:

RAIN FALLS IN THE MOUNTAINS AND  
FLOWS TO THE SEA  
EVAPORATES AND  
RETURNS TO THE MOUNTAINS

WHAT PEOPLE DO IN THE MOUNTAINS EFFECTS THE OCEAN

##### TOPIC 3: WATER CYCLE INSET

Inset in mural showing a close up of a coastal area from mountains to the sea with human activities like agriculture runoff from fertilizer and pesticides, mining,



deforestation and resulting erosion, industrial waste, siltation, sewerage and trash dumps, city waste disposal, clearing of mangroves, coastal tourism, sea grass dieback and coral reef impacts. A graphic using Dumaguete would be best.

**Factoid:** A rain forest is said to make its own rain.

**Factoid:** Rain forests consist of the forest floor, an understory, canopy layer and emergent layer. Use line drawing graphic to illustrate.

**Factoid:** 90% of the nutrients in the rain forest are in the bodies of plants and animals. Only 10% is in the soil.

**Definition:** DETRITUS: DEAD AND DECAYED ORGANIC MATERIAL.

**Definition:** BIODIVERSITY: VARIETY OF LIFE IN A SPECIFIC AREA.

**Factoid:** TWO HECTARES OF RAIN FOREST LAND CAN SUPPORT 1200 TREES OF 200 DIFFERENT SPECIES..... OR ONE COW!

**Factoid:** The level of biodiversity in the rain forest is staggering. In a study by the Smithsonian Institute, scientists found 41,000 species of insects in the tree canopy covering one hectare. The number was so large that it caused them to elevate their prediction about the number of different species on earth from 10 million species to 30 million.

**Quote:** ...”The poor put pressures on the forest but you cannot blame them. It is an unstoppable phenomenon, connected with poverty. They may ask, “Who are you conserving the forest for? We have to survive.” This needs big programs of poverty alleviation.”

*Dr. Y. Sudhakara Rao  
Forestry Official  
Food and Agriculture Organization  
1991*

**Quote:** “Ironically, deforestation, the principle causes of the loss of biodiversity on land, is also a leading cause of habitat destruction in the sea through runoff and excessive sedimentation.”

*John Ogden  
Florida Institute of Oceanography*



**Quote:** "Ghost Nets: ...many fishing nets are lost or discarded in the oceans-becoming "ghost nets"- and in turn are damaging to wildlife... Ghost nets and fragments that drift on their own - unattended through ocean waters, catching fish and other animals - are extremely hard to find and retrieve. Gill drift nets are designed to be nearly invisible in the water. Sightings of lost nets are rare, but most researchers are convinced that fragments of nets that wash ashore and those found drifting in the sea represent a low percentage of the actual losses."

From: *Get The Drift*  
*Bob Samples,*  
*Dr. Cheryl Charles*  
*Judy Dawson*  
*Project Wild Supplement*

**Thought:** "For decades we were unconcerned about what we dumped in the oceans, seeming to rely instead on the dictum, "Out of sight, out of mind". The oceans are so vast and deep that it seemed inconceivable that serious damage could occur. Then, in the 1960's, evidence began to mount that damage was occurring. It became evident that the numbers of people on earth and the products of our activity were sufficient to disturb that interconnected life of the oceans. Slowly it has dawned on us that our perception of the oceans as limitless was a mistake."

From: *Finding the Balance for Earth's Sake*  
*Dennis Minty*  
*Heather Griffin*  
*Dan Murphy*

Phase 2 could include a video tape program showing actual footage of these problems in the Dumaguete area and their impact on the lagoon, coral reef and deep ocean.

#### TOPIC 4: ADAPTATION

A cluster of aquarium and terrarium tanks with live animals to illustrate basic concepts of adaptation, co-existence and survival. Very bright. Very colorful. A visual attraction with associated flat panel graphics illustrating the message.



**MESSAGE:**

**ADAPTATION:** Survival is the name of the game for all animal, especially those that live in the sea. It is no coincidence that animals display a variety of colors, shapes and patterns or that they live where they do. All of these and their relationship to other animals are examples of adaptation and co-existence.

Humans also must learn to adapt and co-exist with other animals and plants in order to survive.

Use animals to illustrate:

- |                          |   |
|--------------------------|---|
| • Camouflage             | Octopus, stone fish or equal            |
| • Disruptive Coloration  | Coral reef fishes such as triggerfish   |
| • False Eye Spots        | Coral reef fishes such as butterflyfish |
| • Countershading         | Lagoon or open ocean predators          |
| • Advertising Coloration | Cleaner Wrasse                          |
| • Warning                | Lionfish or equivalent                  |

**TOPIC 5: ENTRY**

Entry Banner, bright and colorful to lead people to the next major exhibit area.

**MESSAGE:**

No Free Lunch!

**TOPIC 6: LAWS TO LIVE BY**

This could be a cluster of related exhibits addressing 4 major environmental concepts:

- No Free Lunch!
- Everything Has To Be Somewhere
- You Can't Throw Things Away
- Nature Knows Best

While the initial exhibits may be flat panel with some tangible items to exhibit, these really are abstract concepts and need audio-visual or other strong visual resources to illustrate the points. If, after initial evaluation, these concepts work as a viable portion of the interpretive center, then additional visual and gaming resources should be added in



Phase 2. Consider using a computer simulation game in this area, like Sim City, to convey the complexity of these topics.

#### NO FREE LUNCH:

MESSAGE: For every human resource management decision (logging, fishing, mining, development) there is a trade off. Something is gained (timber for housing) but something is lost (biodiversity and habitat for forest animals). It is important to know what is lost as well as what is gained to decide if the gain is worth the loss.

**Factoid:** 2 ha of rain forest can support: 1200 trees of 200 species  
or one cow.

#### EVERYTHING HAS TO BE SOMEWHERE:

MESSAGE: Habitat. Everything has a special place to live. It's own "niche". Clams, fish, seaweed, coral, octopus, whales all have their own special place to live and food to eat. What is your special place?

#### YOU CAN'T THROW THINGS AWAY:

##### MESSAGE:

Everything in nature is recycled. Tree leaves to forest litter, to soil to minerals and back to the tree. Water moves from the mountains, down streams to the ocean, and recycles back to the mountains as rain. People throw things away but they still go somewhere. Mostly they go into the air or to the ocean. Garbage, sewerage, everything moves downhill to the ocean. Do you know where your garbage and sewerage goes?

#### NATURE KNOWS BEST:

##### MESSAGE:

Nature is in a careful, always moving, balance. This balance has been developed over thousands of years. Quick changes in the ecosystem upset this balance. It may never be regained. Humans can work to maintain this balance and still benefit from natural resources.



**TOPIC 7: RESEARCH AND COASTAL RESOURCE MANAGEMENT**

A colorful banner introducing the next set of exhibits.

**MESSAGE: SCIENCE SHOWS THE WAY!**

**TOPIC 8: GREAT FILIPINO SCIENTISTS**

Flat Panel with photos and text. A photo wall.

**MESSAGE:**

The Philippines has produced some outstanding scientists. Here are some of them. Include Silliman University alumni.

**TOPIC 9: CURRENT COASTAL RESEARCH PROJECTS**

Flat panel, case work and perhaps, aquaria, showing samples of current research and people doing that research in the coastal zone.

**MESSAGE:** Research leads the way and helps discover better ways of using and protecting our coastal resources.

**TOPIC 10: COASTAL RESOURCE PROBLEMS UNSOLVED**

Flat panel and case work showing current resource management problems that effect the coast and ocean. For example: Mountain forestry methods, slash and burn agriculture, water pollution, population growth, reef damage and coral reef fisheries.

**MESSAGE:** Many problems are still unsolved. Science and research can help solve these problems but you must help too.

**TOPIC 11: STEWARDSHIP**

A bright colorful banner drawing people into this exhibit area.



MESSAGE:

YOUR SEA  
YOUR LIFE  
YOUR DECISION

TOPIC 12: **ACTION**

An exhibit or series of exhibits showing people how they can get involved to help solve environmental issues. Should stress awareness, understanding, knowledge, skills and above all action in support of sustainable ecosystem resource management decision making. It should feature current environmental laws like the Philippine Constitution (“the State shall protect and advance the right of the people to a balanced and healthy ecology in accord with the rhythm and harmony of nature” and “the utilization of natural resources shall be under the full control and supervision of the State” or “the State shall protect the nation’s marine wealth...”) and Executive Order 240 (Fisheries and Resource Management Council - FARMC (see Appendix H). It should leave people with hope for the future, encourage them to be an active part of defining that future and provide tangible ways for them to participate.

MESSAGE: Your sea, your life, your decision.

TOPIC 11: **MANGROVE NATURE TRAIL**

A colorful banner inviting people outside to enjoy the self-guiding nature trail and outside aquarium tanks with giant clams and groupers.



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## APPENDIX E

### CIVIL/STRUCTURAL WORKS FOR GreenCOM/Philippines Assisted Project COASTAL RESOURCES & MANAGEMENT PROJECT Silliman University Dumaguete City Philippines

August - September 1996

#### **Introduction:**

The Coastal Resources and Management Project (CRM) is a joint project of the Anthropology Department, Marine Biology Department, and the Center for Tropical Studies of the Silliman University. Its main objective is to show the biological interaction of life involved within context of the three disciplines.

#### **Objectives:**

The purpose of this thesis are the following: (1) To evaluate the conditions of the present structures within the scope of the CRM Project, (2) To identify the civil works required, repair works or new constructions immediately needed to save priceless heritage and to make the overall project self sufficient and viable, and (3) To make a cost estimate of the civil works for budgetary purposes.

#### **Existing Facilities:**

- A. **Anthropology Department** - The department is presently maintaining the Silliman Hall where relics of the past and archaeological finds are kept. This museum building is the old Silliman Institute High School Bldg. and probably the first permanent structure to be built within the present university campus. The building was built between 1901 to 1903 by the supervision of Presbyterian brothers under the direction of Silliman University of America. Later after the Second World War, the institute was granted full autonomy and entrusted to the local Presbyterian Office.

#### **The Silliman Hall Building:**

The immediate need for the CRM-Project is the restoration of the present Silliman Hall building. The structure consisted of the ground floor, second floor, and the attic floor. At the ground floor are 0.15m thick of slabs on fill, 0.20m thick limestone brick walls believed to have been imported from New York, and reinforced concrete 0.35x0.35m columns and 0.35m



x 0.50m beams as filled-in frame with the bricks walls (see fig. ). Exterior columns are 6in x 6in wooden and resting on 0.35m x 0.35m concrete pedestals.

The entire second floor is wooden of 1-in thick tongue & grove over the interiors and 1-in thick planks over the veranda. The wooden floors are supported by 1-in x 8-in wooden joists spaced at 0.40m apart, while the girders supporting the joists are 0.35m x 0.50m reinforced concrete except those at the veranda where the girts supporting the joists are of two wooden pieces of 1-in x 8-in. spaced at 4.25m on centers. The supports within the interior part of the second floor consisted of one line of 6-in x 6-in wooden posts and two lines of corrugated tubular metal posts. The metal posts and the metal ceiling were known to have been donated from the US coming from the excess materials when the Hollywood Theater of California was built.

Outer walls of the ground floor is the massive limestone brick walls, while the second floor walls including partitions are all wooden and without diagonal bracings. Lateral stability of the attic floor is through the diaphragm action of the wooden walls and partitions within the second floor. It must be pointed out therefore, that these wooden partitions and walls could not be removed without equivalent replacements or the structure will become unstable.

The attic floor system is totally wooden similar to that of the second floor, and the supporting columns or posts are all wooden of 6-in x 6-in in size. The roof system (until present) is made of gauge 24 G.I. corrugated sheets on 2-in x 6-in wooden purlins supported by wooden "A" frame.

After the passage of almost a Century, in spite of the efforts to maintain the building in good condition, the present building needs repair works or undergo renovations for the following reasons:

- (1) Some structural and architectural members have deteriorated, and
- (2) The possible changes in loading condition due to the museum's new demand and requirements.

#### Structural and Architectural Defects:

The Silliman Hall (museum) building is undergoing deterioration which varies from mild to severe. Deterioration is **Mild** if what is affected is its surface appearance and the strength is practically unaltered. **Moderate** deterioration is when its strength has become



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questionable, while it is considered **Severe** when the member has become unsafe that it would require immediate replacement.

Mild Deterioration: Most of the building parts needs new repainting and perhaps some new protective coatings that are available to prolong the life of the structure. Floor wooden joists along the boulevard side have noticeable sag because of its span. The GI roofing is still the original GI gauge 26 corrugated sheets and needs total repainting.

Moderate Deterioration: Some wooden exterior posts at the ground floor along the southern side needs some sectional repair or may be replaced entirely. Extent of deterioration could not be determined at this point as only the bottom portion of the members have shown deterioration. Some corrugated metal tubular posts have deteriorated due to rusting. These are located near the center of the Auditorium where rain water was previously dripping for sometime just before the building was made into a museum.

At the second floor level, some wooden walls and partitions, especially studs were deteriorated due to previous occasional wetting and attacks of termites.

Severe Deterioration: Four concrete columns at the north side of the building, beginning from the eastern corner have deteriorated due to severe rusting. As steel reinforcements expand when rusted, this causes the concrete steel coverings to crack and spall-off. These four columns must be either demolished or retrofitted depending upon the real extent of damage.

Sanitary/Plumbing & Electrical:

This existing building do not have a working sanitary and plumbing system, and the electrical lines are basically for minimal lighting with few convenience outlet.



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### Restoration Required:

The GI roofing is generally still good but needs repainting. New epoxy based roof paint is highly recommended for the purpose.

All wooden exterior and partition walls that have deteriorated, if found either severe or moderate, shall be replaced with equal material. In the event the type of material is not anymore available, materials of similar strength and durability shall be used.

Exterior wooden posts that have deteriorated shall be replaced. Replacement can be made sectional if what is damaged is less than 25% of its entire length. The extent of damage shall be determined by competent engineer during the restoration.

The four reinforced concrete columns along the northern side of the building which are within the concrete hollow blocks walls, shall be replaced completely as these are deteriorating badly. In the process these concrete hollow block walls are likely to be damage and eventually also require replacement. Replacement walls shall preferably re-planned and conform with the building architecture.

Ceiling materials made of metal, wood, and bamboo that have deteriorated (moderate to severe) shall be replaced.

Deteriorated corrugated metal tubing used as posts supporting the second floor shall be replaced with equal or similar structure although some less affected member can be sectionally repaired.

### Building Stiffening Required:

Structural review of the structure shows that the building live load is limited only to 40 pounds per square foot (1915 Pa). This load is typical for residential houses and school class rooms with fixed chairs.

Members such as its wooden floor joists and posts were found to be just safe under the above live load (40 PSF), except the floor joists of the verandah along the boulevard side whose span is about 6.35m. The span of 6.35m would already require 1 pcs of 2"x8" instead of 1 pc of 1"x8" floor joists. It is recommended to make additional joists to conform with the required using the same material or equivalent as the existing.



The floor girds or stringers made of 2 pcs - 1"x8" wood, with span of 2.85m and supporting floor joists with the span of 4.25m, were found to support safely a live load of 20 pounds per square foot. Obviously this is not consistent with those of other floor members and therefore must have to be stiffened. The use of additional wooden plates of 1"x8" in order to make the girds or stringers into 2 pcs - 2"x8", will also double the capacity of the existing girds or stringers and may be bolted to the existing members..

It has been observed that some wooden post are small and have shown initial buckling. Therefore all interior wooden posts, at the ground and second floor level, whose sizes are less than 6"x6" shall be replaced with the proper size of 6"x6". The material shall be either Yacal or Guijo or equivalent. In the event the required wooden size is not available, the use of built-up tubular steel made of 1/4" (6mm) thick plates to form the required size is the best alternative.

The painted parts of the building shall be repainted using the best quality paint available, whereas best natural finishes shall be used for the unpainted parts to fully preserve the structure.

#### Cost Estimates:

The estimated cost for the works required to restore and strengthen the building to its original as discussed is about **₱ 4.8 M (US\$ 0.18M)**.

New Electrical, Mechanical, and Sanitary Facilities, including landscaping, would require about **₱ 1.70M (US\$ 0.064M)** or a total cost of **₱ 6.5M (US\$ 0.244M)**.

#### **Marine Biology Department -**

The existing buildings or structures within the marine biology complex of Silliman University are all temporary to semi-permanent structures. While marine specimens kept by the department are precious collections of rare species of marine lives (living or preserved), the structures where these are kept including the laboratory and office, are like make-shift structures.



It is therefore necessary to build a more prestigious Marine Biology Complex where interaction between man and marine lives can be more emphasis.

Required Buildings:

At the present the total combined building floor area of the marine laboratories and the offices is only about 458 sq.m. For Phase I, A comfortable total floor area based on the existing condition is about three times the existing or 1,374 sq.m. For Phase 2, a dormitory with 10 rooms for guests and visiting scientist, with receiving area, dinning and kitchen, with an area of 234 sq.m. is required.

Cost Estimates:

The total estimated building floor of 1,374 for the future Marine lab facility, including skeletal mechanical and electrical equipments and minor landscaping, would require about 1,608.00 sq.m. ₱ 16.0M (US\$ 0.6 M) to complete. A dorm of 234 sq. m. in size would cost about P1.90M (US\$ 0.07M).

**Center for Tropical Studies -**

The present A.Y.Reyes Zoological and Botanical Garden is the main exhibit of CenTrop. It is located within the University Property and situated just besides the Silliman Ballfield.

Existing Structures:

The present structures within the exhibit area are the animal cottages and the two small cottages used as dormitory/laboratory, and the multi-purpose center which is presently used as garage and work area.

Boardwalk is also available and runs at the middle of the zoological and botanical garden. However the walk is limited only to about 1/2 of the total property length and is made of wood, except its supporting reinforced concrete columns, and therefore requires periodic replacement.

New Required Structures:

A viewing deck (multi-level) is very much needed in this CenTrop Exhibit to make it more attractive to both tourists and those from academe.



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Additional boardwalk is also needed to prevent overcrowding and to make One Way Only possible.

A bigger multi-purpose building is needed so it can be used as a lecture area where indoor exhibits can so be displayed.

Cost Estimates:

A reinforced concrete viewing deck with two suspended deck floors, with area of 100 sq.m. per floor, is estimated to cost ₱ 1.8M (US\$ 0.0674M).

For durable boardwalk, the wooden stringers and planks must be replaced with reinforced concrete sections of the same size including its installation. The wooden hand rails will be also replaced with GI Pipes which will be cut to look like wooden. With this scheme the cost per 100m is about ₱ 0.50M (US\$ 0.0187M).

The required multipurpose buildings with total floor area of 500 sq.m., including electrical and sanitary facilities, and the costs of exhibits and landscaping, is estimated to cost ₱ 5.20M (US\$ 0.194M).

The three basic improvements would require a total of about ₱ 7.50M (US\$ 0.28M).

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## APPENDIX F

### REGIONAL ECO-TOURISM CONCEPTS ECO-TOURISM PROJECT IDEAS

#### REGIONAL ECO-TOURISM CONCEPTS

The Silliman sites are not currently developed to a state which would draw tourists on their own. Therefore a Negros coastal tourism region (from Bais Bay to Apo Island) is conceptualized as the "Silliman Heritage of Excellence" tour.

#### BAIS

The Bais Bay project is a perfect model for eco-tourism. The current hostel has accommodations for no more than about 30 people. There are 10 rooms at the hostel. Currently the Dolphin & Whale watch is managed from the only hotel in Bais. The Silliman University "Center of Excellence" concept is already in place there - since the guides incorporate the environmental research and responsible viewing guidelines they learned from Silliman into their standard tour.

As this site becomes more popular it will be critical for Silliman to monitor the carrying capacity of the Bay. The guides indicate there is currently no problem with tourists feeding or frightening the dolphins. However, they are currently able to monitor the boats on the bay. Also, the dolphin watching is not widely publicized. So many local resort owners are not even aware that it is a possible activity.

For example, Margo den Uyl, General Manager for Samboan Coral Garden Resort (which shares the same bay from Cebu) was not aware of the Silliman involvement or carrying capacity issues. She has indicated a willingness to participate in community programs to establish reasonable carrying capacities. She is an avid environmentalist who has recently opened a small eco-lodge. This is an example of private sector interest which should be cultivated into effective community projects.

Bais Bay is currently an ideal one-day, one night destination for eco-tourists. The next stop would be Dumaguete.

#### DUMAGUETE

As soon as the Silliman Hall is renovated Dumaguete will be a great edu/eco-tourism destination. A tourist would travel to Dumaguete from Bais Bay on the afternoon of their dolphin watch. They would stay in Dumaguete for the night. The next day they would visit CENTROP, the Silliman Hall and The Marine Research and Interpretive



Center. The tourist would stay the night again in Dumaguete. The next morning would be an early start to Apo Island.

### APO ISLAND

Apo Island is a very short pump-boat ride from Malatapay market in Zamboangito; about a 30-minute drive south of Dumaguete. The Wednesday Malatapay market is very fun and interesting cultural experience for both Philippine and international visitors. The vendors are extremely friendly and not overly aggressive. International tourists who have never seen a crowded market may want to take pictures of people and things. They will find the people in the market are very easy-going and friendly about being photographed. Obviously photographing the locals should not be encouraged because of the potential for exploitation, but clearly the vendors don't mind foreign visitors.

From the Malatapay market the tourist can hire a small pump boat to Apo Island. Currently these pump boats don't have awnings or sturdy planks. So getting on and off the boats is hazardous to older people and impossible for those with any physical disabilities. Unless a tourist brings an umbrella on a sunny day, they will most likely get a terrible sun burn by the time they get to Apo. So these boats need some minimal refinements (wide planks and awnings) for expansion.

Apo Island is a fabulous destination. The arrival to the shore is dramatic and beautiful. The water is crystal clear. The cliffs are jutting and there is a tasteful eco-lodge which uses ship-wrecked wood in it's construction. This lodge is right on the beach which greets the visitor. A day tripper then walks through the island on foot to the other side where the marine sanctuary is located. The walk through the island is fun. The community seems interested in their eco-system. The people are extremely friendly and welcoming. On the other side of the island is the marine sanctuary. The coral appears to be very healthy. There was quite a bit of marine life in the close shore. Also big fish are regularly spotted at this sanctuary.

Unfortunately during our visit there were several Japanese dive boats dropping anchor directly on the reef. We watched over 12 divers step all over the coral in their efforts to learn special scuba techniques. There was no patrolling. There were some women on the beach collecting a 25 peso entrance fee. But they could not get to the divers who were damaging the reef because none of the women knew how to swim or speak Japanese. They expressed frustration because they had no materials to give to the divers either.

Clearly this Marine Sanctuary is in desperate need of patrolling and intervention. Silliman should begin a licensing and community participation/training project as soon as possible. If done properly, buoys can be placed permanently and dive sites indicated to allow for minimal negative impact on the fragile reef.



There are no overnight facilities at Apo. This island could be a model eco-tourism destination. However, there are some major infrastructural problems for resort development. The primary problem is the lack of fresh water. But if an eco-lodge were developed with a small carrying capacity (no more than 15 guests at one time) it could be a very exclusive and profitable destination.

Until an overnight lodge is built, Apo is a day trip. After Apo Island the tourist would travel back to Dumaguete to take the ferry to Cebu.

### CEBU

Cebu is the second largest city in The Philippines. It has an international airport, a rich history and is a booming business center. The infrastructure for tourism has been in Cebu for many years. Also, there are several new 4 and 5-star resorts on Cebu. The Shangri-La, The Blue Water Resort and Plantation Bay are all large-scale tourist beach resorts. Although Plantation Bay has is not fully operational, all three hotels are planned for full occupancy over the next 5-10 years.

Cebu is not positioning itself as an eco-tourism destination per se. The private sector (hotels, the airlines and travel agents) have packaged itineraries for day trips to other islands and resorts outside of Cebu City.

As the second largest city in The Philippines and one of the oldest, Cebu City offers a rich cultural history. Unfortunately most of the architecture relating to this history was destroyed during World War II. Cebu City is an important part of Philippine history. The Fort San Pedro at the waterfront was started in 1565 and finally completed in 1738. The Parian neighborhood in Cebu City has seen some restoration in recent years. The Casa Gorordo museum of cultural history was recently restored, giving the neighborhood a first-class cultural attraction. Also, the Mayor of Cebu City has expressed specific interest in preserving and restoring some of the architectural sites in Cebu City. There are other neighborhoods in Cebu City which could be designated as historic centers; with restoration guidelines and standards that are on par with the some of the old buildings which were destroyed.

Another interesting piece of architecture still left in Cebu City is the Zapateria Elementary Public School; just outside the Parian district. This school is an original American Colonial School structure; build before World War II. If this school were designated as a historical landmark and part of it were renovated into a small museum or interpretive center it could be included on a Cebu Heritage Tour.



### *Olango Island Wildlife Sanctuary Nature Center*

It is a 15 minute pump-boat ride from Mactan Island to Lapulapu City. Visitors will have great difficulty getting to and from the pump boat. The weather is extremely hot and humid. The Nature Center building at the Wildlife Sanctuary has a several hand-made posters with photos of the wildlife. At this point there is not an entrance fee for the nature center. They are just getting started. Perhaps a more durable interpretative display - in several languages would be helpful in getting a higher entrance fee. Otherwise, Olango Island could be an interesting day trip for serious birders.

Carcar - a coastal and hillside town outside of Cebu City used be an old Spanish settlement has many homes and churches which are still standing. They were not destroyed during World War II. A documentary on this settlement is being made in mid September 1996. It is hoped this documentary will spark general interest within the historic preservation and development communities. Carcar is on the way to the coastal resort community of Moalboal.

Moalboal still offers pristine waters and un-touched coastal area (beaches). The diving and snorkeling off the shores of Moalboal are spectacular. Also there is a thriving resort business in Moalboal. Many lovely resorts are located at the shore. Several eco-lodge beach resorts are planned for this coastal town. Moalboal seems to be a very popular destination among Filipinos. Moalboal is could easily be a 3 night, 2-day destination for an eco-tourist.

An eco-tourist would enjoy exploring Cebu City for about a day. The coastal communities outside of Cebu City would be very interesting for 4-5 days to the eco-tourist. The next destination for them would be Isla Naburot in Iloilo.

### ILOILO

Iloilo is a bucolic island which is only a 25 minute flight from Cebu. There is a developed handicraft industry in Iloilo. Iloilo has a many beautiful churches, and is famous for it's style of jeepney and the art deco architecture in the downtown area. However, the eco-tourist may want to go directly to the port of Iloilo to catch a covered pump-boat to Isla Naburot.

Isla Naburot is a model eco-tourism destination; about a 45 minute pump-boat ride from Iloilo proper. The island of Isla Naburot is a small, self-sustaining resort which uses few natural resources (no electricity, no hot water, constructed entirely out of "found" materials.) The owners have a strong interest in preserving the environment and using the local population for the management of this first-class destination. It should be part of any regional eco-tour by Philippines or international visitors to the Visayas region.

Tourists at Isla Naburot usually stay 2-3 nights then take a pumpboat ride back to Iloilo - then fly to Cebu for an overnight. Their next destination could be Bohol.



## **BOHOL**

### *Jungle Eco-Lodge*

The Philippine Tourist Office is focusing on Bohol as an eco-tourist destination. Bohol is a very short day trip via Waterjet from Cebu. Famous for the Chocolate Hills and the old The Christian Churches, this island still has a sleepy, jungle-like atmosphere. The drive into the Chocolate Hills is breath-taking. The potential for jungle eco-lodge tourism is tremendous. The local craftspeople are skilled at wood carving, furniture making and cabinetry. If a first-class jungle/interior eco-lodge were built in Bohol it would be a perfect part of an eco-tour to the Visayas region.

Currently most tourists stay in the city of Tagbilaran at one of beach resorts. For an eco-tourist Bohol is currently a one day, one night trip. After Bohol the eco-tourist will most likely depart for Cebu, then leave Cebu for home.



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## ECO-TOURISM PROJECT IDEAS

### *Overview of Eco-tourism*

Recent trends in international travel have changed dramatically over the last twenty years. In the 1970's the ClubMed® travel packages enjoyed tremendous success. ClubMed® understood the current social trends for leisure. In the 1970's the social focus centered around a single, flashy, youthful image; which translated into leisure activities such as disco dancing, water-skiing, drinking and socializing. This meant the tourism industry focused it's efforts primarily on supplying the accommodations for these social requirements; with environmental concerns having little or no priority in the construction of large hotels and resorts. The natural resources were more of a Hollywood back-drop to the social concerns of the swinging single tourist. The goal of ClubMed® was to fill their resorts with singles, so the price for one of their vacations was generally very affordable.

The "Go-go 1980's" brought in an bullish economy, with young people in the United States and Europe suddenly earning super-inflated salaries. These huge salaries helped develop what many social scientists refer to as a "decade of selfishness." Leisure requirements focused on privilege and exclusivity. RockResorts® predicted this trend late in the 1970's and began to develop fabulous, exclusive hide-aways which were designed with the idea of remote exclusivity in mind. In most cases RockResorts® designed their accommodations with minimal negative impact on the environment; since their clientele were not only looking for lavish accommodations and gourmet food; but they were looking for a pristine nature experience as well.

The 1990's brought a huge stock-market crash at the beginning of the decade; meaning the super-inflated salaries of the "go-go 1980's" are gone. With the disappearance of these inflated incomes, there has been a re-birth of traditional family and community values. People have a more heightened interest in the environment. Leisure activities are still focused on more selfish activities such as gardening, gourmet cooking and travel to remote destinations. But the need for lavish accommodations is gone since the average traveler doesn't have the salary or inflated life-style for it anymore. However, there is still an appetite for style. So successful eco-tourism destinations have used beautiful, simple architecture with local materials, employed local craftsmen to design elegant room furnishings and make items such as hand-made soaps and lotions. The main attraction at these eco-lodges is the ability to have a nature experience and learn about an new eco-system. This new trend in tourism and leisure activities is commonly referred to as "eco-tourism."

The term "eco-tourism" has become over used in recent years. This term has been mis-used to describe any outdoor activity which relates to nature; regardless of the impact on the environment. Many planners and tourism developers feel eco-tourism requires a traveler to be *in* the wilderness, doing something which is physically rigorous. (hiking,



diving, spelunking, birding etc.) Also, some people have the mistaken notion that an “eco-tourist” thrives on risk and does not require first class accommodations. In fact, most eco-tourists travel in groups, are between the age of 35-62, have a strong educational background and high incomes. So they like stylish, first class accommodations and are not in top physical condition. They will accept a stay at an eco-lodge which does not have electricity as long as the lodge is stylish, safe, impeccably clean and the food is delicious. Also, eco-tourists are aware of their negative impact on fragile eco-systems, so they are happy to take a “peek” at nature from a beautiful setting. They are interested in meeting local guides and seeing others cultures as much as anything else.

### Eco-tourism Conference/Workshop

The above overview of the trends in eco-tourism are not generally understood by the stakeholders in the Dumaguete region. The current trends in eco-tourism should be presented to stakeholders in tourism in the area between Bais Bay and Apo Island. Silliman should host an eco-tourism conference as an extension of their “Center of Excellence” work. The conference could include a few keynote speakers from the Eco-tourism Society; whose members include hoteliers, tour operators, foreign government offices, NGO’s and environmental organizations. It would also be helpful if local stakeholders could take a tour of the Isla Naburot Resort; a model Philippine eco-tourism destination in the Visayas. Perhaps the owners, The Saldaña family, could make a formal presentation on their planning and vision for the resort.

The conference could be two-three days. It would take the form of a workshop. International speakers from the Eco-Tourism Society could be asked to attend. Other international successful coastal tourism projects could be presented. Perhaps people from International Expeditions, a first class adventure tour operator in The United States, could make presentations on their role in developing eco-tourism for Belize. An eco-tourism consultant could give a general presentation on the trends in international tourism and travel. Then individual work groups could be coordinated to develop ideas for issues such as carrying capacities in wildlife areas, investment legislation, community development projects, municipality coordination, technology transfer between NGO’s and private sector, transportation, eco-lodge criteria, a national eco-tourism accreditation scheme for The Philippines, coastal patrols and effective marketing through Internet. People attending should include:

- Local Private Sector: (hotels, transportation, tour operators etc.)
- Local NGO’s
- University of The Philippines
- Respected local and international marine biologists
- Eco-Tourism specialists
- International Key Note Speaker(s)



- Environmental Organizations
- Livelihood Specialist(s)
- International Tourism Organization Representative(s)

In June of 1996 The World Congress on Coastal and Marine tourism, The Pacific Business Center and the newly formed Hawaii Eco-tourism Association sponsored the first Marine Eco-tourism Workshop at the Kalani Honua Conference and Retreat Center. Silliman should contact them for more information.

### Coastal Tourism Patrol

Clearly the carrying capacity at Apo Island Marine Sanctuary and Bais Bay needs to be patrolled as more and more tourists arrive. The eco-system is extremely fragile. One standard method is to have a tourism patrol. The concept is as follows.

#### 1. Dive/Snorkel/Anchor License

Tourists (foreign, national and local) buy a license to use the marine resource. The license is issued at the actual site, the airport, the ferry port, the marine & interpretive center, or authorized licensers. There would be different rates for foreign, national and local visitors. Since Silliman University does not own the marine resources the license could not be issued by Silliman University. Rather, it would be an official government license. Therefore, Silliman needs to work with local, regional and national government officials to implement this.

#### 2. Community Participation & Training

The money raised from the licensing would be used to train local stakeholders about the environment and eco-tourism. Lessons on the proper way to snorkel and dive could be taught to the local community. The importance of not crowding the waters would also be taught. Lessons on the inherent value of the natural resources to the community would be taught to the locals. Lessons on patrolling for misuse of the reef and bay could also be taught. The training could be conducted by Silliman University as part of it's "Center of Excellence" program. Swimming lessons could be part of a joint Peace-Corp/Silliman University training project. Clearly, if the coastal community members do not know how to swim it will be difficult to get them to understand the correct methods for snorkeling and scuba diving.

There are some techniques for Ensuring Community Participation in Eco-tourism, which include:

##### a) Community Maps

Participants from various parts of the community prepare a graphic representation of the community and environment as they see it. The goal is to uncover their view of the environment and uncover the community's self perceptions. The results can be



surprising. For example, many children in poor areas view plastic pollution as part of their natural environment. If they paint or draw plastic garbage into their own landscape it may be an indication that they do not see it as garbage. If they draw foreign visitors into their landscape it could mean that they don't feel they have any control of their landscape. Drawings and graphics are helpful since many times the community participants are illiterate. Also, being asked to draw their own environment can build the self confidence and creativity necessary for environmental stewardship later.

b) Analysis

The graphics and drawings are analyzed and priority problems are identified.

c) Group Discussions

A facilitator (trainer) brings the community groups together to present the analysis of the community maps. The facilitator helps the group identify problems, causes and develop possible solutions. It's important that the facilitator create an environment in which the local participants feel free to talk, sing, dance or perform. The participants in these discussions are taking ownership of their environments strengths and problems in this phase.

d) Research & Leadership Analysis

After the group discussions, the facilitator and other researchers determine who are the community group leaders.

e) Community Seminars

The community group leaders are invited to attend intensive study sessions on the environment.

f) The Production of Audio/Visual Materials

The community group leaders are consulted on effective audio/visual medium for their communities. These materials are professionally produced.

g) Popular Theater (Interpretive Presentation/Training)

The actual training materials on eco-tourism are presented to the community. The method may be in role-playing through theater, dance, flat-panel displays, comic books or brochures.

3. Patrolling

Properly Silliman-trained members of the community would be regularly posted at marine centers. These people would check to make sure that everyone who is using the water for recreation has a valid license. These patrollers would be paid a minimal fee for their services. Volunteers would also be encouraged to participate.



## **Crafts Project**

The Visayas region of The Philippines has a proven successful track record in craft development in the Negros Occidental region. Currently the Association of Negros Occidental producers exports their high-end crafts all over the world. The Negros Oriental Entrepreneurs Association has not reached that level yet. However, Negros Oriental shares the same natural resources. So technical assistance in craft development and marketing should be provided to this group. Since eco-tourism and the development of environmentally sensitive eco-lodges are goals in Negros, the local community should be involved in the production of service and craft products associated with hotels and gift shops.

Crafts and products could include:

- Weavings
- Fashion
- Home accessories
- Antique replicas
- Handmade Soaps, Lotions & Shampoo
- Pottery jars & containers to hold hotel items (soap, shampoo etc.)
- Handmade writing paper and envelopes
- Comfortable robes and slippers

With proper technical assistance, the Negros Oriental producers could produce great herbal soaps in innovative, recycled handmade paper packaging. The natural materials seem to be readily available (palm oil, coconut oil, aloe, lemon grass, citronella, fragrant herbs, etc.) Hand-blown glass bottles and pottery jars could be made to hold home-made bath oils and shampoos.

## **Environmental Trust Fund**

A trust funded by a grant from international donors (creating an endowment), and a 300 peso "conservation fee" should be charged to all foreign tourists entering Dumaguete, which would create a revolving fund. This fee would be separate from the Dive/Snorkel/Anchor fee. It would be a fee that goes directly to Silliman. The fund would be used for implementing the coastal patrol, environmental research, community outreach programs, coastal clean-up and other environmental projects. The trust would be governed by three NGO representatives, three government representatives (from The Philippine Department of Tourism, The Dumaguete Mayor's Office, Senate Committee on Environment and Natural Resources) There should also be an advisory council which would include members from the private sector.



APPENDIX G

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Priscilla Rubio  
Fred Vande Vusse



## APPENDIX H

### PHILIPPINE ENVIRONMENTAL LAWS

#### PHILIPPINE CONSTITUTION

Art. II, sec. 16 – “The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.”

Art. II, sec. 15 – “The State shall encourage non-governmental, community-based , or sectoral organizations that promote the welfare of the nation.”

Art. III, sec. 7 – “The right of the people to information on matters of public concern shall be recognized. Access to official record, and to documents, and papers, pertaining to official acts, transaction, or decisions, as well as to government research data used as basis for public development, shall be afforded the citizen, subject to such limitations as may provided by law.

Art. XII, sec. 2 – “... The exploration, development, and utilization of natural resources shall under the full control and supervision of the State. The State may directly undertake such activities, or it may enter into co-production, joint venture, or production-sharing agreements with Filipino citizens or corporations or associations at least sixty per centum of whose capital is owned by such citizens. Such agreements may be for a period not exceeding twenty-five year, and under such terms and conditions as may be provided by law. In cases of water rights for irrigation, water supply, fisheries, or in industrial uses other than the development of water power, beneficial use may be the measure and limit of the grant.

“The State shall protect the nation’s marine wealth in its archipelagic waters, territorial sea, and exclusive economic zone, and reserve its use and enjoyment exclusively to Filipino citizens.

“The Congress may, by law, allow small-scale utilization of natural resources by Filipino citizens, as well as cooperative fish farming, with priority to subsistence fishermen and fish workers in rivers, lakes, bays, and lagoons.”

Art. XIII, sec. 7 – “The State shall protect the rights of subsistence fishermen, especially of local communities, to the preferential use of the communal marine and fishing resources, both inland and offshore. It shall provide support to such fishermen through appropriate technology and research, adequate financial, production, and marketing assistance, and other services. The State shall also protect, develop, and conserve such resources. The protection shall extend to offshore fishing grounds of subsistence



fishermen against foreign intrusion. Fishworkers shall receive a just share from their labor in the utilization of marine and fishing resources.”

Art. XIII, sec. 15—“ The State shall respect the role of independent people’s organizations to enable the people to pursue and protect, within the democratic framework, their legitimate and collective interest and aspirations through peaceful and lawful means.”

Art. XIII—“The right of the people and their organizations to effective and reasonable participation at all levels of social political, and economic decision-making shall not be abridge. The State shall, by law, facilitate the establishment of adequate consultation mechanisms.”

### **PHILIPPINE LEGISLATION**

P.D. No. 1151 (1977). Philippine Environmental Policy – to create, develop, maintain and improve conditions under which man and nature can thrive in productive and enjoyable h harmony with each other; to fulfill the social, economic and other requirements of present and future generations of Filipinos and to insure the attainment of an environmental quality that is conducive to a life of dignity and well-being.

P.D. No. 1152 (1977). Philippine Environment Code – Explicit concerns are air quality management, water quality management, water quality management, land-use management, natural resources management and conservation, conservation and utilization of surface and groundwaters, waster management, population and environment balance, preservation of cultural environment, others such as the integration of environmental education into the school curriculum and tax incentives for the installation and manufacture of anti-pollution equipment’s and devices.

P.D. No. 600 (1974) as amended by P.D. 979 (1976). Marine Pollution Decree of 1976 – to prevent and control the pollution of seas by the dumping of wasters and other matter which create hazards to human health, harm living resources and marine life, damage amenities, or interfere with the legitimate uses of the sea within the territorial jurisdiction of the Philippines. The Environmental Management Bureau (EMB) has the primary responsibility to promulgate national rules and policies governing marine pollution. The Philippines Coasts Guard has the primary responsibility to enforce the laws, rules and regulations governing marine pollution.

P.D. 984. The National Pollution Control of 1976 – The National Pollution Control Commission (NPCC) cannot summarily revoke, suspend, or modify any permit it has issued. The permittee or licensee must have the benefit of due notice and hearing prior to such action. The NPCC has the following powers and duties:



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1. Issue orders or decisions to compel compliance with the provisions of P.D. No. 984 and its implementing rules and regulations only after proper notice and hearing.
2. Make, alter or modify orders requiring discontinuance of pollution specifying the conditions and the time within which such discontinuance must be accomplished.
3. Issue, renew or deny permits, under such conditions as it may determine to be reasonable, for the prevention and abatement of pollution, for the discharge of sewage, industrial waster or for the installation or operation of sewage works and industrial disposal system or parts thereof.
4. Serve as arbitrator for the determination of reparations or restitution of the damages and losses resulting from pollution.
5. Deputize in writing or request assistance of appropriate government agencies or instrumentalities for the purpose of enforcing P.D. No. 984 and its implementing rules and regulations and the orders and decisions of the Board.

Executive Order No. 192 – the Pollution Adjudication Board assumed the powers and functions of the NPCC.

P.D. No. 1160 (1977) – the barangay captain, barangay councilman, barangay zone chairman are deputized as peace officers, with authority to effect arrest of violators in accordance with law for purposes of enforcing and implementing national and local laws, ordinances and rules and regulations governing p pollution control and other activities which create imbalance in the ecology or disturbances in environmental conditions.

P.D. No. 825 (1975) – the Secretary of Public Works, Transportation and Communications, with the assistance of health officials and the local government concerned, implements the law providing penalty for improper disposal of garbage and other forms of uncleanness.

P.D. No. 1181 (1977)—the abatement of pollution from motor vehicles could be reported to the Land Transportation Commission.

P.D.. No. 856 (1975)—violations of the Sanitation Code be reported to the Department of Health of the city or municipal health office.

Rep. Act No. 2056 (1958); P.D. No. 296—the Secretary of Public Works and Communications could hear complaints on the removal or demolition of obstruction in any public navigable river or waterways or communal fishing grounds.



P.D. No. 1508 (1978); Local Government Code (chap.7)—subjecting certain disputes to a mandatory barangay conciliation proceeding.

P.D. No. 704. Fisheries Decree of 1975 – regulating fishery activities and developing the fishery industry.

P.D. No. 1219 (1977) – to promote and regulate the exploration, exploitation, utilization and conservation of coral resources, whether existing beneath territorial waters or in the marine economic zone of the Philippines, and to ensure the protection of these resources as provided for under other existing laws.

Local Government Code of 1991 – Municipalities and cities can grant fishery privileges to erect fish corrals, oyster, mussels or other aquatic beds or bangus fry areas, within a definite zone of the municipal or city waters. Duly registered organizations and cooperatives of marginal fishermen have the preferential right to such fishery privileges. They can also grant the privilege to gather, take or catch bangus fry, prawn fry or kawag-kawag or fry of other species and fish from the municipal waters by nets, traps or other fishing gears to marginal fishermen free of any rental, fee, charge or any other imposition whatsoever. Finally, the cities and municipalities can issue licenses for the operation of fishing vessels or three (3) tons or less.

The LGUs can also adopt adequate measures to safeguard and conserve land, mineral, marine, forest and other resources of the province. They can impose appropriate penalties for acts which endanger the environment. The LGUs can provide for the establishment, maintenance, protection, and conservation of communal forests and watersheds, tree parks, greenbelts, mangroves, and other similar forest development projects.

Rep. Act. No. 6541 (1972) – prohibiting and punishing electrofishing.

P.D. No. 1964 (1977) – transferring the functions of registration and documentation of Philippine vessels to the Philippine Coast Guard.

P.D. No. 1058 (1976) – increasing the penalties provided for under P.D. 704 (1975) for certain forms of illegal fishing and dealing in illegally caught fish, etc.

P.D. No. 1198 (1977) – amends P.D. No. 1219 (1977) and limits permits to gather in limited quantities of corals for scientific or educational purposes only and limits the grant of a special permit to experimental collection of precious and semi-precious corals.

LOI No. 480 (1976) – banning commercial trawls and purse seines within a distance of seven (7) kms. from the shorelines of Northern Leyte, Southern Leyte, Northern Samar, Eastern Samar, Western Samar and Sorsogon.



LOI No. 550 (1977) – directing the Secretary of Natural Resources to train barangay officials as deputy fish wardens and/or deputy forest wardens.

FAO No. 155, series of 1986 – regulating the use of the meshed nets in fishing.

FAO No. 156, series of 1986 -- prohibiting commercial trawl fishing and purse seine operations within a distance of seven (7) kms. from the shorelines and directing the law enforcement authorities to enforce such ban.

FAO No. 163, series of 1986 – prohibiting the operation of “Muro-Ami” and Kayakas” in all Philippine waters.

Republic Act (RA) No. 7160, otherwise known as the Local Government Code of 1991, is a national law which grants autonomy to local government units (LGUs). It aims to effectively allocate powers, functions, responsibilities and resources among the different LGUs. Hence, one of the powers enjoyed by the LGUs is the power to create and broaden their own sources of revenue. Section 149 of RA No. 7160, for instance, provides that the municipalities shall have the exclusive authority to grant fishery privileges in the municipal waters and impose rentals, fees or charges therefore.

Municipal waters as defined in section 131 @ of RA No. 7160 “includes not only streams, lakes and tidal waves within the municipality, not being the subject of private ownership and not comprised within the national parks, public forest, timber lands, forest reserves or fishery reserves, but also marine waters included between two lines drawn perpendicularly to the general coastline from points where the boundary lines of the municipality or city touch the sea at low tide and a third line parallel with the general coastline and 15 kilometers from it. Where 2 municipalities are so situated on the opposite shores that there is less than 15 kilometers of marine waters between them, the third line shall be equally distant from opposite shores of the respective municipalities.

It should be noted that the authority given by RA No. 7160 to municipalities over their municipal waters refers to revenue-generation. The last portion of sec. 149 authorizes the municipality to penalize by ordinance deleterious methods of fishing and to prosecute any violation of fishery laws. But with respect to other issues of jurisdiction over municipal waters, such as the enforcement of pollution control laws and the regulation of fishing and other resource-utilization activities within municipal water, sec. 149 is silent.

Section 17(3) authorizes the province to enforce pollution control laws but this authority is not available to municipalities to enforce pollution control laws in their respective territories, they should first resort to their ordinance-making power [see sec. 458 (1) (vi) and sec. 447(1) (vi)].



Due to this gap in the law, the question that remains unanswered is whether or not an LGU could prohibit, through its ordinance-making or enforcement powers, certain activities within municipal waters notwithstanding a valid license or permit issued by the national government for the particular activity or activities.

Section 4 of Presidential Decree (PD) No. 704, otherwise known as the Fisheries Decree of 1975, grants jurisdiction to the Bureau of Fisheries and Aquatic Resources (BFAR) over the "management, conservation development, protection, utilization and disposition of all fishery and aquatic resources of the country except municipal waters which are under the municipal or city government concerned. "The municipal waters have been extended to 15 kilometers from the coastline by RA No. 7160 from the previous 3 nautical miles under PD No. 704.

Section 4 of PD No. 704 also provides that fish pens and seaweed culture in municipal centers shall be under the jurisdiction of the BFAR. However, this provision should be deemed to have been modified by secs. 447(2) (xi) and 458(2) (xi) of RA No. 7160 which authorize the city or municipality to grant the exclusive privilege of constructing fish pens. Jurisdiction over seaweed culture within municipal waters has not been devolved to LGUs, but by agreement between the Department of Agriculture and the Department of the Interior and Local Government, this matter has been given to the LGUs. The same is true with the regulation of fish cages within municipal waters.

Furthermore, it appears that BFAR continues to have authority to regulate and supervise the production, capture and gathering of fish and fishery/aquatic products both within and outside municipal water. The authority granted by RA No. 7160 to cities and municipalities refers only to the taking or catching of fry within municipal or city waters.

Section 543 (e) of RA No. 7160 expressly repeals section 2, 16 and 29 of PD No. 704. Sec. 2 lays down the policy of the state with respect to the country's fishery resources; sec. 16 requires a license lease and permit from the national government for any fishing activity for the capture of fish or fry or fingerling of any species of fish, or fishery/aquatic products within Philippine municipal waters; finally, sec. 29 authorizes the municipal or city council to grant fishery privileges to qualified persons with the approval of the Secretary of Natural Resources.

Does the repeal of sec. 2 mean that the LGUs are left with the option of formulating their own policies with respect to their respective fishery and aquatic resources? There is no clear answer to this. RA No. 7160 does not have a policy statement on fisheries and neither does Bais or other coastal communities.

There is confusion about the implications of the repeal of sec. 16 and 29. The repeal of section 16 ought to mean that the issuance of the permit for the capture, culture or gathering of fish, fish fry or other fishery/aquatic products has been taken away from the



BFAR and given to the city or municipality. However, RA No. 7160 grants the cities and municipalities only the power to ward fishery privileges to qualified persons to erect fish corrals, fish pens, oyster, mussels or other aquatic beds or bangus fry areas within the municipal waters. Thus, the regulation of the taking of other aquatic products such as mollusks, shells, sponges and sea weeds is not covered by any provision in RA 7160. The inference is that the taking of these aquatic products is regulated by the national government, through BFAR (But see Annex "A"). The problem is that the provisions in PD No. 704 which authorizes the BFAR to issue the licenses or permits for the taking of these aquatic products – sections 16 and 29 – were themselves repealed.

The confusion over jurisdiction is aggravated by the fact that despite sec 149(b) of RA No. 7160 authorizing the municipalities to grant fishery privileges certain provision in PD No. 704 which somehow dilute the municipalities' authority have not been repealed. For instance, secs. 4, 17, 27 and 30 of PD No. 704 state:

Section 4. Jurisdiction of the Bureau – The Bureau shall have jurisdiction and responsibility in the management, conservation, development, protection, utilization and disposition of all fishery and aquatic resources of the country except municipal waters which shall be under the municipal or city government concerned: Provided, that fish pens and seaweed culture in municipal centers shall be under the jurisdiction of the Bureau Provided. Further, That all municipal or city ordinances and resolution affecting fishing and fisheries and any disposition thereunder shall be submitted to the Secretary for appropriate action and shall have full force and effect only upon his approval. The bureau shall also have the authority to regulate and supervise the production, capture and gathering of fish and fishery/aquatic products.

Section 17. Commercial Fishing Boat License and Other Licenses – No person shall operate a commercial fishing boat, pear fishing boat or fishing boat for scientific, research or educational purposes, or engage in any fishery activity or seek employment as a fisherman without first securing a licenses from the Bureau. Provided Finally, That the Secretary my upon the recommendation of the Director, establish a closed season in any Philippine water if necessary for conservation or ecological purposes.

Section 27. License to Operate Fishpens – No person shall construct and/or operate a fishpen without first securing a license from the Bureau, any license or permit issued by the mayor of the municipality claiming jurisdiction over the area in which the fish pen will be constructed to the contrary not withstanding.

Section 30. Municipal Concessions and Leases Concerning Fisheries – No lease or concession granted by a municipal or city council under authority of an ordinance approved pursuant to section 4 hereof, concerning fishing or fisheries in streams, lakes,



rivers, inland and/or municipal waters, shall be valid and enforceable unless the Secretary, upon recommendation of the Director, approves the same.

**\*Dispute Resolution Process in the Barangay level**

Lupong Tagapamayapa – Punong Barangay (barangay captain) as chairman, 10 to 20 members who actually reside or work in the barangay (sec. 299, RA No. 7160).

--constituted every 3 years (sec. 399)

--Functions:

1. Exercise administrative supervision over the conciliation panels;
2. Provide a forum for its members and the members of the various conciliation panels to share observation experiences and ideas relevant to the amicable settlement of disputes (sec. 402).

--Applicable only when the parties actually reside in the same city or municipality (sec. 408).

--Subject matter for amicable settlement covers all disputes except

- a. Where one party is the government, or any subdivision or instrumentality thereof;
- b. Where one party is a public officer or employee, and the dispute relates to the performance of his official function;
- c. Offenses punishable by imprisonment exceeding one (1) year or a fine exceeding Five Thousand Pesos (P5,000.00);
- d. Offenses where there is no private offended party;
- e. Where the dispute involves real properties located in different cities or municipalities unless the parties thereto agree to submit their differences to amicable settlement by an appropriate lupon;
- f. Dispute involving parties who actually reside in barangays of different cities or municipalities, except where such barangay units adjoin each other and the parties thereto agree to submit their differences to amicable settlement by an appropriate lupon;
- g. Such other classes of disputes which the President may determine in the interest of justice or upon the recommendation of the Secretary of Justice.

--Venue:

- a. Disputes between persons actually residing in the same barangay shall be brought for amicable settlement before the lupon of said barangay.
- b. Those involving actual residents of different barangays within the same city or municipality shall be brought in the barangay where the respondent or any of the respondents actually resides, at the election of the complainant.
- c. All disputes involving real property or any interest therein shall be brought in the barangay where the real property or the larger portion thereof is situated.



- d. Those arising at the workplace where the contending parties are employed or at the institution where such parties are enrolled for study, shall be brought in the barangay where such workplace or institution is located (Sec. 409)

--However, the parties may still go to court directly in the following instances:

1. Where the accused is under detention;
2. Where a person has otherwise been deprived of personal liberty calling for habeas corpus proceedings;
3. Where actions are coupled with provisional remedies such as preliminary injunction, attachment, delivery of personal property, and support pendente lite; and
4. Where the action may otherwise be barred by the statute of limitations [sec. 412 (b)].

Lupon Chairman (barangay captain) – upon receipt of complaint, the lupon chairman attempts to mediate. If he fails in his mediation efforts within 15 days from the first meeting of the parties before him, the Pangkat is constituted [sec. 410 (b)].

Pangkat ng Tagapagkasundo – a conciliation panel to be constituted for each dispute brought before the lupon.

--3 members who shall be chosen by the parties to the dispute from the list of lupon members (sec. 404)

--shall arrive at a settlement or resolution of the dispute within 15 days from the day it convenes, extendible for another period not to exceed 15 days [sec. 410 (e)].

--The parties may, at any stage of the proceedings, agree in writing that they shall abide by the arbitration award of the lupon chairman or the pangkat (sec. 413).

--The amicable settlement and arbitration award have the force and effect of final judgment of a court upon the expiration of 10 days from the date thereof unless the settlement is repudiated (sec. 416)

--The unrepudiated settlement or award may be enforced by execution by the lupon within 6 months from the date thereof. After 6 months, the settlement may be enforced by action in the appropriate city or municipal court (sec. 417).

--No complaint, petition, action, or proceeding involving any matter within the authority of the lupon shall be filed or instituted directly in court or any other government office for adjudication, unless there has been a confrontation between the parties before the lupon chairman or the pangkat, and that no conciliation or settlement has been reached as certified by the lupon secretary or pangkat secretary as attested to by the lupon or pangkat chairman or unless the settlement has been repudiated by the parties thereto (sec. 412)

\*Boundary disputes involving 2 or more barangays in the same city or municipality are referred to the sangguniang panlungsod (city council) or sangguniang bayan (municipal council) concerned.



\*Those involving 2 or more municipalities within the same province are referred to the sangguniang panlalawigan (provincial board) concerned.

\*Those involving a component city or municipality on the one hand and a highly urbanized city on the other, or 2 or more highly urbanized cities, are jointly referred to the respective sangguniangs of the parties.

\*If the sanggunian fails to effect an amicable settlement within 60 days from the date the dispute was referred thereto, it shall issue a certification to that effect. Thereafter, the dispute shall be formally tried by the sanggunian concerned which shall decide the issue within 60 days from the date of the certification.

\*The decision of the sanggunian concerned can be appealed to the proper Regional Trial Court (RTC) having jurisdiction over the area in dispute. The RTC shall decide the appeal within 1 year from the filing thereof.

\*Local government officials in some areas, such as Bais and in Moalboal, Cebu have asked if they have the authority to prohibit "kubkobs" (trawlers) from the fishing in municipal water. Despite the absence of a local permit from the municipal mayor – which under their ordinance-making and revenue-generating power, the municipality or city has the authority to impose [see sec. 444(1), (2), (3)(iv) and sec. 455(1), (2) and (3)(iv)—the kubkobs are being tolerated because of their permits from the national government. This is also the situation in other national issues, such as the operation of Lotto, a lottery run by the national government. The national government has insisted that LGUs have no authority to prohibit the operation of Lotto within their respective territories because it has a national license and has been declared valid by the Philippine Supreme Court.



## APPENDIX I

### Visitors Information Card

▼

The following questionnaire is completely voluntary and confidential. Please do not feel obligated to give us your name. The purpose of the questionnaire is to learn more about our visitors - so that as we develop tourist sites in our fragile environment we can be sure the sites not only have minimal negative impact on the natural resources, but that our tourist attractions will be on par with our visitors leisure requirements. We appreciate any comments and we welcome you to The Philippines.

▲

You are: Male----- Female-----

What is your occupation?

What is your approximate annual income?

\$25,000-\$50,000. \$50,000.-\$100,000. \$100,000.-\$250,000. (over \$250,000.)

Is this your first trip to The Philippines?

Where do you live? Country: City/Town:

What is your nationality?

How did you book your travel to The Philippines?

Travel Agency ----- Airlines ----- Other -----

Are you traveling primarily for business or pleasure?

Business ----- Pleasure -----

If traveling for pleasure, what made you decide on The Philippines?

Cost Considerations ----- Pristine Nature ----- A Referral from Friend -----  
 Family in Philippines ----- A Package Tour ----- Read an Article about Philippines -----  
 Saw an Advertisement -----

How many people are traveling with you?

Can you tell us about your education?

High School Graduation Undergraduate College Masters Degree Ph.D.

Can you tell us about your hobbies?

Diving Photography Art Languages  
 Hiking Exercise An History Music  
 Snorkeling Crafts Reading Other

Please Describe: .....

Are you a member of any environmental organizations? If so, which one(s)?

Are you a member of any cultural organizations? If so, which ones(s)?

What travel and leisure magazines do you read?

What News & Information magazines do you read?

Which languages do you speak?

If you could design your "ideal" vacation, what would it be? Could you describe it?



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## APPENDIX J

### CYNTHIA ZAYAS REPORT

#### Proposed Coastal Culture Interpretive Center The Silliman Hall

#### Outline:

- 1.0 Frameworks for a coastal culture
  - 1.1 Coastal Culture Mode
- 2.0 Interpreting Coastal Culture The Case of Negros Oriental
  - 2.1 Model
- 3.0 Towards A Coastal Culture Interpretive Center
  - 3.1 Function
  - 3.2 Linkages
  - 3.3 Format
  - 3.4 Activities
  - 3.5 Staff
  - 3.6 Budget
- 4.0 Suggested References

#### 1.0 FRAMEWORK FOR A COASTAL CULTURE

Coastal culture ( C ) in simple terms is a system of meanings derived from human struggle with nature as well as human's interaction among themselves in the process of such struggle. The interpretation of coastal culture in the model I am proposing considers the nature of relations between the ecological cell ( A ) and the human activity system ( B ). Defined as - the basic productive elements of nature consist of the coastal zone, mangrove area, river system and watershed, the ecological cell ( A ). These components interact to create water energy. Like a restaurant to which living things, plants, animals and people come to "eat", it is a resource where fisherfolks derive their products. If there are too many "eaters", the water energy in the ecological cell will tend to get depleted, but it may not become immediately apparent unless measures could immediately be taken to bring back this energy.

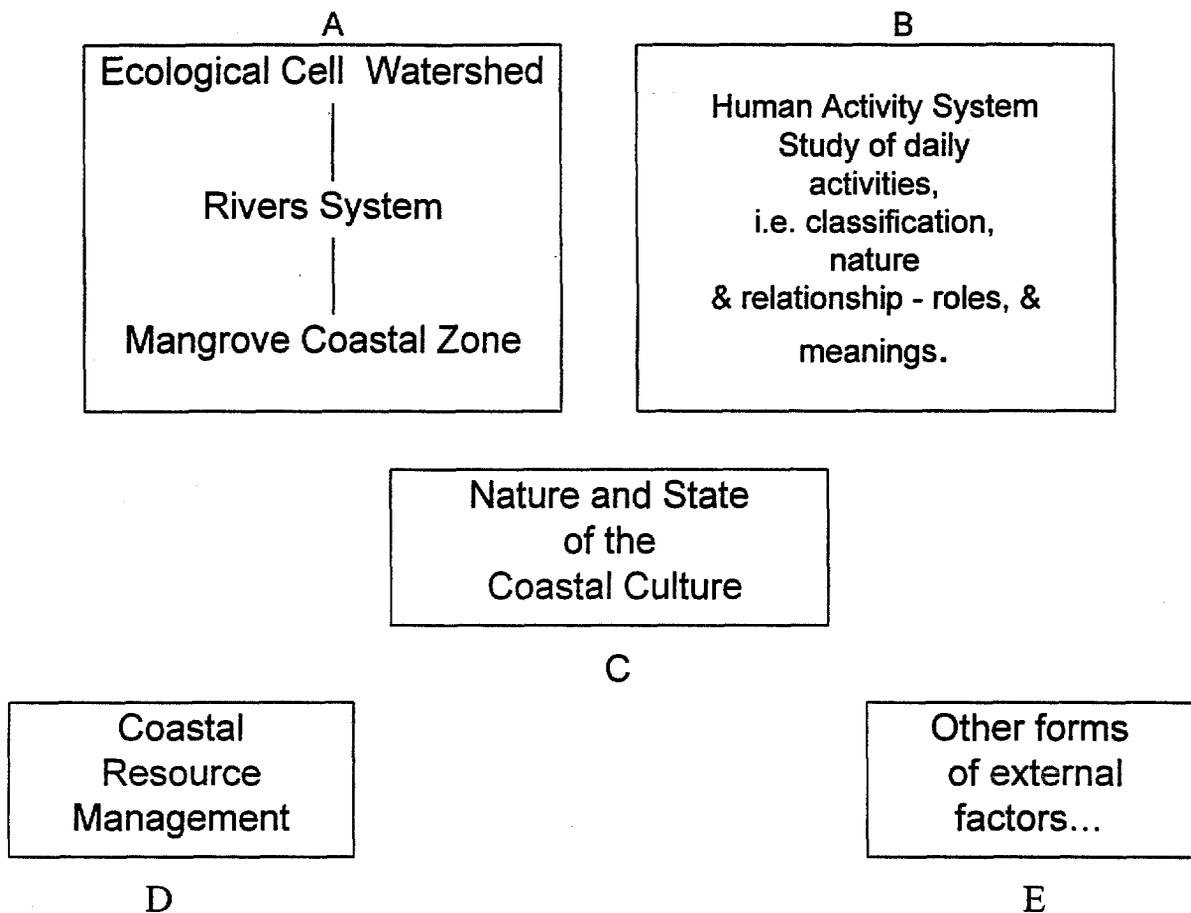


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Cognizant of the nature of human intervention on the ecological cell through the knowledge of human activity system ( B ), i.e.. the daily activities of people, a coordinated intervention can still be possible through a rational coastal resource management ( D ).

The dynamic nature of C can either/both the results of external and internal factors, man-made and/or natural as well.

### 1.1 COASTAL CULTURE MODEL



## 2.0 INTERPRETING COASTAL CULTURE The case of Negros Oriental

### 2.1 MODEL

Space-use, human and spirit (1)	Activities & Org. (2)	Ecological Cell (3)	Local rationality (Integration of 1-3)
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### ETHNOGRAPHY

Case studies Negrito, forest Bukidnon, hill Bisaya, coast	HAS- H E ES	[A] watershed [B] river system [C] mangrove [D] coastal zone [E] tidal flats to the trench	Communal rationality in demarcation, allocation and utilization of an important community resource-environment
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Notion of space as sacred/or profane	Deciphering human inscription in nature,	Concrete as it changes through natural & human interventions	Human logic as shown in various struggles among themselves among themselves, between them & nature
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folk geography, folklore, folk- medicine/botany/ zoology, world view, rites & rituals, burial practices, etc.  Siquijor, Negrito, Magahat healing systems	Annual cycle of production  labor needs, technology, organization, material cult. social construction vill.  see biblio fieldwork	Rivers as highways of trades & ideas, Prestige  goods from forest & the coast, settlement formations, political power control  Archaeo/historic, contemporary data, e.g. Bais region	traditional laws, tenurial systems, ideas of justice, conservation, etc.  marine sanctuaries,
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### 3.0 TOWARDS A COASTAL CULTURE INTERPRETIVE CENTER

#### 3.1 MUSEUM'S FUNCTION

- Silliman Hall as a living museum or a museum in context
- A place where culture is interpreted. A linking mechanism for cultural representation
- A dynamic center because it engages the audience through its multi-media programs
- Center of learning

#### 3.2 LINKAGES

- Center for excellence
- University, local international scholars
- Public, tourism, i.e. "mini site museums"

#### 3.3 FORMAT

Space	EXHIBITION		DEMONSTRATION	STORAGE	OFFICE	SHOPS	AVR/ Lect.
	Permanent	Seasonal					
Grounds	sand and pebble garden w/ mini installations, e.g. fishing gears, boats of various types, etc.						
1 <sup>st</sup> Floor	Coastal Culture Overview -Negrito, hunting & gathering -Bukidnon, slash & burn	featured arts, crafts,	craft demonstration, e.g. boat-building, pottery, weaving	heavy/large things	Infor.	Publication, brochure, T-shirts, miniatures, flowers, fruits, etc.	
2 <sup>nd</sup> Floor	Material culture of various industries, eg. Pottery, weaving, sugar(eg.Bisayan kitchen)  Worldview: Life cycle rituals Healing systems, eg. Negrito, Siquijor, etc. Fokloric representation of the sea, Funerary artifacts  Settlement patterns Negrito, Bukidnon, Bisayan, etc. House types, etc.	current issues  art gallery		light, small objects		Traditional snacks, Lunch rest. (veranda)	Video, slides, music, photos, etc.  Seminar activities
3 <sup>rd</sup> Floor	Jewelry, clothing, Bodily representation	none			Research fellow rooms,  Catalog  Adm.		Meeting room



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### 3.4 ACTIVITIES

- On-going research museum stall and fellows
- Training for cultural/eco-tourism promotion e.g. sites, innkeeping, museum volunteer corps.
- Short-term for school teachers
- Craft promotion
- Development of satellite living museum/laboratory, e.g. Zamboangita, Bayawan, Bais, Apo Island (research station)

### 3.5 STAFF

Board of advisers (Public, Business, Academe)

- 1 Director
- 2 Curators - administration, academic
- 2 Full time researchers
- 4 Research assistants, 2 undergraduate, 2 graduate
- 2 Technicians
- 1 Illustrator

BUDGET

SUGGESTED REFERENCES



## APPENDIX K Architectural Concepts

### Silliman University Environmental Interpretive Program Dumaguete, Negros Oriental

#### Marine Laboratory

The new Marine Laboratory building shall be constructed in two phases: (a) Marine Laboratory and (b) the Interpretive Center. The new building shall be constructed at the rear of the present collection of temporary buildings housing various laboratory functions that have been haphazardly constructed over the years and seriously block the view of the sea.

The Marine Laboratory building will house the following functions: Administration, Offices and Laboratories for Resident and Visiting Faculty, Research and Demonstration Laboratories, Specimen Storage, Library, Indoor and Outdoor Service Areas, Garage, Staff and Public Parking. It is hoped that the new buildings will provide space for as many of the administrative and scientific functions presently housed in the warren of temporary buildings that are scattered on the beachfront. To provide a maximum of usable, flexible space, simplicity and functionality are the main design criteria. The conceptual floor plans (see figures following section 3.0) were developed together with the Marine Laboratory staff to provide the most efficient layout of spaces with the best relationships between functions that are required for the new facility. Before the completion of the Interpretive Center, an exhibition space and a demonstration laboratory will be set aside for the visiting public on one end of the ground floor.

The Interpretive Center building will house the following functions: Visitor Holding Area, Main Exhibition Hall, Seminar and Audio-Visual Room, Gift and Coffee Shop, Administration, Exhibition and General Storage Area, Maintenance Area, Staff and Public parking. As the Marine Laboratory building, the simplicity and functionality of design envisioned for the Interpretive Center will provide the maximum of usable, flexible space. The interpretive exhibit begins inside the building, moves outdoors to include the relocated fish and clam tanks, to a walkway passing through the turtle hatching area and the mangrove area at the rear of the site.



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## Centrop

The present Centrop has an excellent but poorly presented collection of fully grown trees and live animal specimens that the public can appreciate much better if the presentation is improved. Visitor friendliness is the principal criterion of the proposed redesign of Centrop.

The improvements envisioned for Centrop are the following: re-orientation of the entrance to the rear street to provide visitor parking; construction of covered visitor holding and information area, toilets, seminar and audio-visual room, gift and coffee shop, administration area, areas for animal hospital and feeding preparation station, maintenance, storage and motor pool (see figures following section 4.0).

The existing animal collection must be increased. The old-style cages in present use must be changed to more visitor-friendly enclosures with extremely secure but natural looking boundaries such as ponds, mounds, etc., to allow the animals to "roam freely" in their designated areas. To ensure maximum security and to strictly control visitor flow, visitors are restricted to following a well defined path. The visitor walkway begins on ground level, climbs upwards forming a natural boundary between animal areas, rising to mid-canopy level to offer a different forest experience, and finally rising to the top of the canopy to offer the visitor the experience of being on top of the forest canopy.

## Silliman Hall

Silliman Hall, reputed to be the oldest American colonial building in the Philippines, is the centerpiece of the Silliman campus and the principal symbol of the university. Since it is seen as the principal link between the university and the public, the existing structure shall be restored to its original state. At present, the building is sadly forgotten and underutilized.

To bring life back to Silliman Hall, the entire building and surrounding grounds shall be restored. All of the interiors shall be redesigned to make the spaces more visitor friendly. The museum on the second floor shall be redesigned, using the existing collection as the basis of an expanded exhibition that makes the museum more attractive to the public. The empty rooms scattered around three levels of the existing structure shall be refitted into gift and coffee shops, a series of function rooms of



different sizes and designs (Audio-Visual Room, Memorabilia Room, Alumni Room) that can be flexibly subdivided and rearranged to accommodate groups of different sizes and to accommodate participants of seminars, meetings or c5 social functions of various sizes.

The restored Silliman Hall will be the new "living room" of Silliman University. It is the perfect venue for all official and private meetings and functions of the university. It shall also be available for Dumaguete residents to hold their public or private meetings and functions as well. Spaces to house necessary museum functions (curator, administration, storage, conservation laboratories, visiting fellows research space) shall be provided.



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