

**MANGROVE EDUCATION SEMINAR WORKSHOP**  
**SEAFDEC Aquaculture Department, Tigbauan, Iloilo**  
**1-5 May 2005**

*HOW TO INTEGRATE MANGROVE EDUCATION IN THE CURRICULUM*

Group1: Jollano, JSalminao, LSison, FPalomar

*English*

- Holding of composo composition on mangroves
- Writing of composition about mangroves
- Essay writing

*Filipino*

- Holding of role play as in drama theater
- Contest on slogan (salawikain) and poster making contest
- Balagtasan

*History*

- A survey of the history of the environmental condition of yesterday and today (Baliktanaw sa Nakaraan)

*Mathematics*

- Basura collection contest – the winner will be selected tru the amount of basura collected
- A survey on the reaction of the community members on mangrove rehabilitation

*Social Studies*

- Holding of mural painting contest on the positive and negative effects of mangrove conservation and depletion

*Science*

- News reports on the importance of mangrove management
- Peer tutoring among other schools on speciation on mangrove management (*you are specialized on mangrove management, other schools can invite you as a guest speaker.*)

*Philosophy*

- Information dessimination on the pros and cons of mangrove management.
- Improve the institutional capacity of the school on the mobilization of the mangrove management
- “*Healthy environment makes a healthy nation*” – philosophy that we will apply
- Civic action – mangrove planting activity

Group 2: Panay Mangrove Advocators (PMA)

AJBering, NArmada, JDagudag, PMagno, PAlpasan, MPKuhlmann

*HRM*

- Ecotourism

*Agriculture/Horticulture*

- Bonsai making
- Flower arrangement
- Source of animal feeds

- Landscaping
- Mass production of propagules

#### *Science*

- Exhibit on the uses of mangroves
- Posters on mangrove food web/ecology
- Ecosystem topic

#### *Economics*

- Mangrove valuation

#### *Information Technology*

- Database on mangroves

#### *Criminology*

- Criminal charges
- Power to apprehend
- Police
- Monitoring

#### *Laws*

- Philippine laws on conservation and protection

#### *Management*

- Management Principles and environment
- Community-based management of mangroves – success and failure of local management/cooperative management

#### *Technology*

- Integrating aquaculture and mangroves
- Integrating fishing and mangroves – use of passive gears

#### *Social Sciences*

- Survey on how mangroves affect the lives of the local community

#### *History*

- History of Manila and other places/how a place got its name
  - Manila (*Scyphiphora hydrophyllacea*)
  - Bakhaw, Mandurriao (*Rhizophora*)
- History on the materials used for the *balingaw* boat
- Historical development of coastal towns

#### *Religion*

- Stewardship

#### *Filipino*

- Paggawa ng pangungusap
- Paggawa ng sanaysay/salaysay

#### *Mathematics*

- Problem solving in Algebra, Statistics, etc. using the data from mangrove research

#### *Philosophy*

- Discussion on the topics:
  - Man and his environment
  - Man and the Mangrove

### *Political Science/Law*

- Debate on topics like:
  - Shall we continue converting mangroves to fishponds?
  - Does mangrove support life?
- Discussion on mangrove conservation

### *Literature and Humanities*

- Poems, essays, drama. Satire
- Arts appreciation
  - mangrove tree: its form, shape, balance, etc.
  - mangrove materials used in artwork

### *English*

- Grammar, spelling, sentence construction – where mangrove/mangrove ecosystem as a subject
  - eg. Mangrove is a tree.
  - Mangrove is a habitat.
- Essay writing/composition – topics on the role of mangroves in the ecosystem
- Feature writing/Lay-man writing – translating technical data into a layman feature article

### *Medical Sciences*

- Medicinal uses of mangroves:
  - a. *A. alba* – birth control, bark used as astringent and ointment; seeds used to relieve smallpox ulceration
  - b. *A. marina* – smoke of dried branches as mosquito repellent
  - c. *A. officinalis* – bark and roots as aphrodisiac; seeds and roots as poultice to treat ulcers
  - d. *Rhizophoraceae* – roots and leaves to treat burns; leaves inhibit tumors; fruit lotion to treat sore eyes
  - e. *C. tagal*- bark use to treat hemorrhages and ulcers
  - f. *E. agallocha* – leaves treat epilepsy; sap treats toothache and ulcers
  - g. *L. littorea* – leaves decoction use to treat rashes among infants
  - h. *R. mucronata* – dried hypocotyls used as cigars
  - i. *S. casealaris* – sap as cosmetics
  - j. *X. granatum* – oil from seeds used for growing hair; fruits and seeds for diarrhea; bark decoction for cholera
  - k. *X. moluccensis* – seeds for insect bites, diarrhea and insect bites; fruits for diarrhea; bark as astringent

Group 3: OFuentespina, YRNoble, RRJardeleza, HBallongay, NYew

### **Classroom Level:**

#### *Filipino/English/Literature/Humanities*

- Theater/drama presentation
- Skits/plays

#### *Music*

- Compose jingles and songs about mangrove conservation

#### *Arts/Social Science*

- Cartoon-strip making

#### *TLE/Makabayan/Musisc*

- Craft-making of musical instruments

#### *English*

- Puppetry and shadowplay

### *History*

- Travelogue

### *Mathematics*

- Fraction disc
- Problem solving (inclusion of mangroves as topics)

### *Psychology/Medicine*

- Conduct of study “*Therapeutic effects of mangrove eco-parks on geriatric patients*”

### **Extension Programs/Activities**

Themes: Mangrove Propagation

Mangrove Protection

Mangrove Conservation

1. Fun runs-PE/Health
2. Theater plays -collaborative effort
3. Mangrove challenge/adventure -collaborative effort
4. Promotion and selling of mangrove products -Economics/Management/Marketing
5. Study: “*The indirect implications of Moro-Islamic recruitment and counter-terrorist operations to the mangrove community rehabilitation in Basilan Island*” -Political Science/Philosophy
6. Concert for a cause -collaborative effort
7. construction of a durable & environment-friendly pathwalk and other fixtures -Engineering
8. Radio/TV programs and documentation -Mass Communication
9. Info-primers -Science
10. Community service and mangrove community cleaning -Scouting/NSTP
11. Mini-for a/seminars for students -collaborative effort

### **Song composition by Nteng Yew**

#### PALAGANAPIN MANGROVES

##### I

Panahon na para buhayin  
Mga nasira nating mangroves  
Kalusugan sa tabing dagat  
Ay dulot ng yaman sa mangroves

##### II

Kahoy-gatong, malusog hangin  
Tamilok, imbao, alimango  
Kukulangin pag walang mangrove  
Bakhawan ay palaganapin

##### III

Kaya't join na lang kayo  
Palaganapin mangroves.

Group 4: GGalagate, FTupaz, RRJardeleza, MBVijar

### *English*

- Poetry writing
- Slogan and poster writing
- Song composition and interpretation
- Essay writing
- Crossword puzzle

### *History*

- Gather artifacts made of mangroves
- Recall historical events which highlights the use of mangroves

### *Social Science*

- Conduct forum/symposium on the importance of mangroves in the community
- Film showing (eg Panaghoy sa Suba)

### *Literature & Humanities*

- Song writing and interpretation
- Character impersonation
- Slogan and poster writing
- Film showing (handicrafts made of mangroves)

### *Science*

- Educational trip in mangrove forest
- Training workshop on mangrove conservation
- Develop biotech of researches
- Film showing (Different species of mangroves)

### *Filipino*

- Sumulat ng sanaysay tungkol sa kahalagahan ng katunggan
- Gumawa ng diorama ukol sa mangrove ecosyastem
- Film showing

### *Mathematics*

- Use the transect-plot method in counting the number of species in a given area
- Plotting of data using graphs

### *Philosophy*

- Conduct debate on the proposition Mangrove: Technology or Environment

### Group 5: Schiffsbohrer Group

SKeuter, NYunque, ARecodo, CTorre, RLopez, RPallon

### *History*

- Historical research of fishpond politics in 60s and 70s
- Local history of mangroves and factors that brought about change

### *Accounting*

- Evaluation of mangrove as resource

### *English/Filipino*

- Campaigns and info drive about mangroves: nature, uses, benefits
- Words association after film showing/exposure
- Film showing followed by essay writing on the beauty of mangrove ecosystem
- Story writing about mangroves

### *Mathematics*

- Generating primary data using mangrove community using math concepts (eg HT and DBH)
- Use of secondary data as materials in teaching math concepts (eg averages, graphs, ratio and proportion, etc.)

### *Science*

- Conduct research to enrich knowledge on mangrove biology and uses
- Identify different species of mangroves
- Preparation of herbarium

### *Philosophy*

- Man's respect for mangroves (as a living entity)?
- Is man absolutely free to use mangroves for his purposes?

### *Literature and Humanities*

- Writing of poems about the beauty of mangrove flowers
- Contests
- Play presentation
- Painting/T-shirt painting
- Collage making
- Poster making

### *Social Sciences*

- Conduct debates
- Special problems (Incidence of poverty and degradation of mangroves)
- Economic value of mangroves
- Effects of mangroves to the economy of coastal communities

