

# **BIODIVERSITY: BIOPROSPECTING IN BATAAN**

**<sup>1, 2</sup>LJ Cruz, <sup>3</sup>GB Yu, <sup>2</sup>UF Ferreras &  
<sup>4</sup>J Salonga**

**<sup>1</sup>UP Diliman; <sup>3</sup>UP Manila; <sup>2</sup>CBMSF & <sup>4</sup>Kanawan Aytas  
Reservation, Morong, Bataan**

**[Lourdesj.cruz@gmail.com](mailto:Lourdesj.cruz@gmail.com); 63 2 9323584; 63 917 8079395**

# Ancestral Domain of Magbukún Aytas

## Ancestral Domain of Aytas of KNRA (Kanawan Negritos Reservation Area)

- 10,000-ha area in Morong
  - Portion of Subic Bay Forest Reserve south of Boton River
  - Portion of the Bataan Natural Park (BNP) on northwestern side of Mt. Natib
- BNP is one of 10 priority reserves of the Conservation of Priority Protected Areas Project (CPPAP) - implemented in 2008 with funds from GEF through the WB Forest Peoples Program.



# Objectives

- **To explore the natural products of plants and other forest bioresources**
- **To develop natural products as drugs, other health products & applications for eventual commercialization**
- **To empower Aytas as stewards of forest resources and help them rise above poverty**

# Community Preparation

- **Information & education campaign on biodiversity & conservation**
- **Education on IP rights - IPRA & Wild Life Act**
- **Education of responsibilities as stewards of the forest**
- **IPR & benefit sharing from bioprospecting**
- **Assistance in preparing documents needed for CADT application**



# Biodiversity Survey of Forest Trees in BNP



**Training of Aytas in parataxonomy & biodiversity inventory**  
**Survey of trees along the boundaries of the ancestral domain**  
**Biodiversity assessment using Gentry plots (UF Ferreras et al)**

**277 morpho-species found (82 families of angiosperms & pteridophytes  
(>2.5 cm stems)**

**Families with most number of species:**

<b>Moraceae, 18 spp.</b>	<b>Meliaceae, 12 spp.</b>	<b>Dipterocarpaceae, 11 spp.</b>
<b>Annonaceae, 10 spp.</b>	<b>Lauraceae</b>	<b>Sapotaceae, 10 spp.</b>

**(PTFCF-supported project of Kanawan Aytas & CBMSF)**



# Nursery of Forest Trees





- Monitoring of 1about 1,500 hectares of forest
- Reforestation of denuded sites



*Albizia procera*



*Albizia acle*



*Cassia javanica*



*Parkia timoriana.*



# REFORESTATION & ENRICHMENT OF FOREST GAPS

*Dracontomelon dao*



*Diospyros pilosanther*



*Dipterocarpus grandiflorus*



*Chisocheton sp*



*Diospyros sp*

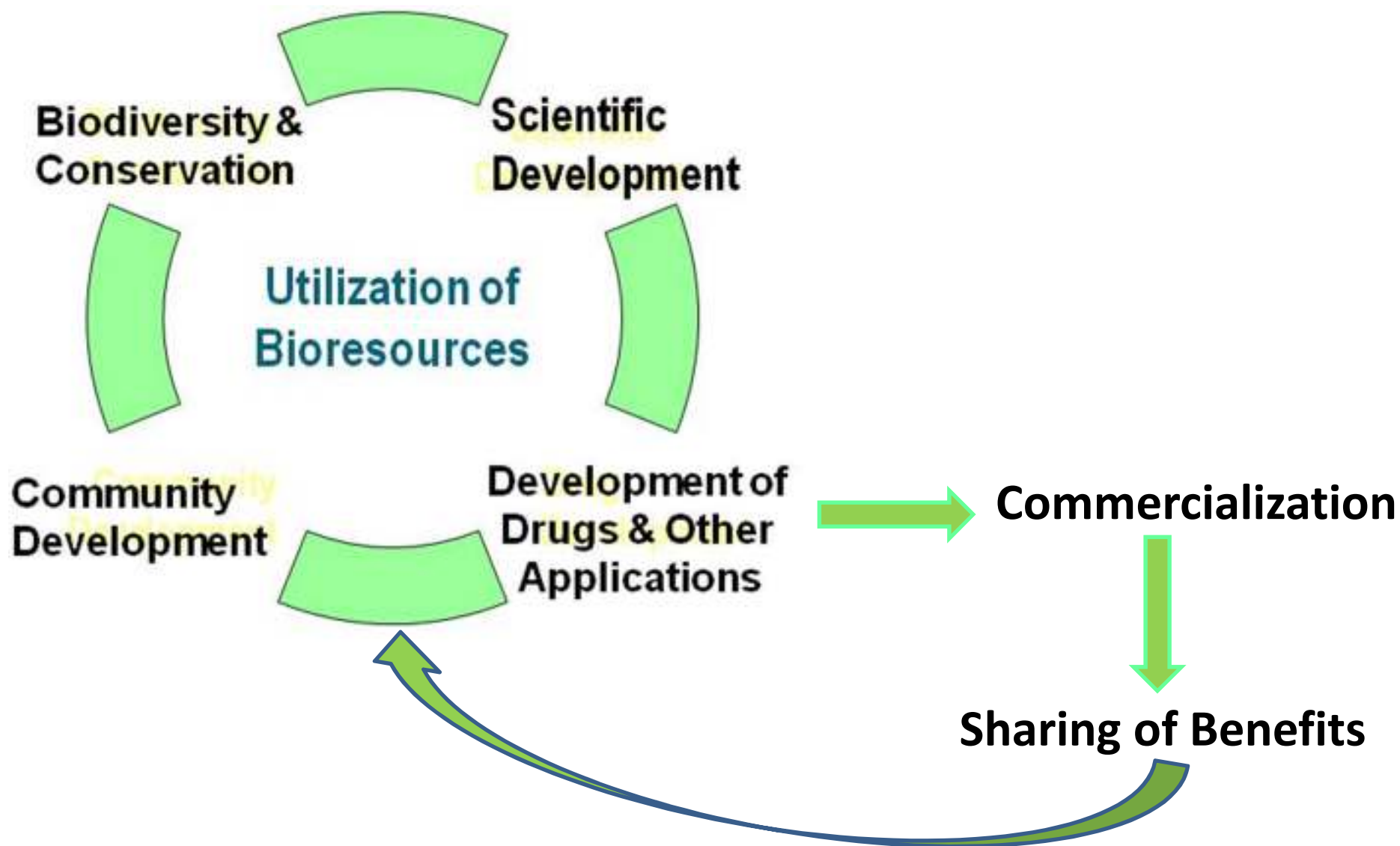


*Cassia javanica*





# Paradigm for Natural Products Research & Sustainable Bioprospecting



# **Ethnomedical Documentation**

- **Traditional healers interviewed re medicinal plants, uses & preparation**
- **Elders interviewed re functional foods**
- **Small scale collection and extraction of active components**
- **Preliminary verification of bioactivities**

# R&D on Traditional Food & Medicinal Plants

Example: c/o Dr. Grace Yu

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**Shoot of Limuran (*Calamus ornatus*), a species of rattan  
Used as traditional food and remedy for diarrhea**



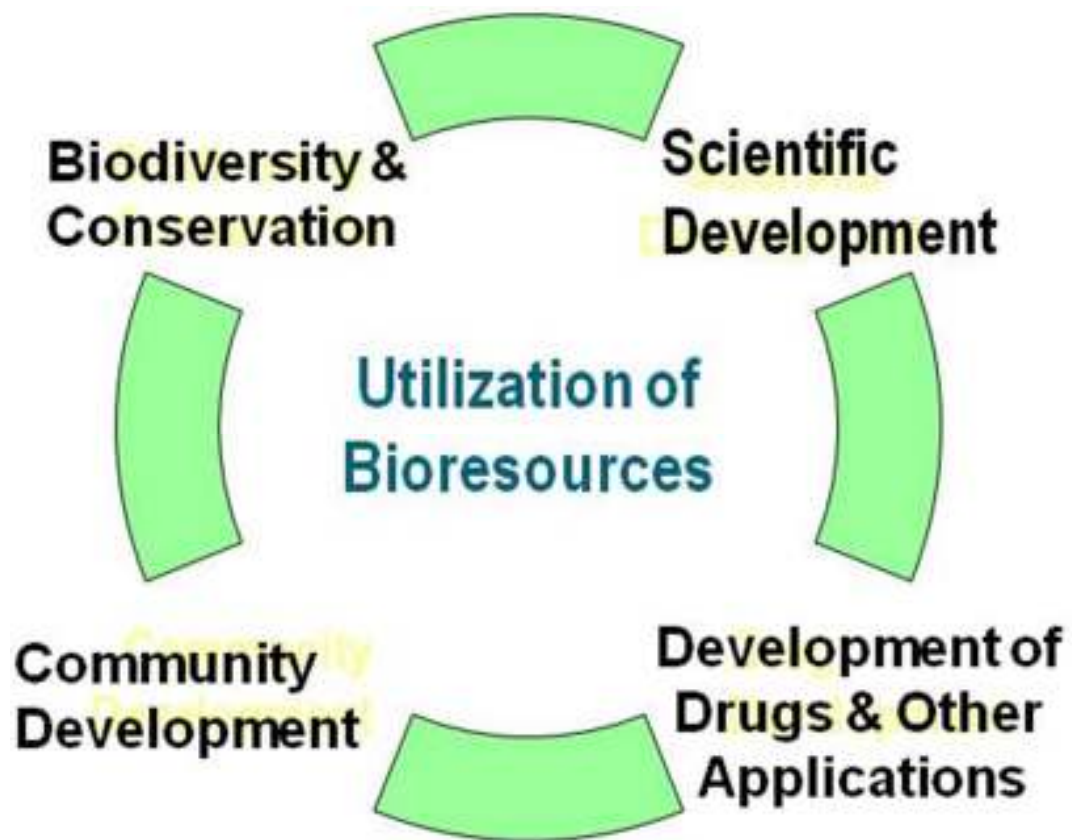
**Bioactivities found:**  
**Antimotility**  
**Anti-inflammatory**  
**Inhibition of cancer cells**

**Bioactive compounds have been isolated (spirostanols)**

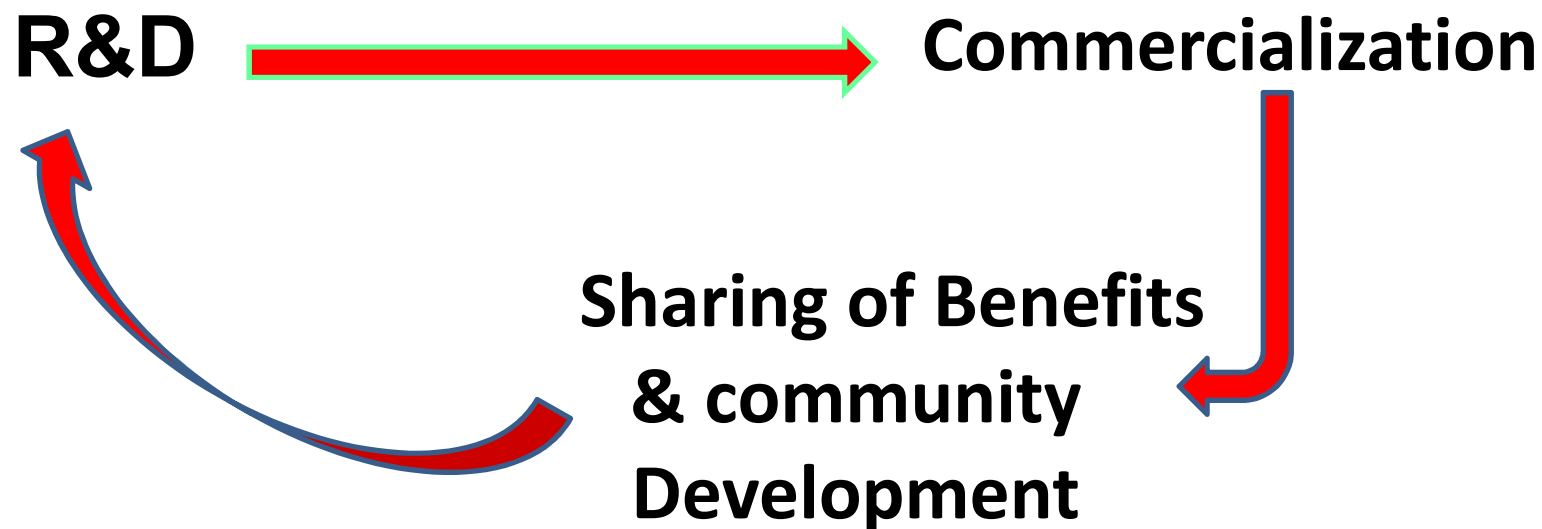
**Product Development → Commercialization → Profit Sharing**

**Other products are in the pipeline**





## **Sustainable Bioprospecting**



# **Impacts of the Project**

- **Aytas aware of the importance of biodiversity**
- **Forest conservation - Regular monitoring of forest & reporting to authorities**
- **Increased earnings from NTFPs such as shoots of rattan**
- **Potential for commercialization & benefit sharing**
- **Will contribute to poverty reduction in the Ayta community**
- **Will contribute to scientific development**

# Thank You!

## Acknowledgements

- ICRAF for opportunity to present
- Project funding sources
  - US NIH, PTFCE, DOST
- The Ayta community
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- Project staff