

# INDONESIAN COUNTRY REPORT ON TRADITIONAL MEDICINE

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INDONESIA

# INTRODUCTION

## TRADITIONAL MEDICINES

- The traditional herbal system of medicine has been used since ancient times
- Most of the developing countries and in particular those situated in the tropical belt such as Indonesia constitute richest store house of medicinal plants
- Only a few of these countries have been able to organize proper system of research and development for exploitation, conservation or industrial use of these plants.
- The indiscriminate export and exploitation by private traders of valuable raw materials also creates ecological imbalance
- Indonesian government has in view of its importance, identified medicinal plants as a priority area of the country's program.

Indonesia is known as a country with a **megadiversity** of biological species as well as the **megacenter** for world biodiversity

- Indonesia possess:
- **10%** of world's **flowering plant species**
- 12% of world's mammal species
- 16% of world's reptile and amphibian species
- 17% of world's bird species
- 25% of world's fish species
- 15% of world's insect species

# Indonesia forest and marine content a huge of biodiversity:

- Almost 30,000 plants of herbal medicinal
- Appr. 7,000 species known and have been used for medical purposes
- About 250 species used in the traditional herbal medicine, *Jamu*, industries
- In 2003 a total of 9,737 items of herbal medicines has been registered, which include 1,093 items imported products

# Trend of Herbal Medicines in Indonesia

Year	Modern Medicines US \$ (billion)	Herbal Medicines US \$ (billion)	Contribution Herbal Med. %
2003	17.0	2.0	10.5
2005	21.3	2.9	12.0
2010 Est	37.3	7.2	16.0

Source: BPPT 2005

- Indonesian herbal medicines are used based on empirical practice: diseases preventive (48.9%), health promotion (22.47%), diseases curative (21.78%) and the rests are for cosmetics
- According to Indonesian Medical Association (IDI) statements, herbal medicines will be accepted formally by the conventional (Western) medical doctors if its safety and efficacy has been proved scientifically (current trend application, especially for degenerative diseases, certain viral infection, and cancer).

# The categories based on their processing development:

- ★ **Herbal product** falls into traditional medicine (*jamu*) when the process is simple and toxicity evaluation is recommended (not compulsory).
- ★ **Standardized extract preparation** when the process is more complex than *jamu*, has been controlled chemically, and has a preclinical (toxicology, pharmacology) evaluation.
- ★ **Phytopharmaceutical** when it has a complex process, preclinical and clinical evaluation for safety and efficacy insurance is a must

# PHYTOPHARMACY

**TRADITIONAL MEDICINES**  
**WHICH HAVE BEEN PROVEN**  
**SAFE, EFECTIVE**  
**QUALITY**  
**STANDARDIZED**



# PHYTOPHARMACY

**TENSIGARD**

**PHYTODIAR**

**RHEUMANEER**

**X GRA**

**STIMUNO**



# TRADITIONAL MEDICINES

MoH Decree 246/Menkes/Per/V/1990

PROHIBITED

MIXED/COMPOUNDED  
WITH MODERN MEDICINES



# **Research and Systematization of Indonesian Traditional Medicines**

- ♣ Modern research on Indonesian herbal medicines in research institutions, universities and industries:


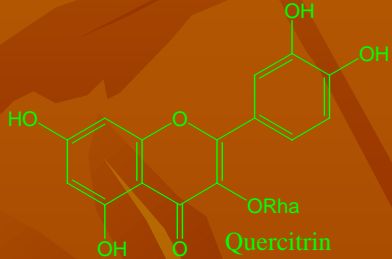

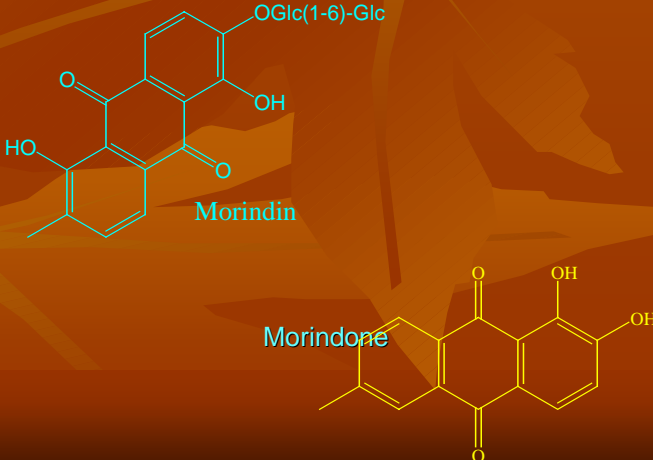
- Origin,
- Process,
- Distribution,
- Quality,
- Resources,
- Safety,
- Therapeutic usage,
- Efficacy


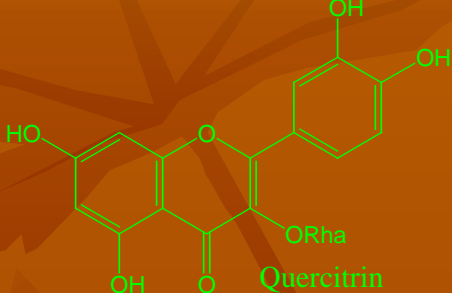



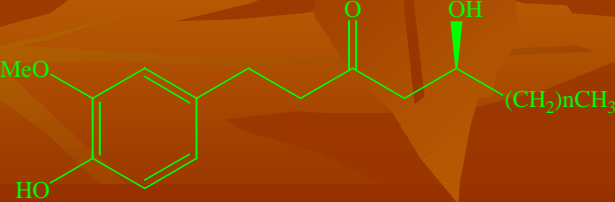
♣


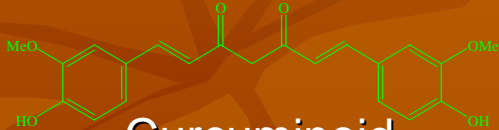

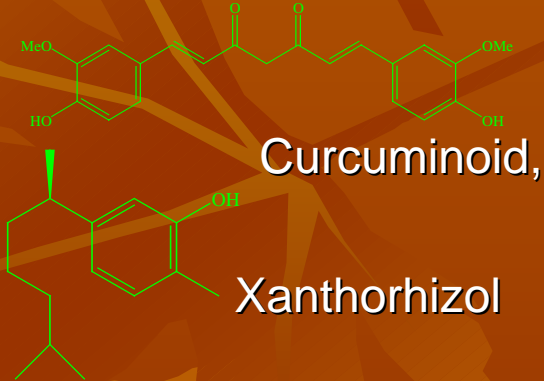

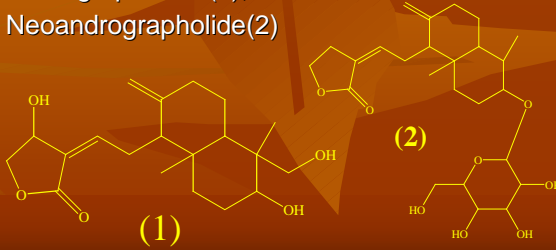
- ♣ Publications


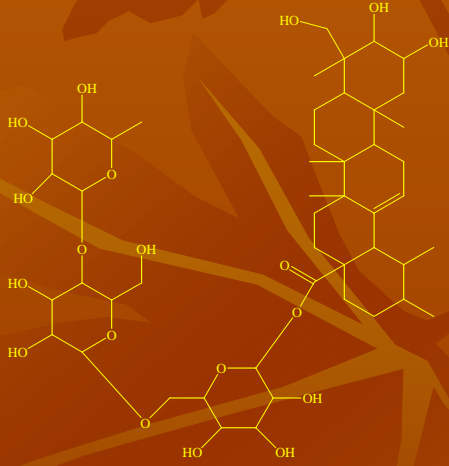
- ♣ All of these efforts are dedicated to the development of Indonesian medicinal plants to be able to compete globally
- ♣ International requirements such as on **GMP, GAP, GLP, ICH-GCP** (The International Conference on Harmonization-Good Clinical Practice), **Research Guidelines for Evaluating the Safety and Efficacy of Herbal Medicines, HACCP**, etc., should be followed

# Nine medicinal plants of first priority for phytopharmaceuticals

No.	Plant	Medicinal Uses	Bio-marker
1	 <p data-bbox="323 825 662 873"><i>Psidium guajava</i></p>	<p data-bbox="795 439 1184 611">Leaves: immunomodulator Astringent</p> <p data-bbox="765 631 1214 796">Traditional, Most famous preparation for dengue treatment</p>	 <p data-bbox="1546 688 1660 716">Quercitrin</p>
2	 <p data-bbox="323 1316 662 1359"><i>Morinda citrifolia</i></p>	<p data-bbox="852 931 1127 1031">Fruit: Anti-hypertension</p> <p data-bbox="776 1053 1203 1096">Leaves: Antidiabetic</p>	 <p data-bbox="1443 1159 1546 1188">Morindin</p> <p data-bbox="1507 1288 1641 1316">Morindone</p>

No.	Plant	Medicinal Uses	Bio-marker
3	 <p data-bbox="277 601 757 651"><i>Sisygium polyanthum</i></p>	<p data-bbox="858 448 1106 548">Leaves: Antidiabetic</p>	 <p data-bbox="1667 568 1791 596">Quercitrin</p>
4	 <p data-bbox="306 968 729 1018"><i>Guazuma ulmifolia</i></p>	<p data-bbox="868 815 1096 915">Leaves: Antiobesity</p>	<p data-bbox="1191 672 1515 701">Catechin and Friedelin</p> 
5	 <p data-bbox="344 1332 706 1382"><i>Zingiber officinale</i></p>	<p data-bbox="858 1046 1106 1289">Rhizomes: Carminative Stomachic Stimulants</p>	<p data-bbox="1448 1046 1629 1096">Gingerol</p> 

No.	Plant	Medicinal Uses	Bio-marker
6	 <p data-bbox="411 576 814 619"><i>Curcuma domestica</i></p>	<p data-bbox="988 322 1281 675">Rhizomes: Antilipedemic Anti-bacteria, cholagogum Immuno- stimulants</p>	 <p data-bbox="1481 462 1755 505">Curcuminoid</p>
7	 <p data-bbox="388 1033 833 1076"><i>Curcuma xanthorrhiza</i></p>	<p data-bbox="953 776 1311 991">Rhizomes: Hepatoprotector, Choleretic, antiinflammation</p>	 <p data-bbox="1603 848 1888 891">Curcuminoid, Xanthorhizol</p>
8	 <p data-bbox="365 1376 856 1419"><i>Andrographis paniculata</i></p>	<p data-bbox="959 1190 1306 1405">Leaves: Antipyretic, anti- ulcer, antidiabetic</p>	<p data-bbox="1348 1113 1626 1179">Andrographolide (1), Neoandrographolide(2)</p>  <p data-bbox="1481 1353 1527 1390">(1) data-bbox="912 884 936 910"&gt;(2)</p>

No.	Plant	Medicinal Uses	Bio-marker
9	 <p data-bbox="354 1046 725 1093"><i>Centella asiatica</i></p>	<p data-bbox="849 679 1100 915">Aerial part: Vasodilator, Immuno- stimulants</p>	 <p data-bbox="1178 1022 1772 1068">Asiaticoside and Madecasol</p>





# **Intellectual Property Right Protection**



# Convention on Biological Diversity (CBD)

- **Signed in 1992.**
- **Indonesia ratified it through Law No 5/1994.**
- **States have **sovereign rights** over their own biological resources.**
- **States are responsible for **conserving** their biological diversity and for using their biological resources in a sustainable manner.**



# RELATED LAWS AND RULES

- Law No. 5/1990 regarding Conservation of Natural Resources and Its Ecosystems.
- Law No.5/1994 regarding the Ratification of the United Nations Convention on Biological Diversity
- Law No. 7/1994 regarding the Ratification of TRIPs.
- Law No. 18/2002 regarding National System on Research, Development, and Application of Science and Technology.
- All Indonesian IPR Laws.

# CONCLUSION

Indonesia is a rich country biodiversity and traditional knowledge including the traditional medicine. However, in the global era, the richness of biodiversity is not the determining factor for prosperity of the people.

Knowledge how to develop its biodiversity and traditional knowledge is important. The key factor is how Indonesia ability to convert knowledge into wealth and social good through the process of innovation.

It is a must for Indonesia to work collaboratively also with other countries in traditional medicine improvement.



Thank you.