

# ISU GLOBAL BIOETIKA

Umar A. Jenie

Komisi Bioetika Nasional (KBN)  
Lembaga Ilmu Pengetahuan Indonesia (LIPI)

SEMINAR NASIONAL

*Tinjauan Bioetika Menuju Pertanian Berkelanjutan*  
Mei 29, 2008, Bogor

**“In science, humankind is (still) looking for  
a harmonious relationship with nature,  
and seeking to know it and conform to it”**

*Abu Ali al-Husain ibn Abdallah ibn Sina (Avicenna), 980-1037*

## DEFINISI BIOETIKA

- **The study of moral and social implications of techniques resulting from advances in the biological sciences.** [Oxford Companion to Philosophy, Mepham (2005)].
- **A new discipline which combines biological knowledge with a knowledge of human value systems, which would build a bridge between the sciences and the humanities, help humanity to survive and sustain, and improve the civilized world.** [Van Rensselar Potter, Mepham (2005)].
- **Bioethics is not a discipline....It has become a meeting ground for a number of disciplines, discourses, and organizations concerned with ethical, legal, and social questions raised by advances in medicines, science, and biotechnology.** [Onara O'Neill, Mepham (2005)].

## DEFINISI BIOETIKA

- **Bioethics is a quasi-social science that offers solutions to the moral conflicts that arise in medical and biological science practice.** [Aksoy and Tenik (2002)].
- **The term “bioethics” refers to the systematic, pluralistic and interdisciplinary study and resolution of ethical issues raised by medicine, life and social sciences as applied to human beings and their relationship with the biosphere, including issues related to availability and accessibility of scientific and technological developments and their application.**  
[ Article-1, verse (1) of The Preliminary *Draft* of Declaration on Universal Norms on Bioethics, 2005]

## DEFINISI BIOETIKA

- **Bioethics is an interdisciplinary study of philosophical, ethical, social, legal, economic, medical, therapeutic, ethnological, religious, environmental, and their related issues arising from biological sciences and technologies, and their applications in human society and biosphere [Article-2, ABA Constitution (2002)].**

## PRINSIP-PRINSIP BIOETIKA

### Principles of Biomedical Ethics

(1) **Respect to autonomy**, (2) **Justice**, (3) **Beneficence**, and (4) **Non-maleficent**,

[Beauchamp and Childress, 1994]



found

### The Teachings

*of 13<sup>th</sup> Century Muslim Scholar*

**Mawlana Jalaladdin Rumi**,

[Aksoy and Tenik (2002)].



concerned

## MEDICAL BIOETHICS

## PRINSIP-PRINSIP OF BIOETIKA

### The Universal Declaration on Bioethics and Human Rights (UDBHR)

approved by The UNESCO 33<sup>rd</sup> General Conference,  
Paris, October 3-21, 2005

Consists of 15 Articles concerning principles of Bioethics, including:  
**interconnection between human beings and other forms of life;**

#### UDBHR, Article-17:

#### **“Protection of Environment, the Biosphere and Biodiversity”**

*“Due regard is to be given to the interconnection between human beings and other forms of life, to the importance of appropriate access and utilization of biological and genetic resources, to respect for traditional knowledge and to the role of human beings in the protection of the environment, the biosphere and the biodiversity”*

## PRINCIPLES OF BIOETHICS

### The Universal Declaration on Bioethics and Human Rights (UDBHR)

approved by The UNESCO 33<sup>rd</sup> General Conference,  
Paris, October 3-21, 2005



**The UDBHR is a comprehensive bioethical document, since it is not only concerned with human beings but also with other forms of life.**

## PRINCIPLES OF BIOETHICS

### Universal Declaration on Bioethics and Human Rights

1. Human Dignity and Human Rights
2. Benefit and Harm
3. Autonomy and Individual Responsibility
4. Consent
5. Person without capacity to Consent
6. Respect for Human Vulnerability and Personal Integrity
7. Privacy and Confidentiality
8. Non Discrimination and non Stigmatization
9. Respect for Cultural Diversity and Pluralisms
10. Solidarity and Cooperation
11. Social responsibility and Health
12. Protecting Future Generation
13. Protection of Environment, Biosphere and Biodiversity

## SCOPE OF BIOETHICAL ISSUES

1. Human beings/Human futures (**Medical Bioethics**)
2. Animal models/GMO animals (**Animal Bioethics**)
3. Plants/GMO plants/nutrigenomics/nutrigenetics  
(**Agriculture/Food Bioethics**)
4. **Environmental Bioethics**
5. **Industrial Bioethics**
6. **Neuroethics (?)**
7. **Nanoethics (?)**

## PRINSIP-PRINSIP DALAM TEORI ETIKA

- **Utilitarianism Principle**

Yaitu prinsip etika dengan menekankan kepada *produce the greatest good for greatest numbers*. Dalam terminologi modern utilitarianism ini mirip dengan metode *cost-benefit analysis*.

[Jeremy Bentham (1748-1832) & John Stuart Mill (1806-1873)]

- **Deontology Principle**

Mengacu kepada hak dan kewajiban yang kita punyai sebagai individual, terhadap individual lainnya.

[Immanuel Kant (1724-1804)]

## BAGAIMANA MELAKUKAN ANALISIS ETIKA? (Ethical Analysis)

Ben Mepham (2005) memperkenalkan *Ethical Matrix*, yang terdiri dari tiga prinsip yang harus dihormati:

1. **Well-being** (Kesejahteraan) {utilitarian principle}
2. **Autonomy** (otonomi) {deontology principle}
3. **Fairness** (Keadilan/Kejujuran) {both principles}

## BIOETHICAL ISSUES ON MEDICAL BIOTECHNOLOGY

- Reproductive Technology
- Stem Cell Experiment
- Human Cloning Technology

### Ethical Analysis in case where eggs are supplied by donor, using Mepham's Ethical Matrix

Respect for	Well-being	Autonomy	Fairness
Mother	Fulfilment/health	Choice	Rights/affordability
Father	Fulfilment	Choice	Rights/affordability
Child/Fetus	Health	Respect for identity	Non-discrimination
Egg Donor	Emotional reward/health	Choice	Adequate expenses
Society	Social harmony	Democratic choice	Fair source allocation

## BIOETHICAL ISSUES ON MEDICAL BIOTECHNOLOGY

### Pro and Cont for Embryonic Stem Cell (ESC) Experiment

#### Cont for ESC Experiment:

The human embryo demands respect as a human being from the moment of its conception, so that intentional production of fetuses for research, or use of so-called 'spare embryo' in IVF programmes, is tantamount to murder.

The technique for therapeutic cloning is essentially the same as that for reproductive cloning, so there is a high risk that its approval for one purpose will be exploited for this other, widely condemned, technology

Use of ESC depends on Assisted Reproductive Technology (ART), which themselves ethically problematical features.

## BIOETHICAL ISSUES ON MEDICAL BIOTECHNOLOGY

### Pro and Cont for Embryonic Stem Cell (ESC) Experiment

#### Pro for ESC Experiment:

Potential to treat disease and relieve suffering is believed by many people to justify research across the whole range of possible sources of stem cells, including embryo.

For Shiite Moslem in Iran, soul will be entered to foetus only after 120 days old. Thus before 120 days, embryo could not be regarded as human beings.

## BIOETHICAL ISSUES ON MEDICAL BIOTECHNOLOGY

### Pro and Cont for Embryonic Stem Cell (ESC) Experiment

#### Solution (?):

“ In the longterm scientific view is that it will be possible to re-programme adult stem cells (ASC) with the full potential of ESC, but without morally contestable need to create an embryo” (Liam Donaldson, Chief Medical Officer, UK)

## BIOETHICAL ISSUES ON AGROBIOTECHNOLOGY

- The main bioethical issues on agrobiotechnology laid on **genetically modified organisms**, whether they are animals, plants or microbes.
- Example: Bovine Somatotrophin (bST) on Cattle.

## BIOETHICAL ISSUES ON AGROBIOTECHNOLOGY

**Aim:** To increase  
Milk yield, and nutrient  
contents

rDNA in *E. coli*



bST (GM Product)



Injected every  
2 weeks

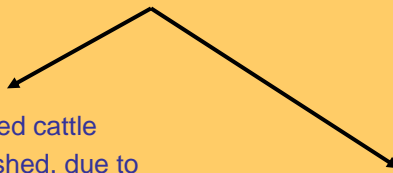
Cattle



Increasing milk yield of 12-15%  
Slight changes in nutrients

## BIOETHICAL ISSUES ON AGROBIOTECHNOLOGY

bST content cattle



welfare injected cattle  
will be diminished, due to  
Higher metabolic demand



endanger GM Cattle

Increase [IGF-1] in Milk

IGF-1 : *Insulin-like  
Growth Factor-1*



Endanger people  
consume Gm Cattle milk

## Ethical Analysis of the usage of bST in Dairy Farming, using Mepham's Ethical Matrix

Respect for	Well-being	Autonomy	Fairness
Dairy Farmers	Satisfactory income & working conditions	Managerial freedom of action	Fair trade laws and practices
Consumers	Food safety and acceptability. Quality of life	Democratic, informed choice, e.g of food	Availability and affordable food
Dairy Cows	Animal Welfare	Behavioural freedom	Intrinsic value
The Biota	Conservation	Biodiversity	Sustainability


## Ethical Analysis of the GM Crop, using Mepham's Ethical Matrix


Respect for	Well-being	Autonomy	Fairness
Arable Farmers	Satisfactory income & working conditions	Managerial freedom of action	Fair trade laws and practices
Consumers	Food safety and acceptability. Quality of life	Democratic, informed choice, e.g of food	Availability and affordable food
GM Crop	Flourishment	Adaptability	Intrinsic value
The Biota	Conservation	Biodiversity	Sustainability


## BIOETHICAL ISSUES ON ANIMAL BIOTECHNOLOGY

### Experiment to make GM Organisms

Fluorescent-gene transferring into:

Alga (lower plant)  fluorescent-algal (1991)

Mice (mammals)  fluorescent-mice (1995)

Bees (insects)  fluorescent-bees (1996)

Pig (mammals)  fluorescent-pig (2005)

## BIOETHICAL ISSUES ON AGROBIOTECHNOLOGY

Is it ethical to alter plant or animal characters in such a way?

What do scientists aim to carry out such experiment?

## Harmony with Nature is a Must !!

If we did wrong, then the Nature would be destroyed.

In order to sustain the Nature, it must be treated in appropriate manner, in other words, we have to live in harmony with Nature.

It can be done, reached by using good ethical guidelines

## Bioethics Guidelines at International Level

- 1997, **Universal Declaration on Human Genome and Human Rights (UD-HGHR)**, UNESCO 29<sup>th</sup> General Conference.
- 2003, **International Declaration on Human Genetic Data (IDHGD)**, UNESCO 32<sup>nd</sup> General Conference
- 2005, **Universal Declaration on Bioethics and Human Rights (UDBHR)**, UNESCO 33<sup>rd</sup> General Conference

## Universal Declaration on Human Genome and Human Rights (UD-HGHR), 1997

- UD-HGHR is the first universal legal document on biological sciences
- The main aim of the UD-HGHR is to *“safeguarding of human rights and fundamental freedoms and the need to ensure freedom of research”*.

## International Declaration on Human Genetic Data (IDHGD), 2003

- The purpose of the IDHGD to ensure the respects of human dignity and protection of human rights and fundamental freedom in collection, processing, use and storage of human genetic data (including proteomic data), in keeping with the requirements of equity, justice and solidarity.
- Sets out principles which should guide States in formulation of their legislation and policies on these issues.

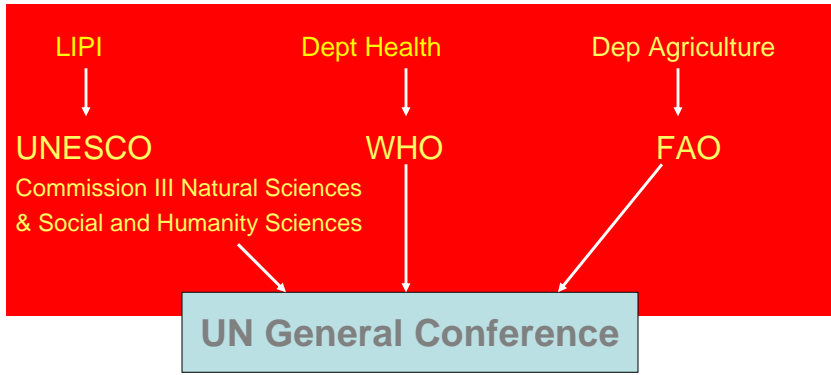
## **Universal Declaration on Bioethics and Human Rights (UDBHR),2005**

- **The UDBHR is a comprehensive bioethical document, since it is not only concerned with human beings but also with other forms of life.**
- **Sets out 13 Bioethics Principles**
- **Sets out principles which should guide States in formulation of their legislation and policies on these issues.**

## **WHAT ARE INDONESIAN STANDPOINTS ON BIOETHICAL ISSUES ??**

1. **National Commission of Ethics on Health Research** ( ~ Ministry of Health) [Medical Bioethics]
2. **Indonesian Institute of Sciences (LIPI)** ( ~ State Ministry of Research and Technology) [Biological, Industrial & Environmental Bioethics]
3. **Commission on Food Safety** ( ~ Ministry of Agriculture) [Agricultural/Animal Bioethics]
4. **Indonesian Networking on Bioethics and Medical Humanities (JBHKI)** ( ~ Medical Faculties ?) [Medical Bioethics]
5. **Others**

## Indonesian institutions (concern with bioethical issues) within the UN framework



**INDONESIAN INSTITUTE OF SCIENCES (LIPI)**  
**NATIONAL ETHICS COMMISSION ON HEALTH RESEARCH**  
**COMMISSION ON FOOD SAFETY**



**Drafting**

**NATIONAL BIOETHICS COMMISSION**



**STATE MINISTER OF RESEARCH AND TECHNOLOGY**  
**MINISTER OF AGRICULTURE**  
**MINISTER OF HEALTH**



**NATIONAL BIOETHICS COMMISSION (KBN)**  
**September 17, 2004**

## Bioethics at National Level

- **National Bioethics Commission** (*Komisi Bioetika Nasional, KBN*) was established in September 17, 2004; by joint-three Ministerial Decree of Ministers of Research and Technology, Health and Agriculture.
- **The KBN** is aimed to be a place where bioethicists could discuss all matters concerning bioethical issues; and give advise to the Governments and society concerning these issues.

Join Decree  
MORT, MOH, and MOA  
No 108/M/Kp/IX/2004  
No 1045/Menkes/SKB/IX/2004  
No 540.1/Kpst/OT.160/9/2004

on the establishment of *Komisi Bioetika Nasional*

### Chapter I Verse 2: Duty

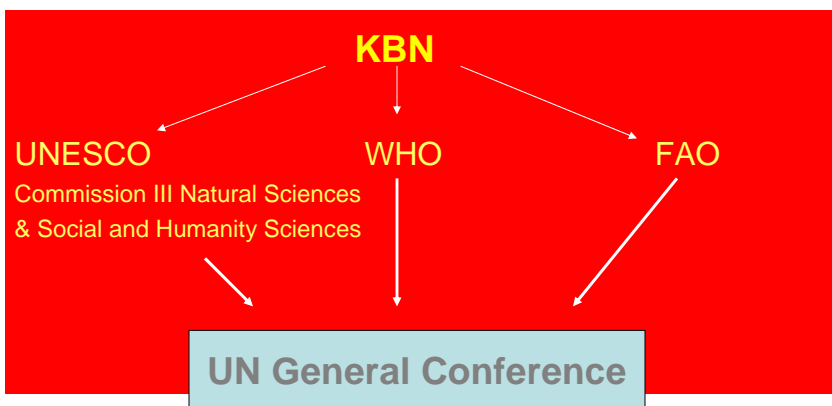
The duty of the KBN is to carry out comprehensive and progressive examination relating to bioethical principles, to give advice to the Government on bioethical aspects of research, development and application of science and technology which based on biological sciences, and to disseminate bioethics comprehensiveness to society at large.

1. **National Commission of Ethics on Health Research** ( ~ Ministry of Health) [Medical Bioethics]
2. **Indonesian Institute of Sciences (LIPI)** ( ~ State Ministry of Research and Technology) [Biological, Industrial & Environmental Bioethics]
3. **Commission on Food Safety** ( ~ Ministry of Agriculture) [Agricultural/Animal Bioethics]
4. **Indonesian Networking on Bioethics and Medical Humanities (JBHKI)** ( ~ Medical Faculties ?) [Medical Bioethics]
5. **Others**



**KBN** become a melting pot for all bioethicists  
To discuss all bioethical issues.

Indonesian institutions (concern with bioethical issues) within the UN framework



## NATIONAL BIOETHICS COMMISSION (KBN)

### Three Working-groups set out by KBN

- Working-group on Stem Cells Research
- Working-group on Genetics Resources
- Working-group on Bioethics Education

### KBN Secretariate:

1. Publishing PEWARTA, a short communication letters on bioethical information.
2. Translating 3 UNESCO Declarations into Bahasa Indonesia.
3. Disseminating Bioethics principles through cooperation with universities and other concerned stakeholders.
4. Producing a booklet on bioethical guidelines for concerned stakeholders.

**KBN will be hosting:  
9<sup>th</sup> Asian Bioethics Conference  
to be held in Yogyakarta, Indonesia, 3-7 November 2008**

- **Theme for the 9<sup>th</sup> ABC:**

**BIOETHICS IN ASIA:  
HEALTHY AND PRODUCTIVE LIFE  
IN HARMONY WITH NATURE**

- **This Theme originates from the 1<sup>st</sup> Principle of the Rio Declaration 1992, at the UN Conference on Environment and Development; and also supports the Article-17 of the Universal Declaration on Bioethics and Human Rights 2005.**

**9<sup>th</sup> Asian Bioethics Conference**  
**to be held in Yogyakarta, Indonesia, 3-7 November 2008**

**The specific objectives of the 9<sup>th</sup> ABC:**

- ***To identify issues*** in the enforcement of rules and guidelines and other regulatory means of 'good research practice' of basic and applied researches leading to quality health care involving human subjects in accordance with the universally accepted bioethical norms.
- ***To apply*** the precautionary approach; where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

**9<sup>th</sup> Asian Bioethics Conference**  
**to be held in Yogyakarta, Indonesia, 3-7 November 2008**

**The specific objectives of the 9<sup>th</sup> ABC (continued):**

- ***To recognize and duly support*** the vital role in environmental management and development of the indigenous people and their communities and other local communities because of their knowledge and traditional practices.
- ***To empower and enable*** the effective participation in the achievement of sustainable development of the indigenous people and their communities and other local communities with regard to their identity, culture and interest.

**9<sup>th</sup> Asian Bioethics Conference**  
**to be held in Yogyakarta, Indonesia, 3-7 November 2008**

**Research findings, discussion papers, and other contribution dealing with topic in bioethics and related disciplines would be welcome:**

- 1. Bio-industrial ethics**
- 2. Public Health ethics**
- 3. Medical Ethics**
- 4. Ethical Issues in Biomedical Research**
- 5. Islamic Bioethics**
- 6. Environmental Ethics**
- 7. Bioethics Education**
- 8. Technology and Culture**
- 9. Science and Society**
- 10. Asian Bioethics**
- 11. Benefit Sharing**



**9<sup>th</sup> Asian Bioethics Conference**  
**to be held in Yogyakarta, Indonesia, 3-7 November 2008**

**CONCLUDING REMARKS**

**It is hoped that the 9<sup>th</sup> ABC will strengthen**

- Assisting the development and linkage of regional organizations for bioethics.**
- Encouraging other academic and educational work or projects to accomplish their goals consistent with the objectives of the ABA**

**Hopefully**  
**SEE YOU IN YOGYAKARTA,**  
**INDONESIA !!**

# Borobudur Temple



# Prambanan Temple

