

**ENGAGING AGRICULTURE EDUCATION IN THE
SOCIETAL CHALLENGES OF THE 21ST CENTURY:
THE CASE OF THE PHILIPPINES**

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**ENGAGING AGRICULTURE EDUCATION IN THE
SOCIETAL CHALLENGES ...**

- Introduction
- Experiences in the 20th Century
- Societal Challenges of the 21st Century: Agriculture Education Perspective to Societal Challenges
- Engaging Philippine Agriculture Education to the Challenges of Society

Introduction

- Motivations for this lecture
- The purpose of agriculture education:
Lessons from Thomas Robert Malthus
- Agriculture education, society, and
development

Introduction ...

Motivations for this lecture

- The U.P. Charter for the 21st Century
- On-Going UPLB Strategic Planning for for the 21st
Century
- The appointment of a new dean of the College of
Agriculture, July 1, 2008
- The CHED Memorandum Order 14, Series of 2008
- Global Food Crisis, 2008

Introduction ...

**The purpose of agriculture education: Lessons
from Thomas Robert Malthus...**

“While the size of the population increases geometrically, or exponentially, the means to support the population tend only to increase arithmetically, thus, increasing populations invariably outstrip their resource bases. As this occurs, the poor gets poorer and desperate leading to misery and vice. If humans do not intervene of their own accord, such as through ‘moral restraint’ then the population increase will ultimately be checked by natural means, such as widespread famine, disease and possible warfare.”

– Thomas Robert Malthus (1766-1834)

Introduction ...

**The purpose of agriculture education: Lessons
from Thomas Robert Malthus**

The reason why the Malthusian scenario has not materialized – even as population increased more than eight-fold since it was conjured two hundred years ago – is because scientific and technological developments that were applied to agricultural production, averted it from happening.

Higher education in agriculture is meant to provide students with the knowledge and skills for increasing agricultural productivity in ways that will meet the needs of society – food, clothing, shelter, wholesome environment.

Societal challenges

- The UN Millennium Development Goals: Amid increasing population and resource depletion, to “Eradicate extreme poverty and hunger...”
- Limits of Growth and the End of Science?
- Tension between science and ethics in food and agriculture
- Climate change and global warming: effect on agriculture

Agriculture education and the societal challenges of the 21st Century

- Ironically, much of the problems facing society today – population growth, environmental degradation, widening disparity between the rich and the poor, etc. – are consequences of the success of agriculture yesterday
- Calls for shift in agriculture education paradigm have been sounded since the closing of the 20th Century; but there is a long time lag before the social benefits of educational reforms are felt by society
- Problems facing society are highly complex and the factors affecting them interact in complex ways with that of education.

Experiences in the 20th Century

- Role of agricultural colleges and universities:
The Land-Grant System in the United States
- Establishment of agricultural colleges and
the development of agriculture in the
Philippines
- The coming of globalization and the
Philippine Agricultural Modernization Act

Experiences in the 20th Century ...

Role of agricultural colleges and universities: The Land-Grant System in the United States

The integration of teaching, research and extension for agricultural development as a systematic responsibility of the state colleges and universities was firmly established in the United States by three related legislations:

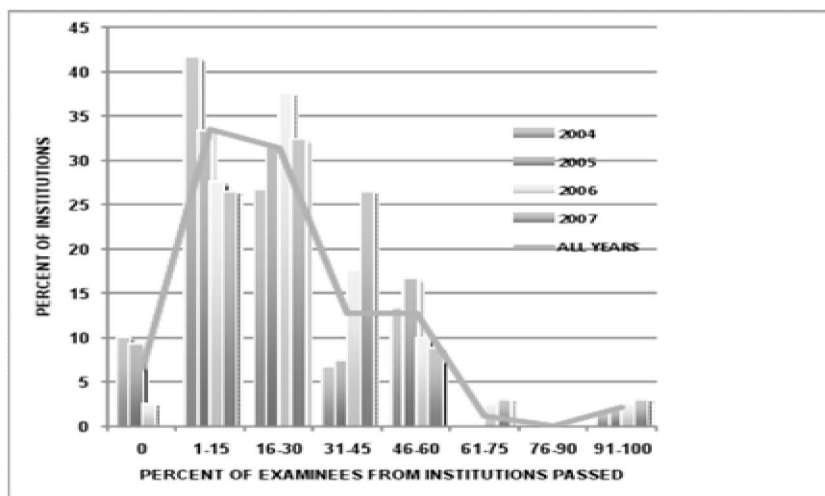
- *The Morrill Act of 1862* - Establishing the land-grant colleges and universities for teaching agriculture and mechanics
- *The Hatch Act of 1887* - Establishing experimental stations located close to the land-grant institutions
- *The Smith-Lever Act of 1914* - Establishing state extension service based where the experimental stations are located.

Experiences in the 20th Century ...

Establishment of agricultural colleges and the development of agriculture bureaucracy in the Philippines

- Establishment of the College of Agriculture of the University of the Philippines at Los Baños in 1909; immediately after WWII, a few more state colleges of agriculture distributed over the regions were established. Today, some 150 state colleges and universities are offering various agriculture degrees.
- The government legislated the establishment of agriculture experiment stations under its Department of Agriculture and independent of the state colleges and universities
- In 1954, the Bureau of Agricultural Extension was established also under the its Department of Agriculture.

Percent of the high-enrolment institutions under various percentages of their graduates passing the Agriculture Licensure Examination, 2004 - 2007



Experiences in the 20th Century ...

The coming of globalization and the Philippine Agriculture and Fisheries Modernization Act

- In 1994, the Philippine Senate ratified the GATT-UR agreement, and in 1995, the country gained accession to the World Trade Organization
- In response to the competitiveness challenge posed by the impending globalization, in 1997, Philippine Congress enacted the AFMA of which agricultural instruction, research and extension was a major component. Among others, it mandated for the organization of NAFES and creation of a Board of Examiners for the professionalization of agriculture

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Societal Challenges of the 21st Century: Agriculture Education Perspective

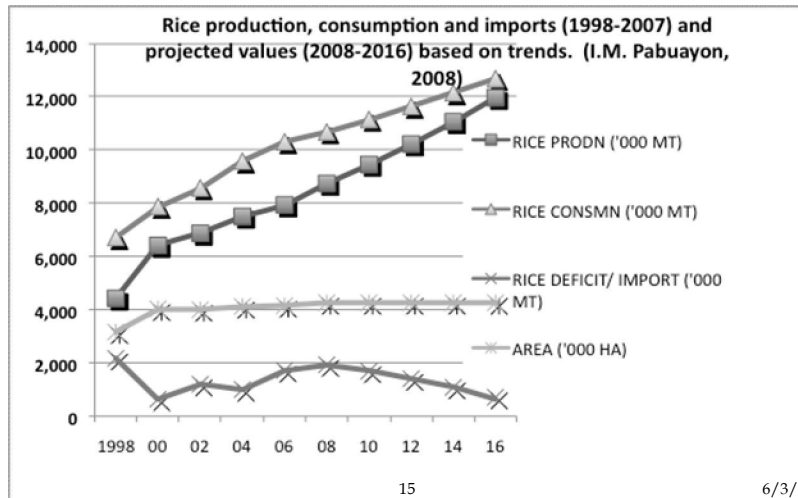
- Population and Food and Energy Needs
- Climate Change/Global Warming and Agriculture
- Resources Depletion: Balancing Food Crops and Biofuels Production
- Changing Lifestyle and Food Preferences

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Societal Challenges of the 21stCentury: ...

Population and Food and Energy Needs

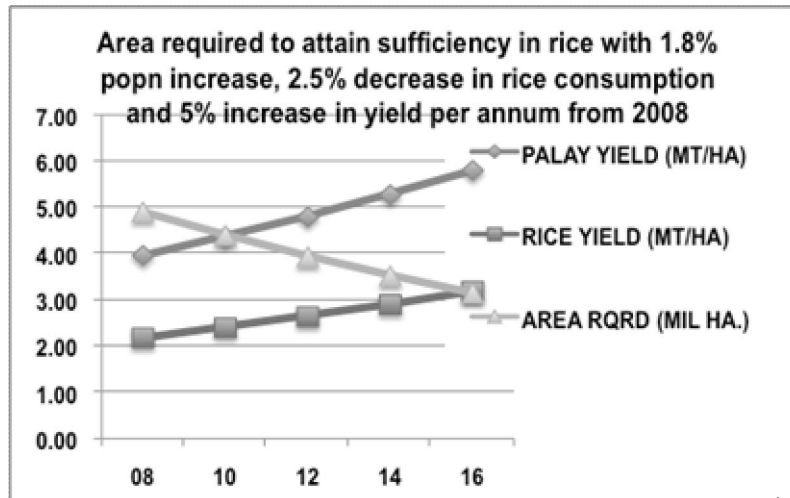


Societal Challenges of the 21stCentury: ...

Climate Change/Global Warming and Agriculture

- Worsening and increasing uncertainty in the occurrence of drought, floods, typhoons already impacting adversely on agricultural production
- Increasing temperature will increase occurrence of pests and decrease yield of plants and animals.

Resources Depletion: Balancing Food Crops and Biofuels Production



Changing Lifestyle and Food Preferences

- Increasing per capita consumption of meat and other animal products among up-scale members of society particularly in highly populated developing Asian countries: China, India, Indonesia
- Globalization and increasing preference for imported foods
- Concern for food safety and quality
- Increasing consumption of processed foods
- Increasing preference for organic foods

Agenda for Engagement

- Reshaping the Philippine educational system
- Integrating food and environment into the agriculture education curricula
- Promotion of innovation, entrepreneurship and business in the agriculture curricular programs
- Strengthening the linkage among teaching, research and extension programs in the agricultural colleges and universities.

Agenda for Engagement ...

Reshaping the Philippine educational system

- Increasing the number of years of pre-tertiary education to 12 years from the present 10 years to make way for most of the civics and other introductory general education courses presently required of Filipino undergraduate students.
- For agriculture, design curriculum that will allow a broader choice of courses and specializations while strengthening the preparation in the fundamental knowledge and skills: numeracy, the sciences, communication, among others.
- Rationalization of institutions offering agriculture degree programs.

Agenda for Engagement ...

Reorganizing agriculture, food and environment education

- Clustering of the agriculture, food and environment disciplines into one faculty
- Integration of the systems approach in the teaching of the concepts of agriculture, food and environment whenever possible.

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Agenda for Engagement ...

Promotion of innovation, entrepreneurship and business in the agriculture curricular programs

- Promote innovation and entrepreneurship as part of the academic environment of the students
- Integrate the business and management perspectives in the professional courses whenever possible
- Offer courses in international agriculture.

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Agenda for Engagement ...

Strengthening the linkage among teaching, research and extension programs in the agricultural colleges and universities

- Institutionalizing the cooperative research and extension system with the state colleges and universities with strong graduate agriculture education as the center of operation
- Integrating research and extension in the funded research projects
- Promote graduate training through funded research projects
- Promote an effective system of continuing faculty development and retention.

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Caveat:

The Serenity Prayer for Students of Agricultural Sciences

*God grant me the Serenity to accept the things I cannot change;
Courage to change the things I can, and Wisdom to know the difference.
Living one day at a time;
Enjoying one moment at a time;
Accepting hardships as the pathway to peace;
Taking, as He did, this sinful world as it is, not as I would have it.
Trusting that He will make all things right if I surrender to His Will.
That I may be reasonably happy in this life and supremely happy with Him
Forever in the next. Amen.*

– Reinhold Niebuhr

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