AFRICAN ECONOMIC RESEARCH CONSORTIUM (AERC)

COLLABORATIVE MASTERS DEGREE PROGRAMME (CMAP) IN ECONOMICS FOR SUB-SAHARAN AFRICA (EXCEPT NIGERIA)

JOINT FACILITY FOR ELECTIVES (JFE)

AGRICULTURAL ECONOMICS COURSE OUTLINE

(Revised: September, 2014)
INTRODUCTION
This course is about agricultural development. The objectives of the course are:
   a. to equip students with the fundamental principles of Economics as applied to agriculture in the African perspective;
   b. to provide students with knowledge about the role and contribution of agriculture to the overall national, regional, and global economic development;
   c. to equip students with the required theoretical tools of economic analysis relevant to the problems of agriculture, particularly in developing countries;
   d. to expose students to the empirical techniques of testing theoretical propositions pertaining to behavior in agriculture;
   e. to familiarize students with current agricultural policy debates and link policy research, policy making and implementation.

To achieve the above objectives, in a relevant fashion, the course shall, whenever possible, focus on sub-Saharan African examples, case studies and empirical results. As such, the overall purpose of the course is to impress on students that there are no simple answers to the intractable problems facing sub-Saharan Africa in the process of development.

ORGANIZATION OF THE COURSE
The course is organized in two broad parts with a common introduction. The introduction to the course is meant to impress on the students the unity of the course by motivating the various topics to be dealt with in an integrated fashion. Part I of the course is designed to deal with "positive" economic questions (including empirical results). The unifying theme of this part is the behavior of economic agents in agriculture. Part II is generally related to agricultural policy issues.

PREREQUISITIES
The student is expected to have completed the core courses in micro and macro economics, and quantitative methods including basic statistics, econometrics and mathematical economics.

MODE OF ASSESSMENT
Course assessment will be in two parts: continuous assessment which carries 40% and final examination which carries 60%. Continuous assessment may take the form of tests, assignments, term papers and class presentations.

SUMMARY OF COURSE OUTLINE
SEMESTER I (PART I): THEORETICAL AND EMPIRICAL ISSUES

1  INTRODUCTION (Week 1)
   1.1  The Subject Matter of Agricultural Economics
   1.2  The nature of agricultural systems
   1.3  Agriculture in Economic Development
   1.3.1. Contribution of Agriculture to Poverty Reduction and Economic Development
   1.3.2. Changing perspective in Agricultural Development (Shifting Paradigms)

2  AGRICULTURAL PRODUCTION THEORY (WEEKS 2 - 3)
   2.1  Economics of Agricultural Production
   2.1.1  Overview of production functions
   2.1.2. The Profit Maximization (and its duality - cost minimization)
   2.1.3  Efficiency in Resource Use
   2.2  Behavior under Risk and Uncertainty
SUPPLY RESPONSE (Week 4)
3.1 Output supply functions
3.2 Estimation Methods and Empirical Applications

AGRICULTURAL HOUSEHOLD MODELS (WEEK 5)
4.1 Nature of farm household decision making
4.2 Types of the Models
4.3 Empirical Applications and case studies

SCIENCE AND TECHNOLOGY POLICY IN AGRICULTURE (WEEK 6)
5.1 Technological Change in Agriculture
5.2 Technology Transfer and intellectual Property rights
5.3 Investment in agricultural science and technology development in Africa

SEMESTER II (PART II): AGRICULTURAL POLICY ANALYSIS

PART II: AGRICULTURAL POLICY ANALYSIS (Weeks 7-12)

AGRICULTURE AND POLICY (WEEK 7)
6.1 Rationale and objectives of Agricultural Policies
6.2 Policy making processes
6.3 Stakeholders in policy making

APPROACHES TO POLICY ANALYSIS (WEEKS 7-8)
7.1 Partial Equilibrium Analysis
7.2 Sectoral Analysis
7.3 Elements of General Equilibrium Models

POLICY REFORMS AFFECTING AGRICULTURE (Week 9)
8.1 Origins, contents and impacts of policy reforms in Africa (Structural Adjustment Programs, MDGs, NEPAD, Country Vision Documents)

FOOD POLICY ANALYSIS (WEEK 10)
9.1 Food and nutrition Security
9.2 Food Policies: Scope and Instruments
9.3 Food Pricing, Marketing and Trade

ROLE OF INFRASTRUCTURE AND RURAL INSTITUTIONS (WEEK 11)
10.1 Rural Infrastructure
10.2 Land Markets and Tenure

AGRICULTURAL COMMODITY TRADE (Week 12)
11.1 Nature of agricultural commodities traded
11.2 Trade issues under regional and interregional agreements
11.3 Trade issues under WTO (Bilateral and multilateral)
ABBREVIATED REFERENCES
In citing references the following abbreviations shall be used:
AJAE: American Journal of Agricultural Economics.

WBER : World Bank Economic Review.
WBRO : World Bank Research Observer.

PART I: THEORETICAL AND EMPIRICAL ISSUES (Weeks 1-6 inclusive)
1. INTRODUCTION (Week 1)

1.1 The Subject Matter of Agricultural Economics

Main Reading

1.2 The nature of agricultural systems
- Characteristics and the unique feature of agricultural production
- Crop farming and livestock production systems

Main Readings

Supplementary Readings

1.3 Agriculture in Economic Development

1.3.1. Contribution of Agriculture to Poverty Reduction and Economic Development
- Product Contribution (food and raw material)
- Capital Contribution (inter-sectoral flows)
- Labor Contribution (structural transformation of agricultural sector)
- Market Contribution
- Foreign Exchange Contribution

1.3.2. Changing perspective in Agricultural Development (Shifting Paradigms)
- Modernization and Growth (the 1950s and 1960s).
- The Basic Needs Approach (the 1970s)
- Economic Liberalization (the 1980s to date)
- Poverty Reduction Strategy Papers.
- Agriculture for development (a new paradigm?)

Main Readings

Supplementary Readings
(1975), Agriculture in Development Theory, Yale University Press, New Haven.
environment?"; WD, vol. 20, no. 4.
World Bank, 2000, "Can Africa Claim the 21st Century", Chapter six, Spurring Agricultural and Rural
Development., Washington DC.
Cleaver, K. M., (1993), A Strategy to Develop Agriculture in Sub-Saharan Africa and a Focus for the
World Bank; World Bank Technical Paper no. 203.
UK.
D.C.
Tsu-tan Fu and Shun-yi Shei, 1999, "Agriculture as the Foundation of Development: The Taiwanese
Story". In Erik Thorbecke and Henry Wan (eds), Taiwan's Development Experience: Lessons on
Roles of Government and Market.
Todaro, M. P., (1976), Internal Migration in Developing Countries: A Review of Theory, Evidence,
Methodology and Research Priorities; ILO, Geneva.

2. AGRICULTURAL PRODUCTION THEORY (WEEKS 2 - 3)

2.1 Economics of Agricultural Production
2.1.1 Overview of production functions
2.1.2. The Profit Maximization (and its duality - cost minimization)
  ▪ Review of Neoclassical economic theory of farm production
  ▪ Application and empirical evidences
2.1.3 Efficiency in Resource Use

Recommended software
Frontier 4.1 and Shazam for efficiency analysis.

Main Readings
Ellis, F., (1993), Peasant Economics: Farm Households and Agrarian Development; 2nd Edition
and Wiley Sons.
relations in agriculture"; Journal of Development Studies, vol.22, no.3.
Sadoulet, S., and de Janvry, 1995, Quantitative Development Policy Analysis. The Johns Hopkins
University Press.
AERC Materials on agricultural production and efficiency in African countries.

Supplementary Readings
estimation of technical efficiencies and technology gaps for firms operating under


Schultz, T. W., (1964), Transforming Traditional Agriculture; Yale University Press, New Haven.

Nerlove, M., (1988), Modernizing Traditional Agriculture; occasional paper no.16; International Centre for Economic Growth.


### 2.2 Behavior under Risk and Uncertainty

- Concepts of risk and uncertainty
- Sources of risk and uncertainty in agriculture
- Risk analysis and risk management (including aspects of insurance and other coping strategies)
- Empirical evidence and case studies

#### Main Reading Materials


Bardhan and Udry, (1999), Development Microeconomics.


Recent text on Information asymmetry (to be clarified later)


#### Supplementary Reading Materials


### 3. SUPPLY RESPONSE (Week 4)

#### 3.1 Output supply functions

- Theoretical foundations of supply
• Characteristics of agricultural supply and Cobweb model
• Short-run versus Long-run
• Individual versus aggregate
• Application and case studies

Main Readings

Supplementary Readings
Any other intermediate microeconomics text book

3.2 Estimation Methods and Empirical Applications
• Direct methods
• Time-lagged supply response models
• Individual versus aggregate supply response
• Empirical applications

Main Readings

Supplementary Readings
4. AGRICULTURAL HOUSEHOLD MODELS (WEEK )

4.1 Nature of farm household decision making
- Production decisions
- Consumption decisions
- Labour allocation decisions
- Separability and non-separability of decisions

4.2 Types of the Models
- Recursive and non-recursive models
- Unitary versus collective models
- Intra-household models and gender issues
- Risk analysis (transaction cost)

4.3 Empirical Applications and case studies
- Methods of estimation
- Examples of empirical application in developing countries

Main Readings

Supplementary Readings
Review, vol.66.

5. SCIENCE AND TECHNOLOGY POLICY IN AGRICULTURE (WEEK 6)
5.1 Technological Change in Agriculture

- Generation and Adoption of Technology in Agriculture
- Appropriateness of technologies (eg GM technological transfer for Africa?)
- Alternative technologies: choice and transfer
- Population pressure and spontaneous agricultural intensification

Required Readings

Supplementary Readings

5.2 Technology Transfer and intellectual Property rights
- Biotechnology policy
- The role of the state and private sector
- TRIPs (Trade Related Intellectual Property Rights)
- The Role of Extension in Agricultural Development

5.3 Investment in agricultural science and technology development in Africa
- Investment gaps
- Public private partnerships

Main Readings

Supplementary Readings
PART II: AGRICULTURAL POLICY ANALYSIS (Weeks 7-12)

6. AGRICULTURE AND POLICY (WEEK 7)

6.2 Rationale and objectives of Agricultural Policies

6.2 Policy making processes
- Target variables
- Policy instruments
- Policy implementation

6.3 Stakeholders in policy making
- Public sector.
- Private sector.
- Civil society - NGOs, CBOs, etc

Main Readings
Schiff, M., and Valdes, A., (1992), The Plundering of Agriculture in Developing Countries; World Bank, Washington, D.C.

Supplementary Readings
Agricultural Reforms. In proceedings of 25th International Conference of Agricultural Economists (IAAE)

7. APPROACHES TO POLICY ANALYSIS (WEEKS 7-8)

7.1 Partial Equilibrium Analysis

Main Readings:

Supplementary Readings

7.2 Sectoral Analysis
- The Policy Analysis Matrix (PAM).
- Multi-market models
- Input-Output Analysis

Main Readings

Supplementary Readings

7.3 Elements of General Equilibrium Models
- Social Accounting Matrix
- General Equilibrium Models
Main Readings

Supplementary Readings

8. POLICY REFORMS AFFECTING AGRICULTURE (Week 9)

Main Readings
Policies in Developing Countries; ICS Press, San Francisco.

Supplementary Readings
Commander, S., (ed.), (1989), Structural Adjustment and Agriculture Theory and Practice in Africa and Latin America; Overseas Development Institute, London.
9. **FOOD POLICY ANALYSIS (WEEK 10)**

9.1 **Food and nutrition Security**
- Concepts, causes and measures of food and nutrition security
- Food safety and quality issues
- Policies of sub-Saharan African countries to tackle food and nutrition insecurity

9.2. **Food Policies: Scope and Instruments**
- Development of food policy ideas (Food self-sufficiency versus food security etc.)
- Food policy instruments
- Food aid and its impacts

Main Readings
FAO (2003), The state of food insecurity in the World, Rome
FAO Country Reports on Food and Nutrition
World Bank, (1986), Poverty and Hunger: Issues and Options for Food Security in Developing Countries; World Bank, Washington.

Supplementary Readings

9.3 **Food Pricing, Marketing and Trade**
- Demand and supply of food
● Food pricing and marketing policies  
● Food imports versus local production  
● Case Studies of Food Crises (especially the 2007 global food crisis)

**Main Readings**


**Supplementary Readings**


**10. ROLE OF INFRASTRUCTURE AND RURAL INSTITUTIONS (WEEK 11)**

10.1 Rural Infrastructure

- State of rural infrastructure – transport, markets, finance, communications etc.  
- Challenges and opportunities to rural infrastructure development in Africa
- Legal frameworks for managing rural institutions
- Case studies

**Main Readings**


**Supplementary Readings**


HBS (1993). Chapters 2 and 3


10.2 Land Markets and Tenure

- The concept of land tenure and systems
- Property rights
- Share tenancy
- Land policies
- Case studies

Main Readings
Skinner, J., (1991), "If agricultural taxation is so efficient, why is it so rarely used?"; WBER, vol. 5, no. 1.
Hoff, K., (1991), "Tand taxes, output taxes and sharecropping: was Henry George right?"; WBER, vol. 5, no. 1.

Supplementary Readings
11. AGRICULTURAL COMMODITY TRADE (Week 12)
11.1 Nature of agricultural commodities traded
11.2 Trade issues under regional and interregional agreements
11.3 Trade issues under WTO (Bilateral and multilateral)

Main Readings
Commissioned Paper Number 17 The International Agricultural Trade Research Consortium
xxxxxxx (xxxx) African Imperatives in the new World Order Doha agreements -Publications by AGOA, NEPAD, SADC, COMESA, ECOWAS, WTO, etc