Topics covered: What’s Development?  What’s the Food Problem?  How Can LDCs Increase Their Food Production?

Source of Questions: Questions will draw on the readings (study questions), lectures, and videos.

Structure of the Exam
1. Multiple Choice (45%)
   Fifteen questions from each topic (1 point for each question), drawn primarily from the readings (study questions), but also from the lectures and videos.

2. Identify Countries in Africa on a Blank Map (5%)
   Study a map of Africa, so you know the location of Angola, Botswana, Ethiopia, Ghana, Kenya, Mali, Malawi, Mozambique, Namibia, Nigeria, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Zambia, and Zimbabwe. I will select 5 of these countries and ask you to identify them on the map.

3. Food Requirements Problem (5%)
   I’ll give you data about a country’s projected annual rate of population and income growth, and its income elasticity of demand for food. You must calculate the country’s demand for food next year. I’ll also give you an estimate of how much the country is projected to increase its food supply and ask you to discuss the implication of the demand and supply projections on next years’ food prices.

4. Short Answer (15%)
   You must answer 5 short-answer questions related to material covered under each of the 3 topics (total of 15 questions) we have covered. For each topic, you will have the choice of answering 5 from among 7 short answer questions. Each question/answer will be worth 1 points. The short answer questions will be drawn from the key words/concepts listed below:

Terms/concepts:
“What is Development?”
globalization, examples of economic aspects of globalization, driving force for economic integration, examples of cultural integration, worldwide revolution of rising expectations, previous waves of globalization, what’s new about globalization, examples of specific factors that made globalization possible (i.e., science & technology, new rules/regulations, increased global wealth, new institutions) and how each contributed, positive & negative aspects of globalization, skills you will need to be competitive in a global economy, global dilemma, driving forces, global sustainability, examples of global challenges/spillover impacts that threaten our prosperity, root cause of global challenges, developing countries, dual economies, why growing inequality between DCs & LDC should concern us, traditional definition of development, today’s broader concept/goals of development, examples of the World Bank’s social indicators, some concerns/criticisms of the western development model, why many countries are critical of U.S. foreign policy, dangers of unilateralism

“What is the Food Problem?”
world’s major grains, tubers & legumes, why centers of origin are important, factors that cause food demand to change, factors that determine consumers’ tastes & preferences, Engel’s Law, income elasticity of demand, foods with a high/low income elasticity of demand, right to food, national vs. household food security, how households achieve food security, why national food security doesn’t insure household food security, chronic food insecurity, consequences of chronic food insecurity, underlying causes of chronic food insecurity, why has there been limited success in reducing chronic food insecurity, acute food insecurity, causes/triggers of acute food insecurity, how famines have been prevented in recent years, famine, major cause of famine, ending world hunger—optimist’s & pessimist’s
arguments (3 examples of each), what’s needed to insure food security/reduce hunger & poverty (2 examples of supply-related, demand-related & policy-related solutions), progress in reducing hunger since the 1994 World Food Summit, interrelated causes of the food crisis in Sub-Saharan Africa (5 examples)

**How Can Developing Countries Increase their Food Production?**

Characteristics (4 examples) of traditional farming systems, how farmers have increased food production throughout history (e.g., before modern technologies became available), poor but efficient, limitations of traditional farming systems, examples of farming practices based on modern science, limitations of modern farming systems, why few farmers in developing countries use machinery (e.g., tractors), what most of the increase in food production in LDC was due to (1980-1990), intensification strategy, double green revolution (i.e., what future technologies must do), appropriate technologies, types of research carried out by CGIAR centers, why CGIAR research is a public good, types of crops/livestock species on which CGIAR centers focus, partners in the worldwide agricultural research system, why LDCs need biological rather than mechanical technologies, regions, crops & environment that benefitted most from the GR, how international scientists develop new crop varieties, traits (3 examples) of modern rice varieties, overall impact of the GR in wheat & rice (1960-90), complementary factors, criticisms of the GR in Asia, why technology alone isn’t sufficient, why the impact of the GR has been limited in Africa, type of biotechnology that’s most controversial, potential benefits from biotechnology, examples of promising GMO-based technologies for food crops in LDCs, concerns in Europe/US/LDCs regarding GM varieties, examples of non-traditional crops for niche markets, environments & crops on which scientists must focus in the future, how developed countries can help solve the food problem in LDCs

5. **Essay (30%)**

Answer any 2 of the following 3 essay questions. Each questions is worth 15 points. Your answers to the questions under each topic should be no longer than 2 pages (1.5" line spacing, 12 point font, 1" margins). Type your name and seat number at the top of each page. Clearly identify each part of your answer by first typing the question (including the letter--a, b, c, d, e--associated with the question), followed by your answer. Write your answers as completed sentences—not just a list of words. You may refer to your class note and study questions, but you may not consult with fellow students. You must turn in your essays at the beginning of class on Thursday (before the exam).

**What is Development?**

In the past, economists measured development in terms of economic growth. Today, we realize that economic growth and economic development are two very different concepts. a) What is the traditional definition of development and why is this definition not a good measure of development (what’s missing)? b) What is today’s broader concept of development and what are 6 goals of development that illustrate this broader concept? c) Describe 3 “social indicators” that the World Bank uses to measure progress in improving the standard of living in a country. d) Discuss the strengths (why these indices are useful) and weaknesses of indices of development such as the Human Freedom Index & the Gender Empowerment Index. e) Discuss 3 reasons why some people argue that there is a need for a new development model?

**Example of how to format your answer to What is Development?**

Economic growth and economic development are two very different concepts. a) The traditional definition of developments (your discussion). However, this is not a good measure of development because (your discussion). b) Today’s broader definition of development (your discussion). Six goals of development that illustrate this broader definition include (your discussion). c) The World Bank uses various social indicators to measure progress in improving the standard of living in a country, including (your discussion). d) In addition, various groups have created indices of development, such as the Human Freedom Index and the Gender Empowerment Index. The strengths of these indices are (your discussion). However, they also have some weaknesses, including (your discussion). e) In recent
years, some people have argued that there is a need for a new development model. Criticism of the current development model include (your discussion).

**What is the Food Problem?**
Chronic food insecurity, acute food insecurity, and famine are problems in some LDCs.  

a) What is chronic food insecurity? What groups are most vulnerable and what are the consequences of chronic food insecurity?  
b) Discuss 4 of the underlying causes of chronic food insecurity and identify its primary cause.  
c) What is acute food insecurity? What are 4 events that may cause/trigger acute food insecurity?  
d) What is famine? What is its major cause? Give 1 examples of LDCs that has experienced famine and identify the cause of famine in that country.  
e) Today, what is the most important food problem–chronic food insecurity, acute food insecurity, or famine? Explain why this is the most important problem.

**How Can LDCs Increase their Food Production?**
Due to the Green Revolution, which began in the 1960s, rice and wheat yield and total production have rapidly increased in many LDCs–especially in Asia. However, in order to meet their future food needs, LDCs will need to further increase food crop yields and production.  

a) What is the GR? What are 3 traits of modern rice varieties and how does each of these traits benefit LDC farmers?  
b) Discuss the overall impact of the GR in wheat & rice (1960-1990)–how did it (3 examples) benefit farmers and/or consumer?  
c) What are some of the criticisms (3 examples) of the GR?  
d) What are the potential benefits (3 examples) from biotechnology and what are some concerns (3 examples) that LDC have about biotechnology?  
e) Despite these concerns, why are many LDCs encouraging their farmers to plant GM varieties?