THE UNIVERSITY OF ARIZONA

AREC/ECON 516: MICROECONOMICS OF AGRICULTURAL DEVELOPMENT*

Spring Semester 2019
Monday and Wednesday
3:00 - 4:15 PM
McClelland Park 202

Instructor

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Course Description: Eight hundred million people in our world are hungry. Sixteen thousand children die each day from hunger-related causes. World Bank figures show that three billion people live on less than $2.50 dollars per day. Many of these people live in rural areas and most of these people make their meager living from agricultural production and services. This course presents the student with an in-depth understanding of the economics of the rural poor, particularly those in the agricultural sector. Students will become familiar with the microeconomic tools and statistical methods utilized to understand and empirically analyze the agricultural development challenges in lower-income countries.

Prerequisite: A course in intermediate microeconomics and a course in calculus are strongly advised as the readings present formal economic models that will form the analytical core of the course. However, highly motivated graduate students from allied disciplines, without this background, will fare well in the course if they are willing to invest time in understanding the intuition of the more advanced material.

Credit Hours: 3

Texts (Required):

- Taylor, J. Edward and Lybbert, Travis J. 2015. *Essentials of Development Economics*, 2nd Edition. Oakland: University of California Press.
- Khandaker, Shahidur R., Koolwal, Gayatri B., and Samad, Hussain A. 2010. *Handbook on Impact Evaluation: Quantitative Methods and Practices*. Washington, D.C.: The World Bank. Free E-Book Available.
- Karlan, Dean and Appel, Jacob. 2016. *Failing in the Field What We Can Learn When Field Research Goes Wrong*. Princeton: Princeton University Press.
- We will also be reading academic articles throughout the course (see course outline)

Text (Recommended, not required):

- Bardhan, Pranab and Udry, Christopher. 1999. *Development Microeconomics*. Oxford: Oxford University Press.
- Deaton, Angus. 1997. *The Analysis of Household Surveys: A Microeconomic Approach to Development Policy*. Washington, D.C.: The World Bank.
- Bamberger, Michael, Rugh, Jim, and Mabry, Linda. 2012. *Real World Evaluation: Working under Budget, Time, Data and Political Constraints*, 2nd Edition. Thousand Oaks: Sage Publications.

*Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.

Learning Outcomes: Upon completing this course students will be:

1. Knowledgeable concerning the fundamental issues in agricultural development and rural poverty alleviation.
2. Conversant in the current academic literature in this field of study.
3. Familiar with the empirical models and tools used to analyze rural poverty.
4. Prepared for productive work in an international or domestic development agency, a non-governmental organization (NGO), or in academia.

Course Structure: The course will roughly follow the chapters listed in Taylor and Lybbert (hereafter *TL*). The early part of the course will mostly consist of lectures drawn from *TL* and data exercises. We will be supplementing this reading with Karlan and Appel (hereafter *KA*). As a practicing development economist, I have found this book a very useful practical guide on what not to do when evaluating development projects.

As we move into the heart of the material, students will take over most of the content delivery. In your future careers you will often be asked to take technical information and present it to a non-technical audience in a way that they can understand. To help you train for this, each student will present several of the assigned articles (of their choosing) in class. Article presentations will need to be 20 minutes long and we will cover two articles per class period. I understand that many of the articles are technically challenging. I will be happy to help you make sense of these technical aspects, prior to your presentation. I do not expect you to fully understand every element of these papers.

I do expect students to read the assigned articles before class, and make informed contributions to the class discussion. To facilitate this, students not presenting a particular article will be expected to email the presenter and myself two questions 24 hours prior to class time. These questions will need to be incorporated into the presentations. Class participation counts significantly towards your grade. If a student exhibits systematically poor preparation or fails to participate in discussion, I will require him or her to write a 250 word (or more) "reaction" to the assigned articles, due at the beginning of class.

Data Exercises: To supplement the course readings, we will also engage in hands-on data exercises. These exercises use real data and are designed to introduce you to the standard methods of quantitative ex-post impact evaluation. You will be expected to familiarize yourself with the methods outside of class by reading Khandaker et al. (hereafter *KKS*).

All of the data exercises must be done in the R programming language using the integrated development environment (IDE) RStudio. I will dedicate most of the first month of class time to introducing you to the programming language and its functionality. We will also go through some of the early data exercises in class to ensure you are familiar with how to analyze data in R. However, I will expect you to be able to complete later assignments outside of class without my help. You are free to work in groups but you must turn in your own assignments. There are numerous online help sources and tutorials for R of which you should take advantage.

Grading System: Incentives are a big part of economics. As an economist, I hope I have created a grading scheme that provides incentives for you to succeed: come to class, work on the data exercises, keep current with the readings, find ways to understand the material that works for you, and think creatively about economics.

Your course grade will be based on the following:

Presentations	60%
Participation	20%
Data Exercises	20%

Grading Scale: The grading scheme will be as follows (out of 100):
A: 90-100, B: 80-89, C: 70-79, D: 60-69, E: 0-59.

Exam Policy: This course has a large reading load and I expect students to present and discuss these papers in class. Because of this there will be no final exam.

Requests for incomplete (I) or withdrawal (W): Requests must be made in accordance with University policies, which are available at http://catalog.arizona.edu/policy/grades-and-grading-system.

Grade Dispute: If the student believes there has been a mistake in the posted grade on D2L, or the final grade in the class, the student must notify the Dr. Michler no later than one week after the posting of the grade. All grades after the one-week window are final.

Absence and Class Participation Policy: The UA's policy concerning Class Attendance, Participation, and Administrative Drops is available at: http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop.

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable, http://policy.arizona.edu/human-resources/religious-accommodation-policy.

Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored. See: https://deanofstudents.arizona.edu/absences.

Participating in the course and attending lectures and other course events are vital to the learning process. As such, attendance is required at all lectures. Students who miss class due to illness or emergency are required to bring documentation from their health-care provider or other relevant, professional third parties. Failure to submit third-party documentation will result in unexcused absences.

Classroom Behavior Policy: To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a website, making phone calls, web surfing, etc.).

Students are asked to refrain from disruptive conversations with people sitting around them during lecture. Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be asked to leave lecture or discussion and may be reported to the Dean of Students.

The use of mobile devices, such as phones is distracting to you the student and the instructor. Research has repeatedly shown that their use can degrade the learning environment. Therefore, students are not permitted to use phones during the class period. Students may however use laptops and tablets for classroom activities.

Threatening Behavior Policy: The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students.

Accessibility and Accommodations: At the University of Arizona we strive to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, you are welcome to let me know so that we can discuss options. You are also encouraged to contact Disability Resources (520-621-3268) to explore reasonable accommodation.

Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

Code of Academic Integrity: Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: http://deanofstudents.arizona.edu/codeofacademicintegrity.

The University Libraries have some excellent tips for avoiding plagiarism, available at http://new.library.arizona.edu/research/citing/plagiarism.

Selling class notes and/or other course materials to other students or to a third party for resale is not permitted without the instructor's express written consent. Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell

or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement.

UA Nondiscrimination and Anti-Harassment Policy: The University is committed to creating and maintaining an environment free of discrimination; see http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy.

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

Additional Resources for Students: UA Academic policies and procedures are available at http://catalog.arizona.edu/policies.

Student Assistance and Advocacy information is available at http://deanofstudents.arizona.edu/student-assistance/students/student-assistance.

Course Outline and Reading List:

- What Development Economics Is All About [Jan. 9]
  - *TL* Ch. 1
- What Works and What Doesn't? [Jan. 14, 16, & 23]
  - *TL* Ch. 2
  - Ravallion, M. 2001. "The Mystery of the Vanishing Benefits: An Introduction to Impact Evaluation." *World Bank Economic Review 15* (1): 115-140.
  - *KKS* Chs. 1-2
  - *KA* Introduction & Chs. 1-5
- Review/Introduction of Empirical Methods [Jan. 28 & 30]
  - *KKS* Chs. 3-6
  - Ravallion, M. 2005. "Evaluating Anti-Poverty Programs." World Bank Policy Research Working Paper 3625.
- Poverty and Inequality [Feb. 4 & 6]
  - *TL* Chs. 4 & 5
  - *KA* Ch. 8
  - Duflo, E. 2003. "Grandmothers and Granddaughters: Old-Age Pensions and Intrahousehold Allocation in South Africa." *World Bank Economic Review 17* (1): 1-25.
- Human Development [Feb. 11 & 13]
  - *TL* Ch. 6
  - *KA* Chs. 6 & 10
  - Duflo, E. 2001. "Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment." *American Economic Review 91* (4): 795-813.
  - Miguel, T. and Kremer, M. 2004. "Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities." *Econometrica 72* (1): 159-217.
- Institutions [Feb. 18]
  - *TL* Ch. 8
  - Acemoglu, D., Johnson, S., and Robinson, J.A. 2001. "The Colonial Origins of Comparative Development: An Empirical Investigation." *American Economics Review 91* (5): 1369-1401.
  - Burgess, R., Hansen, M., Olken, B.A., Potapov, P., and Sieber, S. 2012. "The Political Economy of Deforestation in the Tropics." *Quarterly Journal of Economics 127* (4): 1707-54.
- Structural Transformation [Feb. 25]
  - *TL* Ch. 10
  - *KKS* Ch. 7
  - Timmer, C. P. 1988. "The Agricultural Transformation." In H. Chenery and T. Srinivasan (Eds.), *Handbook of Development Economics*, Volume 1, pp. 275-331. Amsterdam: North-Holland.
- Spring Break, No class [March 4 & 6]
- Agriculture, Overview [Mar. 11 & 13]
  - Jayne, T. S., Mather, D., and Mgheyi, E. 2010. "Principle Challenges Confronting Smallholder Agriculture in Sub-Saharan Africa." *World Development 38*: 1384–98.
  - Christiaensen, L. 2017. "Agriculture in Africa – Telling Myths from Facts: A Synthesis." *Food Policy 67*: 1-11.
  - Collier, P. and Dercon, S. 2014. "African Agriculture in 50 Years: Smallholders in a Rapidly Changing

World?." *World Development 63*: 92-101.

  - Gollin, D., Lagakos, D., and Waugh, M.E. 2014. "The Agricultural Productivity Gap." *Quarterly Journal of Economics 129* (2): 939-93.

- No class [March 18 & 20]
- Agricultural Land Markets [Mar. 25 & 27]
  - Banerjee, A., Gertler, P., and Ghatak, M. 2002. "Empowerment and Efficiency: Tenancy Reform in West Bengal." *Journal of Political Economy 110* (2):239-80.
  - Deininger, K, Jin, S., and Yadav, V. 2013. "Does Sharecropping Affect Long-term Investment? Evidence from West Bengal's Tenancy Reforms." *American Journal of Agricultural Economics 95* (3): 772-90.
  - Barrett, C.B., Bellemare, M.F., and Hou, J.Y. 2010. "Reconsidering Conventional Explanations of the Inverse Productivity-Size Relationship." *World Development 38* (1): 88-97.
  - Carletto, C., Gourlay, S., and Winters, P. 2015. "From Guesstimates to GPStimates: Land Area Measurement and Implications for Agricultural Analysis." *Journal of African Economies 24* (5): 593-628.
- Agricultural Labor Markets [Apr. 1 & 3]
  - Giles, J. and Yoo, K. 2007. "Precautionary Behavior, Migrant Networks, and Household Consumption Decisions: An Empirical Analysis Using Household Panel Data from Rural China." *Review of Economics and Statistics 89* (3): 534-51.
  - Beegle, K., De Weerdt, J., and Dercon, S. 2011. "Migration and Economic Mobility in Tanzania: Evidence from a Tracking Survey." *Review of Economics and Statistics 93* (3): 1010-33.
  - Jayachandran, S. 2006. "Selling Labor Low: Wage Responses to Productivity Shocks in Developing Countries." *Journal of Political Economy 114* (3): 538-75.
  - Rosenzweig, M.R. and Udry, C. 2014. "Rainfall Forecasts, Weather, and Wages over the Agricultural Production Cycle," *American Economic Review 104* (5): 278-83.
- Agricultural Technology Adoption [Apr. 8 & 10]
  - Foster, A.D. and Rosenzweig, M.R. 1995. "Learning by Doing and Learning from Others: Human Capital and Technical Change in Agriculture." *Journal of Political Economy 103* (6): 1176-1209.
  - Conley, T.G. and Udry, C. 2010. "Learning about a New Technology: Pineapple in Ghana." *American Economic Review 100* (1): 35-69.
  - Suri, T. 2011. "Selection and Comparative Advantage in Technology Adoption." *Econometrica 79* (1): 159-209.
  - Michler, J.D., Tjernström, E., Verkaart, S., and Mausch, K. 2018. "Money Matters: The Role of Yields and Profits in Agricultural Technology Adoption." *American Journal of Agricultural Economics*.
- Shocks to Agricultural Production [Apr. 15 & 17]
  - Paxson, C.H. 1992. "Using Weather Variability to Estimate the Response of Savings to transitory Income in Thailand." *American Economic Review 82* (1): 15-33.
  - Townsend, R.M. 1994. "Risk and Insurance in Village India." *Econometrica 62* (3): 539-91.
  - Udry, C. 1995. "Risk and Saving in Northern Nigeria." *American Economic Review 85* (5): 1287-1300.
  - Fafchamps, M., Udry, C., and Czukas, K. 1998. "Drought and Saving in West Africa: Are Livestock a Buffer Stock?" *Journal of Development Economics 55* (2): 273-305.
- Information and Markets [Apr. 22 & 24]
  - de Janvry, A., Fafchamps, M., and Sadoulet, E. 1991. "Peasant Household Behavior with Missing Markets: Some Paradoxes Explained." *Economic Journal 101* (409): 1400-17.
  - LaFave, D. and Thomas, D. 2016. "Farms, Families and Markets: New Evidence on Completeness of Markets in Agricultural Settings." *Econometrica 84* (5): 1917-60.
  - Michaelson, H. C. 2013. "Small Farmers, NGOs, and a Walmart World: Welfare Effects of Supermarkets

Operating in Nicaragua." *American Journal of Agricultural Economics 95* (3): 628-49.

  - Macchiavello, R. and Morjaria, A. 2015. "The Value of Relationships: Evidence from a Supply Shock to Kenyan Rose Exports." *American Economic Review 105* (9): 2911-45.

- Credit and Insurance [Apr. 29 & May 1]
  - *TL* Ch. 12
  - *KA* Chs. 7, 9, & 11
  - Banerjee, A., Duflo, E., Glennerster, R., Kinnan, C. 2015. "The Miracle of Microfinance? Evidence from a Randomized Evaluation." *American Economic Journal: Applied Economics 7* (1): 22-53.
  - Cole, S., Giné, X., Tobacman, J., Topalova, P., Townsend, R.M., and Vickery, J. 2013. "Barriers to Household Risk Management: Evidence from India." *American Economic Journal: Applied Economics 5* (1): 104-35.