

AgShare Resource Guide

Freely available academic readings to supplement course modules

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Introduction

The AgShare initiative collaborates with African universities to help them strengthen their MSc curricula in the agricultural sciences through the creation, utilization, and management of open educational resources (OER). This initiative, which is now drawing to the end of its initial planning and pilot phase, aims to demonstrate that cooperation between universities, community organizations, and content providers can help generate OER that is used by MSc agricultural faculties in Africa and around the world to strengthen their academic programs and their relevance to local communities. Students and farmer organizations have been actively involved throughout this process.

Four pilot projects were selected:

- Haramaya University, Ethiopia: Creation of a comprehensive set of course materials to be used for the “Perspectives on Agricultural Extension” course, currently offered by the university within its Master’s Degree Program on Agricultural Information and Communication Management (AICM). AICM is one of the regional postgraduate programs implemented through the Regional Universities’ Forum for Capacity-Building in Agriculture (RUFORUM).
- Makerere University, Uganda: Improve the efficacy of the dairy value chain through utilization of OER in Uganda. The agribusiness and management program and the livestock development program are jointly carrying out this pilot.
- Collaborative Master of Science in Agricultural and Applied Economics (CMAAE): Haramaya University and Moi University (Kenya), both members of CMAAE, have produced two case-study based modules, each on a selected commodity (coffee for Ethiopia and maize for Kenya) to demonstrate the economic role of prices and approaches to the study of agricultural market organization. These modules will be available to the entire CMAAE membership—in East, Central, and Southern Africa.
- United States International University, Kenya: Develop a pedagogical model and framework for teaching farmers and farmer organizations to gain new knowledge and agri-management skills to transform their farming as a livelihood practice to farming as a business enterprise.

We believe that students can benefit from course readings in addition to OER teaching and learning modules, but textbooks and other publications are frequently copyright protected and expensive. My job, therefore, was to identify freely available materials, specifically relevant to the *syllabii* on which the universities were working. I included textbooks, case studies, conference papers, manuals, and journal literature. Although we know that African students have access to online journal literature through *Agora*, *OARE*, and other collections, and on CD-ROM through *TEEAL*, African journals are sometimes left out. I therefore attempted to identify appropriate journal literature that is not covered by these resources.¹

The overall goal of this exercise was to find materials with a Creative Commons license, but that was very difficult, for there is a dearth of university-level OER in the agricultural sciences. Nevertheless, I identified some resources that are copyright protected, which permit redistribution without requesting permission of the publisher. Copyright, OER, and Open Access are discussed more fully in the next chapter.

¹ *AGORA* (Access to Global Online Research Literature in Agriculture) was established by the Food and Agriculture Organization (FAO), major publishers, and Cornell University to enable developing countries to obtain access to journal literature in the agricultural sciences. Fewer than 20 of the 1,900 journals in *AGORA* are African. It is nevertheless an important database. Go to: <http://www.aginternetnetwork.org/en/> for more information about participation criteria. An initiative of the UN Environment Programme (UNEP), Yale University, and major publishers, *OARE* focuses on the environmental sciences. Go to: <http://www.oaresciences.org/en/>. Because online access is so difficult in many developing-country institutions, Cornell University developed *TEEAL*, sometimes called an agricultural library in a box. It consists of more than 100 key agricultural journals, but like *AGORA*, only a handful are African. Go to: <http://www.teeal.org/>.

This resource guide is a compendium of the individual handbooks that I prepared for each university. It is subdivided into sections, such as lecture materials, student readings, Websites, and video. Several of the lecturers requested radio clips, as well, but it is very difficult to find pertinent clips that are available to download. Although there are several initiatives, such as Farm Radio International, that are developing radio programs in agriculture for rural areas, the program themselves are not, for the most part, available online. Farm Radio does provide scripts, however, and they can be found on its Website at <http://www.farmradio.org/english/radio-scripts/>. It is a supplement, not a replacement, for the modules themselves. The modules will be released separately through the OER Africa website (www.oerafrica.org) when they are complete.

Following a glossary of terms and a chapter with suggestions for using the Internet to identify resources, this guide is divided into chapters, one for each pilot project. There are three sections for the CMAAE chapter—one for the CMAAE “prices and markets” curriculum; one for Haramaya University; and one for Moi University. After reviewing the overall CMAAE guide, both Haramaya and Moi requested that I delete some resources and add others, particularly materials pertinent to their coffee and maize case studies. This Resource Guide reflects the changes and additions that I made for Haramaya and Moi. There are also individual sections for Makerere University—one for each collaborating unit. Finally, you will see that many of the resources listed are from African sources. Within AgShare, we believe that Africa is under represented in the global knowledge pool. Including quality African scholarly literature whenever feasible is a part of our effort to redress this imbalance.

THE CHANGING NATURE OF WEBSITES

We have all used guides such as this, clicked on a link, and discovered that it does not take us to where we want to go. Sometimes sites are down for updating; sometimes they change their address; and sometimes they disappear altogether. I tried to verify every URL, but cannot guarantee that each address will remain the same or continue to exist. If a link in this document does not work, try doing a web search on the title of the resource.

Lisbeth A. Levey
February 21, 2011

Defining the Terms

COPYRIGHT

A copyright is a form of legal protection that allows the creator of an original work (written, music, art, etc.) and his or her heirs to enforce exclusive rights over publication, distribution and adaptation for a certain period of time. Although copyright legislation differs from country to country, international treaties exist that enforce generally consistent copyright legislation throughout most of the world. Copyright language can vary enormously—from very restrictive to fairly loose. See the “Note on Copyright” on the next page.

CREATIVE COMMONS LICENSES

The Creative Commons license system was created in 2001 by a not-for-profit organization called Creative Commons. These licenses permit people to copy, adapt, and distribute the work being licensed under specific conditions without requesting permission of the resource creator. There are several types of Creative Commons license available, each one spelling out in detail how others may use the work in question. A Creative Commons license does not conflict with copyright. Authors retain the copyright, but agree in advance to redistribution (with attribution). For more information, go to www.creativecommons.org.

DATABASE

Databases are applications that manage data in order to allow storage, fast retrieval, manipulation, and updating. There are different kinds of database. They can be bibliographic, such as AGRIS and ELDIS, which are described in the next chapter, full text, images, multi-media; and numeric.

FAIR USE

Fair use is a term that librarians frequently use, sometimes in the same breath as copyright. Fair use allows limited use of copyrighted material without requiring permission from the copyright holder or publisher—for our purposes for teaching or scholarly purposes. This is the doctrine that allows you to cite or quote a work, for example, without requesting permission. Although fair use can permit you to place articles or other resources on reserve in the library, it does not always allow the kind of redistribution of resources that is our goal within AgShare—unless the work has a Creative Commons license or we receive permission from the author or publisher to do so.

OPEN ACCESS PUBLISHING

Open Access (OA) is a form of publishing, usually scholarly and on the Web, which provides free online access without any licensing fees. Users may read, download, search, index, and link OA resources without financial, legal, or technical barriers. Although journals are the most typical kind of resource classified as open access, the term can also refer to textbooks, databases, monographs, maps image collections, theses and dissertations. But Open Access does not necessarily give the right to redistribute without requesting permission unless the resource also carries a Creative Commons license or explicitly says so. It is always important to read the license conditions or email the publisher.

OPEN EDUCATIONAL RESOURCES

Open Educational Resources (OER) are learning materials and resources that are freely available for anyone to use and redistribute, and under some licenses to adapt. A broad spectrum of frameworks is emerging to govern how OER are licensed for use, some of which simply allow copying and others that make provision for users to adapt the resources they use. The nature of OER allows knowledge and resources to be shared more easily with wider communities.

PUBLIC DOMAIN

Basically, works are in the public domain if they are not protected by copyright, for example the copyright has expired. In the United States, anything published before 1923 is in the public domain. After 1923, the number of years for which copyright holds varies because of changes in the copyright law. There is an excellent chart on the University of North Carolina website. Go to: <http://www.unc.edu/~unclng/public-d.htm>.

REPOSITORY

A repository is a place where things are kept for safekeeping. In this Resource Guide, we are interested in document repositories, which allow participating institutions or individual to deposit the publications that they have written (journal articles, case studies, conference papers, etc.), and to permit users to search for and access these resources. AgEcon Search, which is described in the next chapter, is an example of a repository.

SEARCH ENGINE

A search engine looks for information on the Internet and returns a list of results that are frequently called “hits.” The information can be web pages; media files (images, music, etc.); documents, such as reports or journal articles; and statistical information—to give just a few examples. Google, Ask, and Yahoo are three commonly used search engines. Google is discussed in detail in the next chapter.

NOTE ON COPYRIGHTS AND LICENSES

All of the resources described below are freely available on the Internet. A few of them use Creative Commons licensing. Some resources are Open Access or bear other copyright licenses that provide the same right to distribute, as does Creative Commons. For these two categories of resources, we know that we may reproduce, distribute, and share them as readings. Other resources are fully copyright protected, and do not permit distribution without permission.

Examples of this latter policy include the Food and Agriculture Organization (FAO). FAO encourages reproduction and dissemination of material published on its website, however users must request permission. The relevant part of the copyright statement as it appears on the FAO website is as follows:²

All rights reserved. FAO encourages the reproduction and dissemination of material published on this Web site. Non-commercial uses will be authorized free of charge, upon request. Reproduction for resale or other commercial purposes, including educational purposes, may incur fees. Applications for permission to reproduce or disseminate FAO copyright material, and all queries concerning rights and licences, should be addressed by e-mail to copyright@fao.org or to the: Chief, Publishing Policy and Support Branch, Office of Knowledge Exchange, Research and Extension FAO, Viale delle Terme di Caracalla 00153 Rome, Italy

Because FAO is such an important publisher of agricultural resources and so many of its publications are included in this resource guide, I wrote FAO for permission and received it.

The International Food Policy Research Institute (IFPRI) is another example. IFPRI publications are fully protected by copyright, but because such a large number of them are included in this Resource Guide, I wrote IFPRI and received permission to use them within AgShare. IFPRI is also in the process of revising its copyright statement.

A summary of licensing information is given for each resource in this guide. Those that allow distribution, either through their licensing or as a result of permission to AgShare, are in **dark blue**.

² FAO copyright policy, downloaded February, 18, 2011, <http://www.fao.org/corp/copyright/en/>

Using the Internet to Identify Relevant Resources

INTRODUCTION

Using the Internet to identify relevant resources is not always easy and it can be time consuming. But the rewards are often worth the time and effort. In searching the Web to find pertinent Open Educational Resources (OER) and Open Access (OA) materials that adhere to Creative Commons licenses or standards, we discovered that there are very few openly licensed course materials at the university level, but that there are good, freely available resources, many of them with Creative Commons licenses, which might be pertinent to AgShare courses as part of a readings assignment and perhaps more broadly, given that some of these resources can be easily integrated into course materials, with minor adaptations. The AgShare initiative is noteworthy for many reasons, not least of which is that it will be one of the first efforts, anywhere in the world, to produce and use OER at the tertiary level in the agricultural sciences.

I divided my search for materials into two categories—the first category pertains to OER, with the disappointing results outlined above. The second relates specifically to the needs of the learner. Although textbooks, journals, and other publications in the agricultural sciences are expensive and frequently out of reach of lecturer and student alike, there are good resources that can replace textbooks. I therefore focused on the individual course topics as defined by the curriculum and the lecturer within each pilot in my search for quality materials.

Although many of the documents that I identified can be downloaded free of charge, they cannot always be used in the creation of an OER because of copyright constraints. As noted on the previous page, some major publishers in the agricultural sciences produce excellent resource materials, but their copyright statements can be restrictive. AgShare is currently in discussion with FAO, IFPRI, the World Bank and other publishers about permission to use and distribute materials for the AgShare initiative.

This chapter is meant to accompany the resource directories I prepared for each course in order to help you think through how to navigate the Internet as efficiently as possible when you search for additional resource materials. Below you will find a summary of search strategies to bear in mind when using the Internet, followed by descriptions of the major search engines, databases, and repositories that I regularly consult.³

SEARCH STRATEGIES

Below are general search strategies that I hope you will find helpful.

- Search engines, indexes, and repositories usually have instructions on how to use their search tools to increase the likelihood of generating useful results. Read these search tips if you need help. Sometimes it helps to go to the “advanced search” page in order to refine your search even more precisely. On Google, this is also where you can find instructions on how to search effectively.
- When using large search engines, construct your search terms as precisely as possible to avoid being overwhelmed by a large number of irrelevant returns. Indexes and repositories are smaller, and usually have a structured subject or a topic index, which you may want to browse. In addition, because these resources are smaller, you do not have to be as exact when you think about how to build your search.
- Evaluate what you find. You can frequently do that by asking yourself the following questions—Do you recognize the name of the organization or publisher responsible for the site? you can usually find this

³ Although it is not discussed in this guide, AgShare is collaborating with Creative Commons to improve searching and identifying open educational resources. DiscoverEd, a “search and discovery experiment” currently under development, can be found at <http://discovered.labs.creativecommons.org/search/en/>. A version limited to agricultural resources can be found at <http://search.agshare.org/>. More information on the DiscoverEd project can be found at <http://wiki.creativecommons.org/>.

information on the page that gives information about the organization. If you are not familiar with the site's sponsor, for example, there should be information about the organization or publisher on the site. Are the contents relevant? Is the information current? Is the URL correct? These are just a few things to think about when you visit a Website for the first time.⁴

The screenshot shows the homepage of the African Journal of Agricultural Research. At the top, it says 'academicJournals' and 'OPEN ACCESS JOURNALS'. Below that is a navigation bar with links for 'home', 'about us', 'journals', 'search', and 'contact us'. A large banner features the journal's title 'African Journal of Agricultural Research' over a background image of green plants. On the left side, there is a vertical menu with buttons for 'AJAR Home', 'About AJAR', 'Submit Manuscripts', 'Instructions for Authors', 'Editors', 'Call For Paper', 'Archive', 'Faculty 1000', 'Conferences', and 'Associations'. The main content area is divided into three columns. The first column shows a thumbnail of the journal cover for '4 January 2011 Vol.6 No.1' with a 'Submit Article' button and a link to 'Join Our Editorial Team'. The second column is titled 'CONFERENCES' and lists three events: 'Joint International Agricultural conference, Prague, Czech Republic, 11 Jul 2011', 'International conference on: "Climate Change, Agri-Food, Fisheries and Ecosystems", Agadir, Morocco, 19 May 2011', and 'Minia 1st International Conference for Modern Agriculture 2011, El-Minia, Egypt, 21 Mar 2011'. Below this is a link to 'See more conferences'. The third column is titled 'ASSOCIATIONS' and lists three organizations: 'Mokiti Okada Fundation', 'West Africa Rice Development Association', and 'Agricultural Institute of Canada', with a link to 'See more associations'. At the bottom of the main content area, it states 'Covered by ISI Science Citation Index'.

You can find out more about AJAR and the names of the editors by clicking on the appropriate links.

- Getting lost—if you find a resource or Website that is pertinent to your interests, write down the URL right away, use the Web browser history feature, or bookmark the page because when you click on a link on one page, you may be redirected to another page. Sometimes it is difficult to determine where you are and how to get back to where you were.
- Citing online resources—What happens if you find a document on the Web that you would like to cite in a paper or use in your bibliography? There are different rules, depending on the discipline. It can be quite confusing, but I found a comprehensive and easy to understand style manual from the University of Pretoria Website. It can be downloaded at <http://upetd.up.ac.za/authors/create/plagiarism/electronicresources.pdf>
- For all this and more, when in doubt, consult your librarian.

SEARCH ENGINES, DATABASES, AND REPOSITORIES

You are probably familiar with the search engine, Google, the worldwide search engine that reads, ranks, and lists pages from all over the world in many languages and indexes billions of pages every day.⁵ But when possible, it is also helpful to use a discipline-specific index, such as *Agris*. Finally, there are a number of

⁴ Several US universities have Internet evaluation checklists. This is a link to one from the University of North Carolina--
<http://www.lib.unc.edu/instruct/evaluate/web/checklist.html>.

⁵ Beyond its global page (www.google.com), Google also has a presence in some African countries. There is a Kenyan Google, for example at <http://www.google.co.ke/>, which will return results in Kiswahili. There is also a page for Uganda: <http://www.google.co.ug/>, which can translate into five languages: Luganda, Kiswahili, Ikinyarwanda, Luo, and Runyakitara, as well as one for Ethiopia <http://www.google.com.et/>, with language facility in Amharic, English, Somali, Oromo, and Afaan. This means that Google global has the capacity to pull up results from around the continent because these national pages feed into the billions of records that Google maintains in its database.

repositories pertinent to AgShare—most notably *AgEcon Search* in the agricultural sciences and *Eldis* for the social sciences and development. Below, in alphabetical order, are brief descriptions of the major avenues I explored in order to find resources for AgShare.

AgEcon Search

<http://ageconsearch.umn.edu/>

AgEcon Search, which is hosted by the University of Minnesota Department of Agricultural Economics, is a free, open access repository of full-text scholarly literature in agricultural and applied economics. It includes working papers, conference papers, and journal articles, and now contains over 40,000 documents. It is *almost* a one-stop shop for CMAAE, for almost every major institution with a strong agricultural economics program is a member. Even though AgEcon Search itself is an “open access repository,” the resources contained within it are copyrighted by the author or by the publisher. Some of them permit reproduction and distribution for scholarly purposes without requesting permission as long as the resource copyright statement is used. Others do not. I have given the copyright status for each resource.

The AgEcon Search search engine, which is similar to Google, is very powerful and user-friendly. There are also excellent tips for searching more effectively. When conducting searches, the results page lists the most recent publications first. A simple search, using the keywords “market organization” resulted in over 1,500 hits, far too many to scroll through. But when I added Africa to the mix, I pulled up 69 hits, a far more manageable number. Several of them looked relevant. One, in particular, might be pertinent to more than one topic: Although AgEcon Search covers Africa very well, it does so primarily by drawing on repositories and resources located *outside* of Africa rather than from *within* the Continent. There are no African universities, journals, or research centers that are current members. The African Association of Agricultural Economists is a member, and has begun to contribute again. AgShare member universities and individual faculty should consider joining AgEcon Search. It would enhance the visibility of Africa and would improve the visibility of the institutions and researchers who contribute papers. Membership and submission instructions will be found on the AgEcon Search Website.

SEARCH RESULTS

SEARCH: All of AgEcon Search
 for (keyword:market keyword:organization keyword:africa) Search

Results 1-10 of 69. Page: 1 2 3 4 5 6 7 next

ITEM HITS:

Date	Title	Author	View/Download
3-May-2010	From "May Contain" to "Does Contain": The price and trade effects of strict information requirements for GM maize under the Cartagena Protocol on Biosafety	Bouet, Antoine; Gruere, Guillaume; Leroy, Laetitia	PDF (545 KB)
Jan-2010	Are Staple Food Markets in Africa Efficient? Spatial Price Analyses and Beyond	Rashid, Shahidur; Minot, Nicholas	PDF (383 KB)
Jan-2010	Staple food prices in Kenya	Anga, Joshua; Jayne, T.S.; Njuki, Stephen	PDF (651 KB)
Jan-2010	Variation in Staple Food Prices in Eastern and Southern Africa: A Synthesis	-	PDF (485 KB)

Title: Are Staple Food Markets in Africa Efficient? Spatial Price Analyses and Beyond

Authors: Rashid, Shahidur; Minot, Nicholas

Keywords: Sub saharan Africa; food security; food prices; markets; efficiency

JEL Codes: q11; q13; q18; q17

Issue Date: 2010-01

Series/Report no.: aamp

Abstract: The main objective of this paper is to examine whether the staple food markets in Africa are efficient. It does so by outlining a conceptual framework for understanding spatial food price variation, summarizing the results from existing studies in market integration in sub-Saharan Africa, and providing evidence from recently conducted surveys on the determinants of market efficiency. The paper is organized following this sequence and concludes with a summary and policy implications.

Notes: Paper to be presented at the Comesa policy seminar "Food price variability: Causes, consequences, and policy options" on 25-26 January 2010 in Maputo, Mozambique under the Comesa-MSU-IFPRI African Agricultural Markets Project (AAMP)

URI: <http://purl.umn.edu/58562>

Institution/Association: Michigan State University>Department of Agricultural, Food, and Resource Economics>Food Security Collaborative Working Papers

Total Pages: 35

Collections: Food Security Collaborative Working Papers

Citation contains entire abstract and link to full text.

AGRIS

<http://agris.fao.org/>

AGRIS is the FAO International information system for the agricultural sciences and technology, which was established in 1975. The AGRIS open archives and bibliographical databases cover the many aspects of agriculture, including forestry, animal husbandry, aquatic sciences and fisheries, human nutrition, and extension literature from over 100 participating countries, primarily in the developing world. Material includes unique grey

literature such as unpublished scientific and technical reports, theses, conference papers, government publications, and more. I did not use AGRIS in compiling any of the resource guides because AGRIS is, for the most part, a bibliographic database and rarely includes links to the full text—even when it is available. AGRIS is helpful, however, for users conducting a very targeted literature review with the aim of pulling up as much gray literature as possible. A second caveat pertains to coverage—each participating country assigns indexing on a national basis to one institution. Some national centers are more active than others, which means that coverage on a national basis is uneven.

ELDIS

<http://www.eldis.org/>

ELDIS, which is maintained by the Institute of Development Studies of the University of Sussex, supports the documentation, exchange, and use of evidence-based development knowledge. ELDIS holds all-rights-reserved-copyright to all resources, except where otherwise indicated.

You can search by topic, of which agriculture is one. Within the agriculture page, it is possible to narrow your inquiry by sub-topic. As an example, in preparation for a workshop at Haramaya University, I saw that “communication, training and education” is a topic within agriculture.”

When I clicked on this topic, I found a resource that might be useful for topic 14 of the AICM course on agricultural extension. Although in many instances it is better to search by keyword rather than browse, ELDIS might be an exception to this rule because after several experiments, I concluded that the search engine is not very good. Although time consuming, quickly browsing through the annotated list of “latest additions” for each subtopic will not be wasted time, if bandwidth constraints and finances permit.

Agriculture
Agricultural biodiversity
Agricultural credit
Agriculture for development
Agricultural markets
Agricultural statistics
Agroforestry
Communication and extension
Fisheries
Gender roles in agric
Insti
prod
land
Land
Past
Tech
inno
Urba
agric

Communication, training and extension

Latest Additions

Participatory farming management methods and their uses:
 (P. Dorward;D. Shepherd;M. Galpin / Food and Agriculture Organization of the United Nations , 2007)

Central to the use of Participatory Farming Management (PFM) methods is the understanding that the farmer is the decision maker and that he or she takes the risks associated with change, not the ad...

ELDIS is particularly useful for topics in agriculture that are directly related to development issues.

FAO

www.fao.org

Although powered by Google, the FAO search engine is not necessarily the best way to identify resources within the FAO website because it is so large and does not permit advanced searches. A search on “agricultural markets,” returned more than 100 citations, but not a link to the page where many publications in agricultural and food marketing will be found. I identified this page through a Google search. The same is true for resources that I located for the AICM course. Thus, although the FAO website is rich in relevant resources, they are not easily identified when one searches the site itself. Use the accompanying resource guide to identify the best FAO materials or carry out your own Google searches.

Google

www.google.com

Google is now the search engine most of us use. It is now even more helpful to academics and students because Google indexes books, journals, and some of the major indices, although not all of them.

gender agricultural extension Ethiopia Search

About 41,700 results (0.21 seconds) Advanced search

Search English pages X

[Agricultural extension in Ethiopia through a gender and governance ...](#)
Agricultural extension in Ethiopia through a **gender** and governance lens. Drawing on a household survey collected in eight woredas in seven **Ethiopian** regions ...
www.ifpri.org/.../agricultural-extension-ethiopia-through-gender-and-governance-lens -
 Cached

[\[PDF\] Gender and Governance in Agricultural Extension Services: Insights ...](#)
 File Format: PDF/Adobe Acrobat - [Quick View](#)
Ethiopia india ghana. Male. Female. 30%. 25%. 20%. 15%. 10%. 5%. 0%. Access to **Agricultural Extension**. Services by **gender** ...
siteresources.worldbank.org/INTARD/.../WB_AR_D_GandG_Note53_web.pdf

[Agricultural extension in Ethiopia through a gender and governance ...](#)
 6 Apr 2010 ... Drawing on a household survey collected in eight woredas in seven **Ethiopian** regions in 2009, as well as on qualitative fieldwork in four of ...
humanitariannews.org/.../agricultural-extension-ethiopia-through-gender-governance-lens -
 Cached

[Capacity building for gender-sensitive agricultural extension ...](#)
 ... building for **gender-sensitive agricultural extension** planning in **Ethiopia** ... and **gender** analysis to ensure more client-oriented extension planning. ...
www.informaworld.com/.../content-db=all-content=a790945439~frm=absiink

[Capacity building for gender-sensitive agricultural extension ...](#)
 by R Percy - 2000 - Cited by 3 - [Related articles](#)
 building and mainstreaming of **gender** in **agricultural extension** planning. The outcomes of the process amongst the rural clients, **Ethiopia's** ...
www.informaworld.com/index/790945439.pdf - [Similar](#)

But, as indicated earlier, Google is enormous; it trolls through millions of pages on a regular basis.

When I searched on “gender+extension+Africa,” for example, Google returned over 200,000 citations, but I only scrolled through the first few pages. I narrowed down my search by doing two things—first I performed an exact phrase search by inserting quotation marks around the keywords. Second I added another term to my search strategy. It is also possible to sort by date by clicking on “Latest” on the far left of the screen, although I did not do this in this instance.

Thus, when I searched for “gender+extension+Ethiopia,” Google returned a mere 44,000 citations, some of which I incorporated in the AICM resource document. Although I could only scan about five pages of citations, I knew that Google lists its findings in a ranked order. I therefore assumed

that the most relevant resources would be listed first. Remember—when you use large search engines, such as Google, be as specific as possible.

Google Scholar
<http://scholar.google.com/>

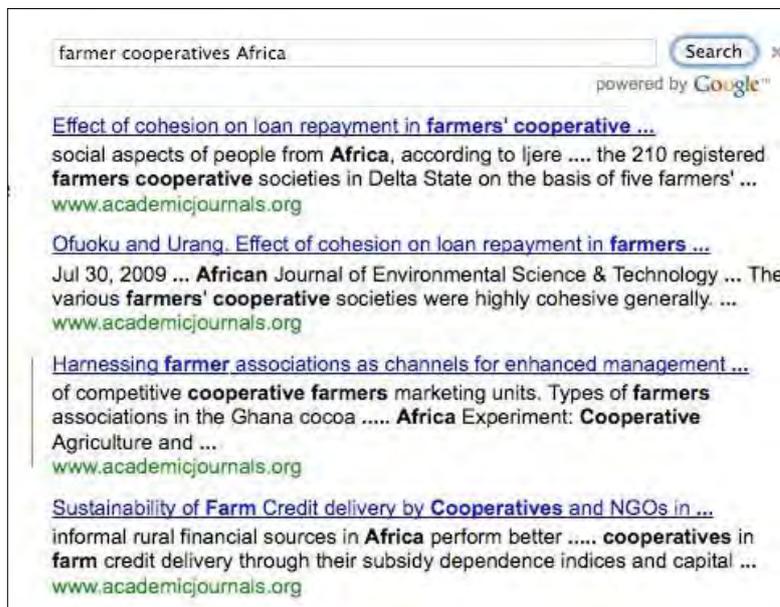
Google Scholar focuses on scholarly literature only. It indexes journal literature, theses, books, and abstracts published by academic publishers, professional societies, online repositories, universities, indexing and abstracting services, and other websites. Google Scholar ranks documents by taking into consideration the document’s full text, where it was published, who wrote it, and how often it was cited. Although some citations are included in both Google and Google Scholar, not all of them are. Moreover, Google Scholar will tell you how often a work is cited, by whom, the date of publication, and where it was published. It is sometimes useful to search both databases.

JOURNALS

Two journal repositories are listed below, both of which concentrate on journals from Africa, African authors, and topics of relevance to Africa. This is important, for if one looks for African agriculture in three of the top US agricultural journals—*Soil Science*, *Crop Science*, and *Agronomy Journal*—one is hard put to identify African authors. When I conducted a fast search a year ago in the keyword “Africa” from January 2004 through September 2009, I only pulled up 60 articles, of which approximately 22 listed an African as a principal author. There are a number of reasons to account for this paucity in numbers, including the localized nature of the research being reported, lack of submissions, and the quality of submissions. This is not to say that good research is not carried out in Africa; this resource guides attests to the contrary. But little of that research, much of it excellent, is reaching much of the journal literature. This is why it is important to look for quality African journals and other content providers, where possible.

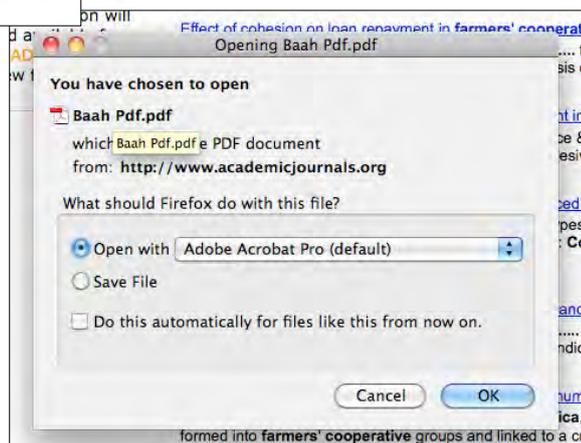
Academic Journals

<http://www.academicjournals.org/>



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When you click on any of the titles in the search screen, you will be prompted to open the document, which is almost always in PDF format. Because the journals published by Academic Publishers are both excellent and Open Access, we encourage AgShare participants to use these journals in their courses, whenever relevant, *and* to consider publishing in them.



African Journals Online

<http://ajol.info/>

African Journals Online (AJOL) is the world's largest collection of African peer reviewed scholarly literature. More than 400 journals are included in the AJOL collection, of them 44 are in the agricultural sciences and another 16 in economics and development. Not every journal maintains an active publication schedule, however. The most recent issue of a few journals on the site is 2009, for example. And some journals have ceased publishing altogether. Even so, a visit to AJOL is worthwhile.

CMAAE Resources

The Collaborative Masters Program in Agricultural and Applied Economics in Eastern, Central and Southern Africa (CMAAE) is a consortium of 15 universities in 12 African countries. CMAAE students have the option of specialized study in agriculture and rural development, agricultural policy and trade, agribusiness management, and environment and natural resource management.⁶

Two CMAAE universities are participating in AgShare—Haramaya University in Ethiopia and Moi University in Kenya. They selected an elective course on “agricultural marketing and price analysis” as the one on which they would produce OER modules. Haramaya University decided to approach this course through a case study on coffee; Moi University selected maize.

At the outset, I compiled a general resource guide for this course. Faculty at both universities reviewed this document, selected the materials that they thought most relevant to the modules they were designing, and requested additional materials. This chapter is divided into three sections—in the first you will find the general or umbrella guide; the second contains the additional resources requested by Haramaya University; and the third Moi University’s specific resources. Because I had the full course curriculum, I was able to subdivide readings by topic covered.

Ethiopian Coffee Network

HOME ABOUT THE INITIATIVE LICENSING FAQ'S IN THE MEDIA CONTACTS & SOURCES

Welcome to the website of the Ethiopian Coffee Trademarking and Licensing Initiative

This website is intended to be a resource for all who want to learn about our trademarking and licensing initiative: its goals, activities and progress.

Dear Prospective Partner,

Thank you for your interest in the Ethiopian Coffee Trademarking and Licensing Initiative. We have created our dedicated website.

The aim of this initiative is to build a new form of partnerships worldwide that sell our finest coffees - Sidamo, Yirgacheffe. These exporters have had few opportunities to work directly with the market. We have created an innovative new platform for dialogue and cooperation in marketing, management and promotions. We firmly believe that working with us will create value of Ethiopian fine coffee brands and benefit the whole coffee chain from the consumer.

Ethiopia Coffee Network
www.ethiopiancoffeenetwork.com/

Kenya Agricultural Commodities Exchange
<http://www.kacekenya.co.ke/>

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Kenya Agricultural Commodity Exchange Ltd. (KACE)

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The Kenya Agricultural Commodity Exchange Ltd.

The Kenya Agricultural Commodity Exchange Limited (KACE) is a private sector firm launched in Kenya in 1997 to facilitate competitive and efficient trade in agricultural commodities, provide reliable and timely marketing information and intelligence, provide a transparent and competitive market price discovery mechanism and harness and apply information and communication technologies (ICTs) for facilitating trade and information access and use, initially in Kenya but to scale out to the East African Community subsequently. KACE is a limited liability company with a Board of Directors which manages its operations in accordance with its established Rules and Regulations.

⁶ Go to www.agricultureconomics.net for more information about CMAAE.

CMAAE Resources: Umbrella Document

LECTURE MATERIALS

NOTE: Many of the course materials described below are from US universities and may be US-centric.

Agricultural Markets and Prices (University of Idaho)
<http://courses.cals.uidaho.edu/aers/agecon289/Index.htm>
Received approval to review for use in course

Joe Guenther in the Department of Agricultural Economics and Rural Sociology teaches this course, which focuses on economics of agricultural markets and pricing institutions; analysis of supply, demand, elasticity, future markets; and institutional arrangements in food marketing. Although it may be too US-centric, the syllabus, class notes, marketing games, and assignments are available from this website.

International Trade and Finance (University of Nebraska, Lincoln)
www.agecon.unl.edu/Undergraduates/syllabi/co420.09.pdf
No licensing information available

The purpose of this course, which is taught by Wes Peterson is to introduce students to some of the basic concepts of international trade and finance as applied to trade in food and agricultural products. There are four components: brief overview of trade theory; the Effects of government intervention in international agricultural markets; current issues in international agricultural trade; and international finance. Only the syllabus is available online, but it is very detailed and contains some links to websites that are used for the course, including two open access economics textbooks published by Flat World Knowledge: *International Trade Theory and Policy Analysis* and *International Finance Theory and Policy Analysis*.

Market Assessment and Analysis
http://www.foodsec.org/DL/dlcourselist_en.asp
Free, but you must register. This is not an OER.

This is one of several short courses produced by FAO on food security information for decision-making. It is available online and CD-ROM. The course is meant to illustrate how markets operate and how they relate to, and affect, food security and vulnerable households. It describes market components and how they function, and introduces some of the methods and indicators used to assess markets for improving food security analysis. The course is meant to take two hours to complete; there are copious learner notes for each module.

STUDENT READINGS

Student Readings by Topic

Because I could not find any freely available or open access textbooks other than the one used by Wes Peterson, I tried to identify a few relevant readings, subdivided by topic. It is possible that the readings for topic five will also be suitable for topic one and *vice-versa*.

Topic One: Economic Role of Prices and Approaches to the Study of Agricultural Market Organization, Conduct, and Performance

- **Are Staple Food Markets in Africa Efficient? Spatial Price Analyses and Beyond**, Shahidur Rashid and Nicholas Minot, with assistance from Solomon Lemma and Befekadu Behute, paper prepared for COMESA Policy Seminar on “food price variability: causes, consequences, and policy options, January 2010
<http://ageconsearch.umn.edu/handle/58562>
AgEcon Search. Copyright held by author

From the introduction: The main objective of this paper is to examine whether the staple food markets in Africa are efficient. It does so by outlining a conceptual framework for understanding spatial food price

variation, summarizing the results from existing studies in market integration in sub-Saharan Africa, and providing evidence from recently conducted surveys on the determinants of market efficiency. The paper is organized following this sequence and concludes with a summary and policy implications.”

- **Distortions to Agricultural Incentives in Africa**, Kym Anderson and William A. Masters, World Bank Working Paper, December 2007
http://siteresources.worldbank.org/INTTRADERESEARHC/Resources/544824-1146153362267/Africa_overview_0708.pdf
Freely available; copyright held by World Bank, with permission to use in AgShare.

From the introduction: “This volume summarizes a set of case studies measuring distortions within and across countries over time. It is part of a global research project seeking to improve our understanding of agricultural policy interventions and reforms in Asia, Europe’s transition economies, and Latin America and the Caribbean as well as Africa.”

- **Effects of Government Maize Marketing Trade Policies on Maize Market Prices in Kenya**, Jayne, Thomas, Meyers, Robert, Nyoro, James, Tegemeo Institute of Agricultural Policy and Development, Working Paper, February 11, 2005
<http://www.tegemeo.org/viewdocument.asp?ID=100>
Freely available, but copyright held by Tegemeo Institute.

Abstract: “The objectives of this paper are to determine the effects of NCPB maize trading activity and the maize import tariff on wholesale maize market price levels and volatility. The analysis uses monthly maize price and trade data covering the period January 1990 to September 2004. Results are based on a vector autoregression (VAR) approach that allows estimation of a counterfactual set of maize prices that would have occurred over the 1990-2004 period had the NCPB not existed and trade restrictions been removed. We assess the separate impacts of policy on wholesale prices in Kitale, a major surplus-producing area, and Nairobi, the major urban demand center in the country. Results indicate that the NCPB’s activities have indeed had a marked impact on both maize price levels and volatility, but the direction of the effect differed by period. During the 1993/94 drought period, for example, the NCPB appears to have reduced market prices through selling maize at steep discounts to the market. By contrast, since the 1995/96 season, the NCPB’s operations have raised wholesale maize price levels in Kitale and Nairobi by 16.4 and 15.7 percent, respectively, implying a transfer of income from maize purchasing rural and urban households to relatively large farmers. The NCPB’s activities have also reduced the standard deviation and coefficient of variation of prices as well, consistent with its stated mandate of price stabilization. Whether or not this reduction in price instability has introduced greater or lesser price risk for farmers cannot be inferred from this analysis and is the subject of further research.”

- **Policy Issues in the Structure, , Conduct and Performance of Banana Market in Anambra State, Nigeria**, DO Enibe, SA Chidebelu, EA Onwubuya, C Agbo, AA Mbah, *Journal of Agricultural Extension*, Nigerian Association of Agricultural Extension, December 2008
<http://ajol.info/index.php/jae/article/view/47048>
This is an open access journal. The journal’s open access statement is as follows: “This journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge.”

This study describes the structure, conduct and performance of the banana market in Anambra State Nigeria. Specific objectives are to describe the structure of the banana market; analyze the conduct of the banana market; determine banana market performance; and examine the major problems of banana marketing in the area. One hundred and twenty respondents spread over six major urban centers in the State and their concomitant major markets were randomly selected for interviews. Descriptive statistics, Gini coefficient measure and the price-spread analysis were used to analyze data.

- **Technical Efficiency and Regional Market Integration of Cross-Border Bean Marketing in Western Kenya and Eastern Uganda**, L. W. Mauyo, J. R. Okalebo, R. A. Kirkby, R. Buruchara, M. Ugen, C.T. Mengist, V.E., Anjichi and R.O. Musebe, full-length research paper in *African Journal of Business Management*, July 2007
<http://www.academicjournals.org/AJBM/contents/2007cont/Jul.htm>
Open Access journal. Creative Commons license

From the abstract: “This study was conducted to assess the status of cross-border bean marketing patterns in the border districts of Kenya and Uganda. Common bean (*Phaseolus vulgaris* L.) is an important legume crop in East and Central Africa, providing protein, calories and cash income for rural households. Smallholder farmers in Kenya and Uganda have adopted improved bean varieties. However, the demand for common bean in Kenyan market far outstrips local supply and the country is a net importer from Uganda and Tanzania. In the recent years, Kenya’s bean production has been declining mainly due to bad weather conditions and poor pricing policies. An efficient bean marketing system enhances food security. The objectives of this study were to assess the technical efficiency in terms of marketing margins and assess the regional market integration in the bean marketing system.”

Topic Two: Theoretical Models of Market Structure and Performance

- **Game Theory**, Wikipedia, last modified 9 July 2010
http://en.wikipedia.org/wiki/Game_theory
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This is a good explanation of different disciplines to which game theory applies.

- **Governance, Coordination and Distribution along Commodity Value Chains**, proceedings from an FAO workshop, 2007
<http://www.fao.org/docrep/010/a1171e/a1171e00.htm>
Freely available but copyright held by FAO. FAO encourages the reproduction and dissemination of material published on its Website. Noncommercial use is authorized free of charge, upon request to FAO. Accordingly, AgShare requested and received FAO permission for reproduction and dissemination of this resource.

The objective of the workshop was to explore the issues arising from the changing structure of the various commodity chains, and to guide the future work of the Trade and Markets Division in this area. The full text of the proceedings is available from the URL above, as is the text of individual chapters. Two chapters stand out as particularly useful—the one on “Conceptual Issues of Market Structure in Agricultural Commodity Value Chains” and the one on “institutional and structural issues in commodity markets.” There is also a chapter on farmers and commodity development, which might be useful for topics one or five.

- **Market Structures**, Wikipedia, last modified 20 June 2010.
http://en.wikipedia.org/wiki/Market_structure
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This is a good explanation of the different types of market structures, with links to relevant pages in Wikipedia and elsewhere.

- **Producer Price and Price Transmission in a Deregulated Ethiopian Coffee Market**, Worako, T.K., van Schalkwyk, H.D., Alemu, Z.G., Ayele, G. *Agrekon* (published by the Agricultural Economics Association of South Africa), December 2008
<http://ageconsearch.umn.edu/handle/47658>
From AgEcon Search. Copyright held by author.

Abstract: “Coffee producers in Ethiopia have historically received a very small share of the export price of green coffee. Reasons that are often mentioned are heavy government intervention and high marketing and processing costs. Prior to 1992, government regulation of the domestic coffee market in the form of fixed

producer prices and the monopoly power of the Ethiopian Coffee Marketing Corporation put a substantial wedge between the producer price and the world price of coffee by imposing an implicit tax on producers. The domestic coffee marketing system in Ethiopia was liberalised after 1992, which was envisaged to have a positive effect on producer prices and price transmission signals from world markets to producers. This paper, with the help of Cointegration and Error-Correction Model (ECM), attempts to analyse its impact. As findings indicate, the reforms induced stronger long-run relationships among grower, wholesaler and exporter prices. The estimation of the ECM shows that the short-run transmission of price signals from world to domestic markets has improved, but has remained weak in both auction-to-world and producer-to-auction markets. This might be explained by the weak institutional arrangement coordinating the domestic coffee system and contract enforcement. In general, the domestic price adjusts more rapidly to world price changes today than it did prior to the reforms. However, there is an indication that negative price changes transmit much faster than positive ones.”

- **Testing for Oligopoly Power in the Kenyan Seed Maize Processing Industry**, Jonathan M. Nzuma, Contributed paper to 2006 annual meeting of the International Association of Agricultural Economists <http://ageconsearch.umn.edu/handle/25591>
From AgEcon Search. Copyright held by author

Abstract: “In the recent past, the concentration of seed maize processing and marketing in Kenya has raised serious public concerns. The inability of this industry to ensure affordable prices of certified seed maize for the farming community has led policy makers to question its market behaviour. In spite of these concerns, the performance of agricultural markets in Kenya has received little attention. This study evaluates the market conduct of the industry using the New Empirical Institutional Organization framework and tests the hypothesis of price taking behaviour. A system of five equations was used to estimate conjectural variations elasticity while a Lerner index was constructed to measure market power using data from Kenya’s Central Bureau of Statistics. The estimated average conjectural variations elasticity of 0.702 was significantly different from zero and therefore the hypothesis of price taking was rejected. The degree of market power as measured by the difference between price and marginal cost was estimated at 0.450. In general, the estimated own price demand relationships conformed to economic theory except in the case of labour and capital where unexpected positive own price relationships were reported. The estimated conjectural elasticity and Lerner index indicated that the sector was anticompetitive in the period under analysis. These findings give compelling evidence to conclude that the assumption of price-taking behaviour is inappropriate for the seed maize processing industry in Kenya.”

Topic Three: Spatial and Intertemporal Market Linkages

- **Cobweb Theory - Market Failure in Agricultural Markets**, YouTube, <http://www.youtube.com/watch?v=1vixHc37DII>
A short video by an economics teaching illustrating the cobweb theory.
- **Crop Storage Efficiency and Market Competitiveness: Case of Groundnut and Cowpea in Ghana**, Bediako J. A, Chianu J. N, and Dadson J. A, full-length research paper in *African Journal of Marketing Management*, June 2009
<http://www.academicjournals.org/ajmm/Content/2009cont/Jun.htm>
Open Access journal. Creative Commons license.

From the abstract: “Using groundnut (*Arachis hypogea*) and cowpea (*Vigna unguiculata*), this study empirically demonstrated the correlation between crop storage and economic competitiveness of producers, captured from the degree of market integration and producer shares of the prices paid by consumers, among others. Secondary data covering 1963–1997 were used and complemented with primary data.” There is a discussion of “spatial market association” on pages 82–83.

- **Spatial and Regional Dimensions of Food Security in Zambia**, Haggblade, Steven, Longabaugh, Steven, Tschirley, David, L., Ministry of Agriculture and Cooperatives, Agricultural Consultative Forum and Michigan State University, January 2010
<http://purl.umn.edu/58544>
From AgEcon Search. Copyright held by author.

Abstract: “Zambia’s population clusters tightly in cities along the north-south line of rail and in the primarily rural areas of Eastern Province (Figure 1). Staple food consumption and purchases are similarly concentrated in these heavily populated clusters (Figures 4 and 5). Across the border, several high-density population centers lie close to the Zambian border — in the copperbelt cities of southern DRC, in the highlands of southern Tanzania, in Malawi and in Zimbabwe (Figure 2). This results in sizeable potential food markets for Zambian farmers across the border in southern DRC and, intermittently, in Zimbabwe and Malawi. Zambia’s staple food production and sales likewise cluster spatially in three main areas: along the line of rail, in the large commercial farming blocks of north-central Zambia, and to a lesser extent in Eastern Province (Figure 6). This spatial clustering offers opportunities for Zambia to benefit from regional trade in food staples. In normal and good harvest years, significant export potential exists in matching the large cereal-producing blocks in north-central Zambia with the nearby copperbelt cities of both Zambia and DRC. Conversely, in years of domestic shortfall, significant import supplies may be available from cross-border farmers and traders in southern Tanzania, northern Mozambique and, in time, Zimbabwe. If Zambian farmers are to invest in the productive capacity necessary to serve these external markets, they will require consistent and predictable trade policies. Figure 1.”

- **Spatial Patterns of Food Staple Production and Marketing in South East Africa: Implications for Trade Policy and Emergency Response**, Haggblade, Steven, Longabaugh, Steven, and Tschirley, David, Michigan State University, International Development Working Paper, September 2009
<http://purl.umn.edu/54553>
From AgEcon Search. Copyright held by author.

Abstract: “This paper aims to develop and test methods for spatial mapping of population, food production, consumption, and marketed quantities in Africa. As an initial, exploratory exercise, the paper examines the spatial pattern of population, food production, consumption, and trade in the three countries of Zambia, Malawi and Mozambique. This largely descriptive initial work will lay the empirical foundations for future analytical work modeling regional trade flows of food staples. By mapping population, food production, and trade flows, the paper aims to help policy makers better understand and anticipate spatial interactions in staple food markets. Through visual presentation of market information, these spatial mapping tools offer prospects for animating an ongoing dialogue among public and private stakeholders on key market flows, key bottlenecks, and key opportunities for improving food security in good and bad harvest years.”

- **Transaction Cost Analysis** for Uganda, prepared for the Ugandan Plan for the Modernization of Agriculture, under the auspices of Foodnet, May 2002
www.foodnet.cgiar.org/Projects/Trans_Cost_Study_Ug.pdf
Freely available, but not open access

This analysis covers agricultural transaction costs in general and those of major commodities, including, coffee, maize, cotton, and fish.

Topic Four: Horizontal and Vertical Integration of Agricultural Industries

- **Globalization, Privatization, and Vertical Coordination in Food Value Chains in Developing and Transition Countries**, Johan F.M. Swinnen and Miet Martens, paper prepared for August 2006 conference of the International Association of Agricultural Economists
<http://ageconsearch.umn.edu/bitstream/25626/1/pl06sw01.pdf>
From AgEcon Search. Copyright statement reads as follows: “Readers may make verbatim copies of this document for non commercial purposes by any means, provided that this copyright notice appears on all such copies.”

Abstract: “Food and agricultural commodity value chains in developing and transition countries have undergone tremendous changes in the past decades. Companies and property rights have been privatized, markets liberalized, and economies integrated into global food systems. The liberalization and privatization

initially caused the collapse of state controlled vertical integration. More recently, private vertical coordination systems have emerged and are growing rapidly as a response to consumer demand for food quality and safety on the one hand and the farms' production constraints caused by factor market imperfections. In this paper we (a) demonstrate the importance of these changes, (b) discuss the implications for efficiency and equity and (c) provide empirical evidence on the effects in several developing and transition countries.”

- **Horizontal Integration**, Wikipedia, last modified June 24, 2010
http://en.wikipedia.org/wiki/Horizontal_integration
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This is a definition of the meaning of horizontal integration in economics. Note that additional citations are desirable. There is also a definition of vertical integration at the following URL, with the same note about citations: http://en.wikipedia.org/wiki/Vertical_integration

- **Improving Vertical Coordination of Agricultural Industries through Supply Chain Management**, Ricks, Donald. J., Woods, Timothy, Sterns, James, MSU paper, 1999
<http://purl.umn.edu/11513>
From AgEcon Search. Copyright statement includes the following: “Readers may make verbatim copies of this documents for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

Abstract: “Supply chain management is an important topic related to improving efficiency, vertical coordination, overall performance and competitiveness in food industries. Considerable attention has been given to supply chain management as an approach for improving vertical coordination and market performance in both the trade literature and by food economists. Much of this has been primarily from the perspective of grocery retailer-wholesalers, food manufacturers and their suppliers. Supply chain management is also very relevant, with substantial opportunities for improved efficiency and performance, if the perspective is from an agricultural commodity industry. The goal for a commodity industry in this regard is to find ways to enhance their responsiveness to their customers, and ultimately their competitiveness. This can be accomplished when two or more vertical segments together pursue innovative approaches to doing business with emphasis on the vertical linkages that mutually benefit all parties.

Topic Five: Market Organizational Forms Unique to Agriculture

- **Harnessing Farmer Associations as Channels for Enhanced Management of Cocoa Holdings in Ghana**
Francis Baah, full-length research paper in *Scientific Research and Essay*, September 2008
<http://www.academicjournals.org/SRE/contents/2008content/Sep.htm>
Open-Access journal. Creative Commons license

From the abstract: “Cocoa remains the mainstay of the Ghanaian economy, accounting for 40% of agricultural exports and 12% of gross domestic product (GDP) and is the main source of livelihood of over 400,000 farm-families. Whilst productivity has picked up in 2000, it remains low compared to Ghana’s competitors such as Cote d’Ivoire and Brazil. The low productivity is attributed to a myriad of constraints including low producer prices and poor extension support. To evaluate the potential use of farmer organizations to strengthen existing extension efforts, this study using informal survey methods, identified and evaluated farmers’ associations in the cocoa sector with the objective of assessing their possible integration into the cocoa extension delivery system.”

- **Correlates of group-membership by small-scale farm entrepreneurs in Kenya**, Isaac K. Ngugi* and Daniel K. Kariuki, *African Journal of Business Management*, January 2009
<http://www.academicjournals.org/AJBM/contents/2009cont/Jan.htm>
This is an open-access journal. Creative Commons license

From the abstract: “Organizations of small-scale farm entrepreneurs play a key role in organizing the production, processing and marketing of crop and livestock commodities in Kenya. Membership to such organizations is considered to yield economic benefits to farmers as well as promote their general welfare.

This study assesses the association between membership to groups and household attributes or welfare indicators using 1097 households drawn from panel database of Tegemeo Institute of Egerton University. The households that had members joining the groups were characterised by higher incomes, higher education level of head of household, greater access to credit, assets of higher value, more cultivated land and higher adoption of modern agricultural technologies. There was a positive correlation between membership to a group and household welfare. This underscores the need to promote formation of smallholder farmers' organizations as well as support their sustainability."

- In April 2009, the UN Division of Social Policy and Development convened an expert group meeting on **Cooperatives in a World Crisis**. Go to <http://www.un.org/esa/socdev/social/meetings/egm7/index.html> for the meeting website, where you will find a list of participants and background papers. Some of them could possibly be used as course readings for this topic. One in particular—**Agricultural Co-Operatives: Role in Food Security and Rural Development**, by Suleman Adam Cahmbu, Principal, Moshi University College of Co-operative and Business Studies in Tanzania, describes and assesses the role of cooperatives within the African context. All of these materials are freely available, but there is no licensing information given.
- **Rural Institutions and Producer Organizations in Imperfect Markets: Experiences from Producer Marketing Groups in Semi-Arid Eastern Kenya**, Bekele Shiferaw, Gideon Obare, and Geoffrey Muricho, CGIAR Research Workshop on Collective Action and Market Access for Smallholders, October 2006 www.icrisat.org/journal/mpii/v2i1/v2i1rural.pdf

There are two versions of this work. One appears in the ICRISAT Open Access journal, which carries a **Creative Commons license**. The second is the full CGIAR report, which is freely available online, but IFPRI holds the copyright. From the abstract: "Many countries in sub-Saharan Africa have liberalized markets to improve efficiency and enhance market linkages for smallholder farmers. The expected positive response by the private sector in areas with limited market infrastructure has however been disappointing. The functioning of markets is constrained by high transaction costs and coordination problems along the production-to-consumption value chain. New kinds of institutional arrangements are needed to reduce these costs and fill the vacuum left when governments withdrew from markets in the era of structural adjustments. One of these institutional innovations has been the strengthening of producer organizations and formation of collective marketing groups as instruments to remedy pervasive market failures in rural economies. The analysis presented here with a case study from eastern Kenya has shown that while collective action – embodied in Producer Marketing Groups (PMGs) – is feasible and useful, external shocks and structural constraints that limit the volume of trade and access to capital and information require investments in complementary institutions and coordination mechanisms to exploit scale economies."

- **Small-scale farmers in South Africa: Can agricultural cooperatives facilitate access to input and product markets?** Gerald F. Ortmann and Robert P. King, a staff paper written for the Department of Applied Economics, College of Agricultural, Food, and Environmental Sciences, University of Minnesota, January 2006. <http://purl.umn.edu/13930>
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From the summary: "Small-scale (communal) farmers in South Africa have limited access to factors of production, credit and information, and markets are often constrained by inadequate property rights and high transaction costs. The objective of this research is to investigate whether agricultural cooperatives - considered by the South African (SA) government as organizations that could help promote community and economic development - can facilitate smallholder access to input and product markets that could enhance their development."

OTHER READINGS

Agricultural Marketing in Ethiopia: The Case of Arrero, Goro and Dehana Districts

Bezabih Emana, Dan Church Aid, 98 pages, 2008

<http://abbaymedia.com/News/?p=1022>

Full text freely available, but copyright held by Dan Church Aid.

The price of agricultural products in general and that of food grains in particular has been increasing at a rate that has never been seen before. It is also a paradox to observe the grain price hikes where at the same time the production (supply) is simultaneously increased (as reported by the government). This price increase affects the livelihood of the urban and rural population. The effect of the price increase can negatively affect the effectiveness of the food security programs in the DCA operational areas. It was with this understanding that DCA decided to conduct this agricultural marketing research with the aim of identifying the contributing factors for price escalation of agricultural produce especially of food grains and its effects on the living conditions of the people living in DCA's intervention areas as well as the possible measures to be taken to improve the situations.

Agricultural Commodities, Trade, and Sustainable Development, edited by Thomas Lines, International Institute for Environment and Development, 270 pages, 2005

<http://www.iied.org/pubs/display.php?o=16500IIED>

Full text freely available, but copyright held by IIED.

The crisis in agricultural commodities is closely linked to issues of poverty and environmental degradation. Dealing with entrenched rural poverty and major impacts from agriculture on ecosystem viability requires a new look at how commodity markets succeed or fail. There is a need for better understanding of how commodity markets work and how policy makers and businesses can intervene to introduce fairness, justice and sustainability into these markets. This challenging context provides the background for this book, which brings together an edited selection of papers prepared for two strategic dialogues on commodities, trade and sustainable development, jointly convened by IIED and the ICTSD. There is a chapter on export commodities, including coffee.

Price Transmission and Adjustment in the Ethiopian Coffee Market, Alemu, Zerihun Gudeta Worako, and Tadesse Kumma, paper presented at the 2009 conference of the International Association of Agricultural Economicists

<http://ageconsearch.umn.edu/handle/51085>

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Abstract: "This study focused on the interrelationships among producer, auction and world prices. In so doing, it criticized previous studies and extended technique developed by Hansen (1999) to handle inferential biases occurring as a result of specification errors. The following results were found: unidirectional transmission of shocks from the world price to the auction price and then to the producer price; asymmetries in price transmissions and adjustments in the auction market; weak interrelationship between producer and world prices causing producer price to be less responsive to changes in the world prices. In general, results imply that coffee growers' benefit little from positive changes in the world price compared with participants in the auction markets. This is true given the presence of information asymmetry in the coffee value chain characterized by increasing level of market concentration."

The Maize Subsector in Kenya: Mending the Granary, Booker Owuor, Heinrich Böll Foundation, 2010

<http://www.boell.or.ke/web/index-278.html>

Full text is freely available, but there is no licensing information on the site.

This study was conducted as a follow-up to the study "High Commodity Prices – Who gets the Money?" (Höffler /Owuor, March 2009), which was also commissioned by Heinrich Böll Foundation, Germany and launched about a year ago. Commodity prices are usually very volatile and cannot be by any chance conclusive. With this in mind, the Heinrich Böll Foundation has been conducting studies on a quarterly basis to update sector stakeholders. (The foundation has published a number of studies on maize. Go to <http://www.boell.or.ke/> to browse the publications list and descriptions.)

Staple food prices in Kenya, Ariga, Joshua, Jayne, T.S., and Njukia, Stephen, COMESA policy seminar on “Variation in staple food prices: Causes, consequence, and policy options,” January 2010

<http://ageconsearch.umn.edu/handle/58559>

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From the abstract: “Maize marketing and trade policy in Kenya has been dominated by two major challenges. The first challenge concerns the classic food price dilemma: how to keep farm prices high enough to provide production intensification incentives for farmers while at the same time keeping them low enough to ensure poor consumers’ access to food. The second major challenge has been how to effectively deal with food price instability, which is frequently identified as a major impediment to smallholder productivity growth and food security. Redressing these causes of low farm productivity and food insecurity are major challenges facing Kenyan policy makers. The question of how to reduce food price risks and raise smallholder farm productivity quickly brings us to the appropriate roles of the state and private sector in markets. There is widespread agreement that the state has a crucial role to play in developing strong output markets in Africa. However, there are major controversies as to what exactly these critical government roles are, and how they should be implemented. A good starting point for meaningful discussion about alternative food price policy and investment options would be to review trends in food consumption, production, and price levels, and the forces shaping these trends.”

Transaction Costs and Smallholder Farmers’ Participation in Banana Markets in the Great Lakes Region,

John Jagwe, Emily Ouma, and Charles Macheche, *Agriculture for Development*, July 1, 2009

<http://www.escholarship.org/uc/item/4mz3b26f#>

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From the abstract: “This article analyses the determinants of the discrete decision of a household on whether to participate in banana markets using the FIML bivariate probit method. The continuous decision on how much to sell or buy is analyzed by establishing the supply and demand functions while accounting for the selectivity bias.” It was published as part of a series produced by the University of California-Berkeley Center of Evaluation for Global Action titled “Agriculture for Development.” A number of papers on contract farming, markets, and productivity in this series would be relevant to this course. Titles and links can be found at:

http://www.escholarship.org/uc/search?entity=cega_afd

VIDEO

Eleni Gabre-Madhin on Ethiopian Economics

http://www.ted.com/talks/elene_gabre_madhin_on_ethiopian_economics.html

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In this June 2007 25-minute video on TED (Technology, Entertainment, Design), Eleni Gabre-Madhin describes her work to build Ethiopia's first commodities market. Re-establishing the profit motive for farmers, she believes, could help turn the world's largest recipient of food aid into a regional food basket.

Why Trademarks Matter for Ethiopian Coffee

<http://www.youtube.com/watch?v=2DiWK81j7fg>

This is an interview with Robert Winter, Arnold & Porter attorney representing Ethiopia in its US coffee trademark applications.

WEBSITES AND OTHER RESOURCE MATERIALS

AgEcon Search

<http://ageconsearch.umn.edu/>

AgEcon Search is a free, open access repository of full-text scholarly literature in agricultural and applied economics. It includes working papers, conference papers, and journal articles. Many of the resources that we identified for CMAAE come from AgEcon Search.

FAO Rural Infrastructure and Agro-Industries Division

<http://www.fao.org/ag/ags/ags-division/en/>

This division was established to advocate and support the development of entrepreneurship in agricultural support services. A number of topics and publications are included in this division, including one on agricultural marketing linkages (<http://www.fao.org/ag/ags/agricultural-marketing-linkages/en/>). Within this topic, there is a section devoted to linking farmers to markets (<http://www.fao.org/ag/ags/agricultural-marketing-linkages/linking-farmers-to-markets/en/>). A number of full-text publications are available. It would be a good idea to browse or search by subject. You can do so by clicking on “See All” on the bottom right-hand side of the screen.

The screenshot displays the website for the FAO Rural Infrastructure and Agro-Industries Division. The header features the FAO logo and the tagline "for a world without hunger". The main navigation menu includes links for Home, News and events, Agribusiness development, Agricultural marketing linkages, Agricultural finance and investment, Agricultural mechanization, Food and agricultural industries, Post-harvest management, Rural infrastructure, and Gender issues. The central content area is titled "Publications" and contains a search form with fields for Title, Subject (set to "Linking farmers to markets"), and AGS main series (set to "All"). A dropdown menu is open, listing various publication series such as "Agricultural and Food Engineering Technical Reports", "Agricultural Management, Marketing and Finance Occasional Papers", "Agricultural and Food Engineering Working Documents", "Agricultural Management, Marketing and Finance Working Documents", "Agricultural and Food Engineering Training and Resource Materials", "Training Material for Agricultural Management, Marketing and Finance", "Marketing extension guides", "FAO Diversification booklets", "FAO - UNIDO joint publications", "FAO Agricultural Services Bulletins", "Marketing and agribusiness texts", "Agricultural finance revisited series", "Farm Management Extension Guides", "Farm Systems Management Series", and "Other". Below the search results, a specific publication is highlighted: "Good Agricultural Practices (GAP) on horticultural production for extension staff in Tanzania", with a subject line: "Subject: Food and agricultural industries, Post-harvest management, Linking farmers to markets, Fruits & vegetables". A sidebar on the right titled "How to order our publications" includes an image of a publication and the text: "To order our publications, write to AG-Registry@fao.org".

Ethiopian Coffee Network

<http://www.ethiopiancoffeenetwork.com/>

This is a network focusing on protecting Ethiopian trademarks and licenses for coffee.

Ethiopia Commodities Exchange

<http://www.ecx.com.et/>

The Ethiopia Commodity Exchange (ECX), which was created in April 2008, is a new initiative for Ethiopia and, according to the website, the first of its kind in Africa. The vision of ECX is to revolutionize Ethiopia's tradition-bound agriculture through creating a new marketplace that serves all market actors, from farmers to traders to processors to exporters to consumers. Commodities represented on the exchange include coffee, maize, sesame, haricot beans, and wheat. There are a number of briefs and articles, which might be relevant, including studies from Uganda and Kenya. Go to: <http://www.ecx.com.et/KnowledgeCenter.aspx#Briefs>. There is no licensing information available for these PowerPoint presentations and other documentation. But perhaps most relevant will be market data (historical and current) for coffee and grain. Click on market data at the top of the page.

Food, Agriculture, and Natural Resources Policy Analysis Network

<http://www.fanrpan.org>

FANPAN is an interdisciplinary organization that has as its objectives: promoting appropriate agricultural policies in order to reduce poverty, increase food security and enhance sustainable agricultural development in the SADC region; improving policy analysis, research and formulation of priority SADC agricultural research themes; developing capacity for coordinated dialogue among stakeholders; and improving policy decision-making. FANRPAN conducts research, organizes meetings, and carries out training. FANRPAN's importance to AgShare may lie more in the projects it implements than in the documentation on its website, for there is not very much there.

FoodNet

<http://www.foodnet.cgiar.org>

FoodNet was launched in 1999 as an ASARECA post-harvest and market research network for East and Central Africa and implemented by The International Institute of Tropical Agriculture (IITA). (ASARECA is discussed in Multidisciplinary Resources, below.) It focuses primarily on agricultural value-chain analyses, market studies, market and marketing information services, agro-collective enterprise development, and related business development support services in order to link agricultural producers, who are mainly smallholders, to markets. On the FoodNet website, users will find market information and studies; reports and trend analyses; and information on agro-enterprises. Although FoodNet materials are freely available, they are copyright protected. FoodNet also implements a market information service, which disseminates market information through radio throughout Uganda in different languages. There are ten radio scripts available on the website, focusing on the advantages of group marketing and of farmers working together in groups. The programs themselves are not available on the site, unfortunately.

Kenya Agricultural Commodities Exchange

<http://www.kacekenya.co.ke/>

The Kenya Agricultural Commodities Exchange (KACE) is a private sector firm launched in 1997 to facilitate linkage between sellers and buyers of agricultural commodities, provide relevant and timely marketing information and intelligence, provide a transparent and competitive market price discovery mechanism and harness and apply ICT for rural value addition and empowerment.

Regional Agricultural Trade Network

<http://www.ratin.net>

The Regional Agricultural Trade Network (RATIN) was developed to help reduce regional food insecurity by strengthening the ability of markets to provide access to affordable food to poor households and to improve food availability through the provision of adequate incentives to producers. To achieve this goal RATIN provides

regional trade analyses for maize, beans and rice by using information from a variety of sources, including ministries of agriculture and other government offices, international agencies, etc. The RATIN website provides full-text access to wholesale prices in East Africa, bulletins, production data, etc. Please note that in addition to the RATIN site, there are a number of subregional and national websites on commodities and crops. The NAADS site, for example, links to a number of them in Uganda.

Tegemeo Institute of Agricultural Policy and Development

<http://www.tegemeo.org/>

The Tegemeo Institute conducts research and analysis on policy in the domain of agricultural, rural development, natural resources and the environment. The Institute aims at addressing micro and macro economic policy issues bearing on farming, transportation, processing, marketing, and trade of agricultural products and inputs; sustainability of agricultural systems and natural resources as well as the environment; and commercialization, income growth and food security. Research conducted at the Institute, much of it possibly relevant to the Moi University course modules, is mounted online. Several of the papers in this Resource Guide are either published by Tegemeo Institute or written by its staff.

Trade and Markets Division, FAO

<http://www.fao.org/economic/est/en/>

Full text available, but not open access

The Trade and Markets division website was developed to improve access to the wide range of information and analysis that the FAO produces on agricultural trade and commodity markets. It is more user-friendly and more comprehensive than the one it supersedes. It consolidates also FAO's work on multilateral trade negotiations, which was previously posted separately. The OECD-FAO agricultural outlook can be linked to through this site, as can be "The State of Agricultural Commodity Markets," as well as a number of other reports.

The screenshot shows the RATIN website interface. At the top, it features the RATIN logo (Regional Agricultural Trade Intelligence Network) and the EAGC logo (Eastern Africa Grain Council). A search bar and navigation links are visible. The main content area is divided into several sections:

- Navigation Menu:** Home, About RATIN, Production Data, Monthly Price Data, Food Balance Sheet, Regional Trade Flows, Regulatory Requirements, Useful Links, Contacts, EAGC Trade Link, Trade Directory.
- News and Updates:** Eastern Africa Food & Trade Bulletin (Cross Border Trade On the Rise, November 2009, Eastern Africa Food and Trade Bulletin), Southern Africa Cross Border Bulletin (March'09 Informal Cross Border and Food Trade in Southern Africa, November 2008, Southern Africa Food Trade bulletin).
- Trade News:** Warehousing Receipting Is Here, Tanzania to Relax Export Ban.
- Trade Positions:** Commodity Prices Firm in The Last Two Weeks of January, Price Stability in Markets in Early January.
- Crops Update:** MAIZE BAN, KENYA.
- Ongoing Regional Food Balance Sheet Exercise:** View the ongoing developments in this area.

On the right side, there are three price tables:

Daily Wholesale Maize prices

Market	USD/MT	Date
Dar es salaam	236	18 Feb 11
Kampala	201	18 Feb 11
Kibalgwa	241	18 Feb 11
Kigali	302	18 Feb 11
Nairobi	292	18 Feb 11

Weekly Wholesale Maize Prices

Market	USD/MT	Week
Dar es salaam	230	6-Sat 12 Feb 2011
Kampala	207	6-Sat 12 Feb 2011
Kibalgwa	227	6-Sat 12 Feb 2011
Kigali	233	6-Sat 12 Feb 2011
Nairobi	260	6-Sat 12 Feb 2011

Maize import parity prices

Origin » Dest	usd/mt	date
Busia » Kisumu	287	Fri 18 Feb 2011
Busia » Nairobi	298	Fri 18 Feb 2011
Durban » Nairobi	397	Fri 18 Feb 2011
Durban » Mombasa	364	Fri 18 Feb 2011

RATIN website. Users can find production data and other information for Kenya, Uganda, Tanzania, and Rwanda.

CMAAE Resources: Haramaya University

NOTE: THE LIST BELOW IS IN ALPHABETICAL ORDER. IT IS NOT SUBDIVIDED BY TOPIC.

Ethiopia's Coffee Sector: A Bitter or Better Future?, Nicolas Petit, *Journal of Agrarian Change*, 7 April 2007
<http://onlinelibrary.wiley.com/doi/10.1111/j.1471-0366.2007.00145.x/full>
Freely available through the Wiley publishing online library, but copyright held by publisher.

Abstract: "Coffee, Ethiopia's largest export crop, is the backbone of the Ethiopian economy. The Ethiopian coffee sector is highly dependent on international prices and affected by the structure and workings of the world coffee market. In this context, this paper seeks to identify what can be done in Ethiopia to improve the performance of the sector so as to yield benefits for the government and the estimated 15 million people dependent on coffee in the country. The paper argues that despite a limited room for manoeuvre, Ethiopia has not yet fully exploited its position as the producer of some of the best coffees in the world. A number of competitive advantages may still be seized if quality and consistency are guaranteed. In order to maximize this potential, and on the basis of a critical analysis of government policies and donor interventions in the sector, a number of recommendations are made."

Financing Agricultural Marketing: The Asian Experience, Andrew W. Shepherd, AGSF Occasional Paper 2, FAO, 2004
<http://www.fao.org/ag/ags/ags-division/publications/publication/en/?uid=40615>
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From the preface: "This paper reports on an exploratory study of how traders and processors of grains and horticultural produce in Asia finance their marketing activities and how they use that finance. Although there is a vast body of literature on agricultural finance, the subject of marketing finance has, until recently, been relatively neglected."

Introduction to Economic Analysis, R. Preston McAfee, California Institute of Technology, 2006
<http://www.introecon.com/>
Creative Commons license.

Haramaya requested a microeconomics textbook with a Creative Commons license, and we identified the one above. From the abstract: "This book presents introductory economics ("principles") material using standard mathematical tools, including calculus. It is designed for a relatively sophisticated undergraduate who has not taken a basic university course in economics. It also contains the standard intermediate microeconomics material and some material that ought to be standard but is not. The book can easily serve as an intermediate microeconomics text. The focus of this book is on the conceptual tools... There are lots of models and equations and no pictures of economists." McAfee no longer updates the book on the website whose URL is given above. It is now updated by Flat World Knowledge, where there are also additional resources available. But although Flat World uses Creative Commons licensing, free access is only available online. Go to:
<http://www.flatworldknowledge.com/printed-book/2147>.

Inventory Credit: An Approach to Developing Country Agricultural Markets, J. Coulter and A.W. Shepherd, FAO, 1995
<http://www.fao.org/docrep/v7470e/v7470e00.htm>
Freely available, but copyright held by FAO. FAO encourages the reproduction and dissemination of material published on its Website. Noncommercial use is authorized free of charge upon request to FAO. Accordingly, AgShare requested and received FAO permission for reproduction and dissemination of this resource.

This paper was published in 1995 and reprinted in 1997. Abstract: "After liberalisation of agricultural marketing systems, private traders have taken over the marketing functions of government and parastatal bodies but frequently do not have ready access to finance for purchasing and storing the produce. Inventory credit offers

one way of overcoming this problem. This paper examines requirements for successful inventory credit, drawing extensively on case-studies from Ghana, India, Mali and the Philippines. Legal issues are discussed in detail. The report cautions against targeting particular users and stresses that transactions should be profitable to both the lender and the borrower. In order to attract banks to inventory credit, it is essential to have reliable warehouse operators. The publication will be of interest to banks wishing to increase and diversify their clientele, companies involved in or interested in commercial warehousing, policy-makers concerned with trade and agriculture, and donors.”

Marketing Research and Information Systems, I.M. Crawford, Marketing and Agribusiness Texts 4, FAO, 1997

<http://www.fao.org/docrep/w3241e/w3241e00.HTM>

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From the Preface: “This textbook, Marketing Research And Information Systems, was prepared by staff of the Network and Centre for Agricultural Marketing Training in Eastern and Southern Africa. The Centre had the objective of strengthening agricultural marketing training in Eastern and Southern Africa. It was funded by the Government of Japan and executed by the Food and Agriculture Organization of the United Nations. Based in Zimbabwe, but also serving Kenya, Malawi, Tanzania and Zambia, the Project was able to draw upon the collective experience of eminent academics, government policy makers, experienced managers in agricultural marketing parastatals and pragmatic entrepreneurs from the private sector of agribusiness. The Project extended over a five-year period, from May 1990 to August 1995, and during that time amassed a wealth of information on marketing practices within the food and agricultural sectors in the Sub-Saharan Region. In the first instance, this information was published, by the Project, as a series of proceedings from workshops and teaching manuals written by regional and international experts in the twin fields of food and agricultural marketing. It was decided that a distillation of original Project publications, supplemented by cases, illustrations and examples relevant to countries and other regions around the world, would contribute towards an understanding of the importance of marketing to agribusinesses worldwide.”

Markets, Trade and the Role of Institutions in African Development, Terry Roe, Paper presented at pre-IAEE conference on African agricultural economics, 2003

<http://ageconsearch.umn.edu/bitstream/28069/1/cp03ro01.pdf>

AgEcon Search. Copyright held by authors.

Abstract: “This paper focuses on the interdependence between international trade and in institutional reform, and suggests that the trade barriers erected by advanced countries to the agricultural exports from poor countries, and sub-Saharan agriculture in particular, are a barrier to economic growth and development. Drawing upon recent literature, the suggestion is that trade barriers inhibit institutional reform, which is a major factor affecting economic growth. An empirical analysis of trade reform and economic growth shows that sub-Saharan economies can repeat potential gains from increased trade that are larger when such integration with world markets induces institutional reform.”

Price Transmission and Adjustment in the Ethiopian Coffee Market, Alemu, Zerihun Gudeta Worako, and Tadesse Kumma, paper presented at the 2009 conference of the International Association of Agricultural Economicists

<http://ageconsearch.umn.edu/handle/51085>

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Abstract: “This study focused on the interrelationships among producer, auction and world prices. In so doing, it criticized previous studies and extended technique developed by Hansen (1999) to handle inferential biases occurring as a result of specification errors. The following results were found: unidirectional transmission of shocks from the world price to the auction price and then to the producer price; asymmetries in price transmissions and adjustments in the auction market; weak interrelationship between producer and world prices causing producer price to be less responsive to changes in the world prices. In general, results imply that coffee growers’ benefit little from positive changes in the world price compared with participants in the auction

markets. This is true given the presence of information asymmetry in the coffee value chain characterized by increasing level of market concentration.”

The Role of Warehouse Receipt Systems in Enhanced Commodity Marketing and Rural Livelihoods in Africa, J. Coulter and G. Onumah, *Food Policy*, 2002

<http://www.nri.org/projects/wrs/publications.htm>

This paper appeared in *Food Policy*, which holds the copyright. But the version I downloaded is an earlier draft, which is mounted on a website maintained by the Natural Resources Institute and which owns the copyright.

Abstract: “Most African countries have, since the 1980s, liberalised agriculture without experiencing food crisis, as feared by sceptics, but the outcome of reforms has been rather disappointing and agricultural markets remain underdeveloped and inefficient. One means to improve agricultural marketing, which is the focus of this paper, is to develop regulated warehouse receipt (WR) systems. The system will curtail cheating on weights and measures; ease access to finance at all levels in the marketing chain; moderate seasonal price variability and promote instruments to mitigate price risks. It will also reduce the need for the Government to intervene in agricultural markets, and reduce the cost of such interventions if needed.

The major problem in establishing WR systems in Africa is disabling elements in the policy environment. Drawing on experience from projects implemented in Africa during the last decade¹, the authors outline how this challenge can be addressed, the most crucial being to build strong stakeholder support behind the initiative.”

The Effects of the Coffee Trademarking Initiative and Starbucks Publicity on Export Prices of Ethiopian Coffee, Aslihan Arslan and Christopher P. Reicher, Kiel Institute for the World Economy, 2010

<http://ideas.repec.org/p/kiel/kieliw/1606.html>

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Abstract: “The Ethiopian government initiated the Ethiopian Coffee Trademarking and Licensing Initiative in 2004 for three coffee regions: Sidama, Yirgacheffe and Harar. Following a court case between Starbucks and the Ethiopian government regarding this initiative, Oxfam organized a publicity campaign. This paper evaluates the effect of these interventions on the export prices of trademarked Ethiopian coffees. We find that the prices of the trademarked coffees increased by about 10% following these interventions. The magnitude of this change is comparable with the farm gate prices reported in the literature; however, we cannot establish direct causation or observe the passthrough into farm gate prices.”

The Road Half Traveled: Agricultural Market Reform in Sub-Saharan Africa, Mylene Kherallah, Christopher Delgado, Eleni Gabre-Madhin, Nicholas Minot, and Michael Johnson, IFPRI, 2000

http://pdf.usaid.gov/pdf_docs/PNACR621.pdf

Freely available, copyright held by IFPRI, with permission to reproduce to AgShare—with the exception of any tables, figures, or graphics that are the work of a non-IFPRI author.

From the preface: “This report reviews the extensive evidence on agricultural market reforms in Sub-Saharan Africa and summarizes the impact reforms have had on market performance, agricultural production, use of modern inputs, and poverty. The report offers eight recommendations for completing the reform process and developing a new agenda for agricultural markets in Sub-Saharan Africa.”

WEBSITES

Improving Productivity and Market Success of Ethiopian Farmers

<http://www.ipms-ethiopia.org/>

The IPMS initiative is a five-year project funded by the Canadian International Development Agency (CIDA) and implemented by the International Livestock Research Institute (ILRI) on behalf of the Ethiopian Ministry of Agriculture and Rural Development. The project focus is on developing market-oriented approaches to agriculture development. The IPMS website mounts numerous case studies and other full-text materials on markets, production and commercialization of Ethiopian agricultural commodities, with a focus on four regional states (Amhara, Oromiya, SNNPR, and Tigray).

In 2010 ILRI copyrighted its web sites and other published resources under the Creative Commons Attribution-Noncommercial-Share Alike 3.0 Unported License. Older document remain Open Access and will be treated as if they have the same Creative Commons License. All documents on the IPMS website are Open Access.

Improving Productivity and Market Success of Ethiopian Farmers

Improving Productivity & Market Success (IPMS) of Ethiopian Farmers is a five-year project funded by the Canadian International Development Agency (CIDA) and implemented by International Livestock Research Institute (ILRI) on behalf of the Ethiopian Ministry of Agriculture and Rural Development (MoARD)

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Note pages for training materials, a research database, and project documents.

Marcel Fafchamps Home Page

<http://www.economics.ox.ac.uk/members/marcel.fafchamps/homepage/>

Marcel Fafchamps, a lecturer in development economics at Oxford and the author of a commercially published text that Haramaya faculty wished to obtain, maintains a home page with links to his lecture notes and to his publications, which are voluminous in nature. Although the textbook is not freely available online, his lecture notes and articles are. There are so many of them that it would be worthwhile exploring the site.

NOTE: THE LIST BELOW IS IN ALPHABETICAL ORDER, AND FOCUSES PRIMARILY ON KENYA AND MAIZE WITHIN TWO SUB-MODULES—THE ECONOMIC ROLE OF PRICES AND APPROACHES TO THE STUDY OF AGRICULTURAL MARKET ORGANIZATION AND PERFORMANCE.

An Economic Analysis of the Determinants of Maize Seed Pricing in Kenya: A Value Chain Approach, D.J.W. Nyongesa, F.M. Murithi, M. Lutta, and N.N. Waiyaki, Kenya Agricultural Research Institute, report undated but research conducted in 2004
http://www.kari.org/fileadmin/publications/10thproceedings/Volone/AnEconAnls-Detmn_MaizeSeed.pdf
Freely available, but copyright held by KARI

Abstract: “This study on the determinants of maize seed pricing in Kenya was done in the year 2004. The purpose was to identify and assess the factors that influence pricing of maize seed sub sector in Kenya and how that has affected the farmers’ use of certified maize seed. Specifically, it analysed: (1). cost structure for locally produced maize seed; (2). price constraints influencing the pricing of maize seed in Kenya; (3). non-price constraints that influence maize seed pricing. Four institutions were involved and 13 maize seed and commercial maize growing districts were covered. Twenty-nine growers and 99 consumers/farmers of maize seed were randomly chosen and interviewed. Maize seed traders, processors, importers and relevant development and production institutions, (including Kenya Plant Health Inspectorate Service), were also interviewed. A Value Chain Approach was used to assess costs involved at various stages of the maize seed production, processing and marketing continuum. The results show that the average yields for the sampled farmers were 3,362 and 2,407 kg ha⁻¹ of clean maize and open pollinated varieties (OPVs) respectively. In almost all the cases, the mean yields for both cases were below the expected potentials of 6,005–8,007 kg ha⁻¹ (hybrids) and 4,003–5,783 kg ha⁻¹ (OPVs). In spite the presence of many seed companies in the sub-sector, Kenya Seed Company controls 86 % of the market share. The Gross Margin Analysis shows that the profit margins for hybrid seeds were higher than those of OPVs. In conclusion, the performance of maize seed industry in Kenya was affected by cost components, price and non price constraints. Although many varieties have been released by the various seed companies, the adoption of new maize varieties has remained low. This was attributed to high maize seed prices, expensive inputs, absence of credit facilities and weak linkages among research, extension and seed companies. The key stakeholders felt that there was need to harmonise laws and regulations governing the seed sub-sector to improve its performance.”

Consulting the Stakeholders on Pro-Poor Market Segmentation of Maize Seed in Africa, Hugo DeGroot, Kwaw S. Andam, Mike Hall, Bernard Gathigi Munyua, Obadiah Ngigi, David Spielman, International Association of Agricultural Economists, 2009 Conference
<http://ageconsearch.umn.edu/handle/51753>
Freely available through AgEcon Search, but copyright held by authors

Abstract: “Market segmentation, while popular in the pharmaceutical industry, is rarely used in agricultural technology dissemination, where beneficiary targeting is preferred. Market segmentation, while easy and cheap, tends to generate leakages, while beneficiary targeting, is typically associated with high administrative costs and distortionary effects. To achieve a better understanding of the potential for using market segmentation to improve the adoption of agricultural technology, a consultation was organized in Kenya in May and June 2008 with stakeholders from the seed sector, NGOs, Ministry of Agriculture, agro-dealers and researchers. The consultation included individual visits to 9 stakeholders, a formal meeting with 39 stakeholders, and a formal questionnaire filled in by 18 respondents. Results indicate that indirect identification of the poor is difficult, since poor and non-poor live in the same areas and use the same technologies. The consultations show that several organizations in Kenya, including government agencies, non-governmental organizations, and seed companies, supply reduced-cost inputs to the poor, and they commonly use direct identification of the poor. The costs of such exercises seem to be high, but no data are available on costs or the accuracy of the identification. There seems to be no experience with tiered pricing, although stakeholders generally find it interesting. Most stakeholders showed an interest in experimenting with pro-poor market segmentation for maize seed. The two main market segmentation strategies that are viable are direct targeting, which is likely to be expensive but with limited leakage, and tiered pricing, which is likely to be a lot cheaper but with higher leakage, and which would need a control mechanism to avoid beneficiaries coming back for a second tier. To

compare the costs and the benefits of both methods, as well as of different implementation options, a pilot study is needed. The main product of such a study should be maize seed at reduced prices (between 20% and 50%), up to a given quantity per farmer, provided at a discount (between 2 and 15 kg/household). The main tool would be cash vouchers, to be distributed by an independent agency based on direct identification of the target group, or the tiered pricing system, where each farmer receives vouchers for a specified amount. The agro-dealers will redeem their vouchers at an independent financial institution.”

Estimating Cost Efficiency among Maize Producers in Kenya and Uganda, Lillian Kirimi and Scott M. Swinton, paper presented at the American Agricultural Economics Association annual meeting, 2004
<http://ageconsearch.umn.edu/bitstream/20396/1/sp04ki03.pdf>

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From the introduction: “The purpose of this paper is to assess the cost efficiency of maize producers in Kenya compared to Uganda, an important source of maize imports to the Kenyan market. A stochastic cost frontier analysis is used to determine the relative efficiency of household-level maize production systems in Kenya and Uganda. Estimates of the stochastic cost frontier and cost efficiency of each producer allow cost efficiency to be compared across three dimensions, 1) by nation (between Kenya and Uganda), 2) by agro-ecological zone, and 3) by farm size. If Kenyan maize farmers are operating on the cost frontier, the policy focus should be to increase output through access to appropriate technology and inputs. If they are not using currently available resources efficiently, then the focus should be threefold: First, to understand the origins of current inefficiencies, next to improve the efficiency of current resource use, and finally to expand access to appropriate technology and inputs.”

Evolution of Kenya’s Maize Marketing Systems in the Post-Liberation Era, James K. Nyoro, Mary W. Kiiru, and T.S. Jayne, Tegemeo Institute of Agricultural Policy and Development, undated paper
<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.151.5000&rep=rep1&type=pdf>

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This paper is undated, but from the dates given in the paper, it appears to be about a decade old. It might nevertheless be useful and worth reviewing—if only for the structure of the study and its historical perspective. From the introduction: “The purpose of this study is to shed some empirical light on the operation of Kenya’s grain marketing system in the post-liberalization period. It identifies the major constraints on market participants that influence its performance and formulates strategies that could be used by governments and the private sector to promote the development of the evolving market oriented food systems. The objectives of this paper thus are fourfold: (1) identify the pattern of private sector investment in the maize marketing system since the reforms were initiated and evaluate the extent of private sector response to the reforms; (2) assess how maize prices and marketing margins have changed in response to the market reforms; (3) identify market-oriented mechanisms that have evolved in the current environment to reduce vulnerability of farmers, traders and consumers to price and expenditure instability; and (4) identify strategies that the government and private sector could implement to effectively promote the development of the evolving market oriented food systems.”

FAO Agricultural Marketing textbooks

Professor Odhiambo wished to have available the FAO textbooks listed below. These guides are available online, at the links below. But AgShare downloaded a copy of each volume to make them available offline in its collection of resources for Moi University. The five texts in this series are as follows:

- **A Guide to Marketing Costs and how to Calculate Them**, Andrew W. Shepherd, FAO, revised and reprinted, 2007
<http://www.fao.org/docrep/010/u8770e/u8770e00.htm>
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The intention of this Guide is to explain basic concepts of agricultural marketing costs and marketing margins. It identifies the main types of marketing costs, provides brief advice on how to calculate them and discusses the interpretation of marketing margins.

- **Agricultural and Food Marketing Management**, I.M. Crawford, FAO, undated but probably 1997
<http://www.fao.org/DOCREP/004/W3240E/W3240E00.HTM>
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This text reviews the importance of marketing in development and the institutional structure often found in the marketing system. Market liberalization issues and policies are reviewed and the marketing process at corporate level is presented. Commodity marketing systems, product marketing and pricing, physical distribution systems and marketing costs and margins are presented in individual chapters.

- **Basic Finance for Marketers**, S. Carter, N.J. Macdonald, and D.C.B. Cheng, FAO, 1997
<http://www.fao.org/docrep/W4343E/W4343E00.htm>
Freely available, but copyright held by FAO. FAO encourages the reproduction and dissemination of material published on its Website. Noncommercial use is authorized free of charge upon request to FAO. Accordingly, AgShare requested and received FAO permission for reproduction and dissemination of this resource.

This text introduces the basic principles and techniques of financing and accounting to enable marketers to be aware of the financial implications of decision-making. This knowledge will assist them to evaluate present and alternative marketing strategies and to control present and plan for future marketing activities. The text contains worked and unworked examples, exercises and a glossary of the key terms used.

- **Global Agricultural Marketing Management**, S. Carter, FAO, 1997
<http://www.fao.org/docrep/W5973E/W5973E00.htm>
Freely available, but copyright held by FAO. FAO encourages the reproduction and dissemination of material published on its Website. Noncommercial use is authorized free of charge upon request to FAO. Accordingly, AgShare requested and received FAO permission for reproduction and dissemination of this resource.

This text deals with marketing institutions, commodity marketing and international trading arrangements, export marketing research and market entry strategies.

- **Marketing Research and Information Systems**, I.M. Crawford, FAO, 1997
<http://www.fao.org/docrep/W3241E/W3241E00.htm>
Freely available, but copyright held by FAO. FAO encourages the reproduction and dissemination of material published on its Website. Noncommercial use is authorized free of charge upon request to FAO. Accordingly, AgShare requested and received FAO permission for reproduction and dissemination of this resource.

This text reviews the role of marketing research, and the techniques used to undertake such research, including questionnaire design and sampling and writing up a research report. The principal components of a marketing information system are discussed and the use of marketing research information in decision making are presented.

Food Pricing Policy and Rural Poverty: Insights from Maize in Kenya, Elliot W. Mghenyi and Thomas S. Jayne, International Association of Agricultural Economists Conference, 2006

<http://ageconsearch.umn.edu/handle/25466>

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Abstract: “This study estimates the effects on poverty resulting from maize price changes associated with the operations of the maize marketing board in Kenya. We consider both supply and demand responses and the accompanying adjustments in rural labor markets in estimating a second order approximation to equilibrium income changes. We then use stochastic dominance techniques to generate poverty rankings between the distribution of income with the effects of the government marketing operations and the distribution of counterfactual incomes. This approach effectively addresses concerns regarding the sensitivity of poverty estimates to the type of poverty measure used. Results indicate that the price-elevating effects of government maize marketing operations have exacerbated rural poverty in all regions of the country except the region from which the largest part of surplus maize originates.”

Kenya’s Competitiveness in Domestic Maize Production: Implications for Food Security, James Nyoro, paper presented at African Study Center, University of Leiden, 2002

<http://www.ascleiden.nl/pdf/paper07112002.pdf>

Freely available, but copyright held by author who is at the Tegemeo Institute of Agricultural Policy and Development

University of Leiden summary of Nyoro’s seminar: “Kenya’s agricultural sector like the rest of the economy has performed poorly over the last decade. This poor performance is mirrored in the production of key food commodities and export products thereby adversely affecting food security, reducing employment opportunities and increase overall poverty in rural areas. The decline in food production has particularly taken place against a background of growing demand for food. Maize has been imported to bridge the ever-increasing gap between production and consumption. The imported maize has been cheaper than that locally produced. To protect the domestic producers, the government has applied tariffs thus raising the price of maize to the consumers. Raising prices of maize protects sellers of cereals –a relatively narrow segment of the rural population – but it penalizes consumers who have to pay high food prices. Kenya being an agricultural based economy must ensure that the bulk of its food needs is made available at prices at par with those from imports if the livelihood of these producers is not threatened. The objective of Nyoro’s paper is to identify key strategies for Kenya to reduce the costs of production and those that could have an influence on the international competitiveness in maize production.”

Private Sector Responses to Public Investments and Policy Reforms: the Case of Fertilizer and Maize Market Development in Kenya, Joshua Ariga and T.S. Jayne, IFPRI, 2009

<http://www.ifpri.org/publication/private-sector-responses-public-investments-and-policy-reforms>

Freely available, copyright held by IFPRI, with permission to reproduce to AgShare—with the exception of any tables, figures, or graphics that are the work of a non-IFPRI author

From the IFPRI website: “This paper documents the factors driving the impressive growth in fertilizer use and maize productivity in Kenya since the early 1990s up to 2007. The basic story is one of synergies between liberalization of input and maize markets and public investments in support of smallholder agriculture, leading to tangible private-sector investment in fertilizer retailing and maize marketing, which in turn has resulted in a 34 percent increase in smallholder fertilizer use per hectare of maize cultivated and an 18 percent increase in maize yields over the 1997–2007 period. There is also evidence of a reduction in maize marketing margins during this period. These developments have improved the welfare of rural and urban maize consumers, who constitute roughly 80 percent of Kenya’s population. While certain aspects of liberalization have also benefited maize-selling smallholder farmers, many other developments in the Kenyan agricultural sector have not. Events since 2007 call into question the sustainability of Kenya’s achievements in improving smallholders’ access to maize and fertilizer markets over the 1990–2007 period.”

Smallholder Marketed Surplus and Input Use Under Transaction Costs: Maize Supply and Fertilizer Demand in Kenya, D.A. Arega, V.M. Manyong, G. Omana, H.D. Mignouna, M. Bokanga, and G.D. Odhiambo

<http://ideas.repec.org/p/ags/aaae07/52074.html>

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Abstract: “This paper assessed the effects of transactions costs—relative to price and non-price factors—on smallholder marketed surplus and input use in Kenya. A selectivity model was used that accounts not only for the effects of fixed and variable transactions costs but also for the role of assets, technology, and support services in promoting input use and generating a marketable surplus. Output supply and input demand responses to changes in transactions costs and price and non-price factors were estimated and decomposed into market entry

and intensity. The results showed that while transactions costs indeed have significant negative effects on market participation, cost-mitigating innovations—such as group marketing—are also emerging to mitigate the costs of accessing markets. Output price has no effect on output market entry and only provides incentives for increased supply by sellers. On the other hand, both price and non-price factors have significant influence on adoption and intensity of input use. Overall, the findings suggest that policy options are available other than price policies to promote input use and agricultural surplus.”

Strategies to Promote Market-Oriented Smallholder Agriculture in Developing Countries: A Case of Kenya, John Omitti, David Otieno, Ellen McCulloch, Timothy Nyanamba, AAAE Conference Proceedings, 2007
<http://ageconsearch.umn.edu/handle/52105>
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Abstract: “Smallholder Agriculture is key to livelihoods of many rural households in developing and transition economies. In Kenya, small farms account for over 75% of total agricultural production and nearly 50% of the marketed output. Despite favourable trends in global development drivers such as rising population, per capita incomes and emerging urban dietary preferences, most smallholder farmers remain poor. This study sought to characterize agricultural commercialization trends, identify and prioritize constraints to participation in markets, analyse determinants of percentage of output sold, and explore strategies to promote market-oriented production. A participatory Rapid Rural Appraisal approach, household survey and a Truncated Regression model were used. A sample of 224 farmers: 76 of them growing maize, 77 involved in horticulture (kales and tomatoes) and 71 practising dairy, were interviewed in one peri-urban and one rural district (Kiambu and Kisii, respectively). Results show that in rural areas, lower levels of output are sold and fewer farmers participate in markets compared to the peri-urban areas. Opportunities for profitable commercial agriculture are observed in growing demand, emerging food preferences and intensive farming. At village-level, market participation is hampered by poor quality and high cost of inputs, high transportation costs, high market charges and unreliable market information. At the household-level, the determinants of percentage of output sold are producer prices, market information arrangement, output, distance to the market, share of non-farm income and gender. Strategies are suggested to improve rural input supply, institutional and regulatory framework, enhance value addition and strengthen market information provision.”

Supply Responsiveness of Maize Farmers in Kenya: a Farm-Level Analysis, John Olwande, Margaret Ngigi, Wilson, Nguyo, International Association of Agricultural Economists, 2009 conference
<http://ageconsearch.umn.edu/handle/50786>
Freely available through AgEcon Search. Copyright held by authors, with the following statement: “Readers may make verbatim copies of this document for non-commercial purposes by any means, provided this copyright notice appears on all such copies.”

Abstract: “This study assessed how responsive maize output is to price and non-price factors and how sensitive fertilizer and labour demand are to prices and non-price factors using cross-sectional farm-level data for 334 maize producing households in the High Potential Maize Zone of Kenya. The study employed normalized restricted translog profit function to estimate maize supply and variable input demand elasticities. Results show that maize price support is an inadequate policy for expanding maize supply. Fertilizer use was found to be particularly important in the decisions on resource allocation in maize production. Of the fixed inputs, land area was found to be the most important factor contributing to the supply of maize. It is suggested that making fertilizer prices affordable to small holder farmers by making public investment in rural infrastructure and efficient port facilities, and promoting standards of commerce that provide the incentives for commercial agents to invest in fertilizer importation, wholesaling and retailing would be desirable. Encouraging more intensive use of other productivity enhancing inputs in addition to fertilizer is also suggested, since land consolidation to achieve economies of scale may seem untenable in the light of the existing extensive sub-division of land parcels into uneconomical units.”

Theoretical Topics

Moi University also asked for readings on theoretical topics in economics, as follows—concept of commodity approach to the study of marketing; economic role of prices; approaches to the study of agricultural markets (institutional, functional, behavioral systems, management, commodities); SCP; economic role of prices, equilibrium role of prices; and distributive and allocative role of prices. The texts below reflect those requests.

- **Agricultural Food Commodity Markets and Vulnerability of African Economies**, Alexander Sarris and George Rapsomanikis, paper presented at European Report of Development workshop on “food crisis and the development potential of the agriculture and commodity sector in fragile countries,” 2009
<http://erd.eui.eu/media/sarris.pdf>

Draft of paper is available online, with a request not to quote without permission of authors who are at FAO

The authors describe and analyze rises in food prices and market instability with a goal of determining whether there are new developments of concern. The paper goes into structural features and trends of low-income African economies, together with commodity shocks at the household level. The impact of international developments is also examined in relation to domestic markets. The final section addresses major policy issues and conclusions.

- **Equilibrium in Agricultural Markets**, Cillian Ryan, the University of Birmingham, undated
<http://www.economicsnetwork.ac.uk/sites/default/files/Thomas%20Allen/Equilibrium%20in%20agricultural%20markets.ppt>
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PowerPoint slides of Diagrams and Tables for Lectures for a course on European Economic Issues as taught by Cillian Ryan of the University of Birmingham

- **IB Economics/Microeconomics/Markets**, Wiki Books
http://en.wikibooks.org/wiki/IB_Economics/Microeconomics/Markets
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This appears to be a good introduction to different forms of markets. But bear in mind that there is no author or affiliation. Relevance and reliability should be reviewed carefully.

- **Structure-Conduct-Performance and Food Security**, FEWS NET Markets Guidance, No. 2, May 2008
http://pdf.usaid.gov/pdf_docs/PNADL965.pdf
Freely available online, but copyright held by USAID

From the introduction: “Traditionally, FEWS NET has focused on household access to markets and, as a consequence, regular price analysis and reporting has emphasized describing current price conditions – how affordable is food. But it is recognized that deeper market analysis can make a significant contribution to food security and early warning analysis. Placing the analysis in the broader market system context and incorporating more elements of structure, conduct and performance such as trader behavior and market dynamics will allow FEWS NET to better anticipate market response, more fully define relevant scenarios, formulate expectations about the season as it unfolds and draw upon additional sources of useful market information to tell a fuller food security story. More comprehensive and forward looking analyses and reporting that incorporate markets and trade will furnish decision makers with the kind of information they need in order to make well informed choices among the range of sound market and/or non-market responses. Deeper market analysis can also help orient the timing of humanitarian interventions, complementing and compensating for the markets rather than replacing them. For example, traders make plans to import cereals using prices from several locations throughout the broader geographic region and even international markets at certain times of the year. They have strategies for dealing with production shortfalls in their typical market catchments areas. Gaining insights on these behaviors will help FEWS NET and its partners identify key market indicators to follow, analyze the implications of significant market phenomena and project likely supply responses and ultimate market outcomes that can have important food security consequences. In order for FEWS NET to better incorporate market structure, conduct and performance into regular monitoring, analysis and reporting, some guidance materials and other tools such as assessment and interview guides are needed. This guidance is considered the first step in this process.”

- **Whether Commodity Futures Market in Agriculture is Efficient in Price Discovery**, R. Salvadi Easwaran and P. Ramasundaram, *Agricultural Economics Research Review*, Conference Number 2008
<http://ageconsearch.umn.edu/handle/47883>
 Freely available online, but copyright held by authors

Abstract: "In any agriculture-dominated economy, like India, farmers face not only yield risk but price risk as well. Commodity futures and derivatives have a crucial role to play in the price risk management process, especially in agriculture. The present study is an investigation into the futures markets in agricultural commodities in India. The statistical analysis of data on price discovery in a sample of four agricultural commodities traded in futures exchanges have indicated that price discovery does not occur in agricultural commodity futures market. The econometric analysis of the relationship between price return, volume, market depth and volatility has shown that the market volume and depth are not significantly influenced by the return and volatility of futures as well as spot markets. The Bartlett's test statistic has been found insignificant in both the exchanges, signifying that the futures and spot markets are not integrated. The exchange-specific problems like thin volume and low market depth, infrequent trading, lack of effective participation of trading members, non-awareness of futures market among farmers, no well-developed spot market in the vicinity of futures market, poor physical delivery, absence of a well-developed grading and standardization system and market imperfections have been found as the major deficiencies retarding the growth of futures market. The future of futures market in respect of agricultural commodities in India, calls for a more focused and pragmatic approach from the government. The Forward Markets Commission and SEBI have a greater role in addressing all the institutional and policy level constraints so as to make the agricultural commodity futures and derivatives a meaningful, purposeful and vibrant segment for price risk management in the Indian agriculture."

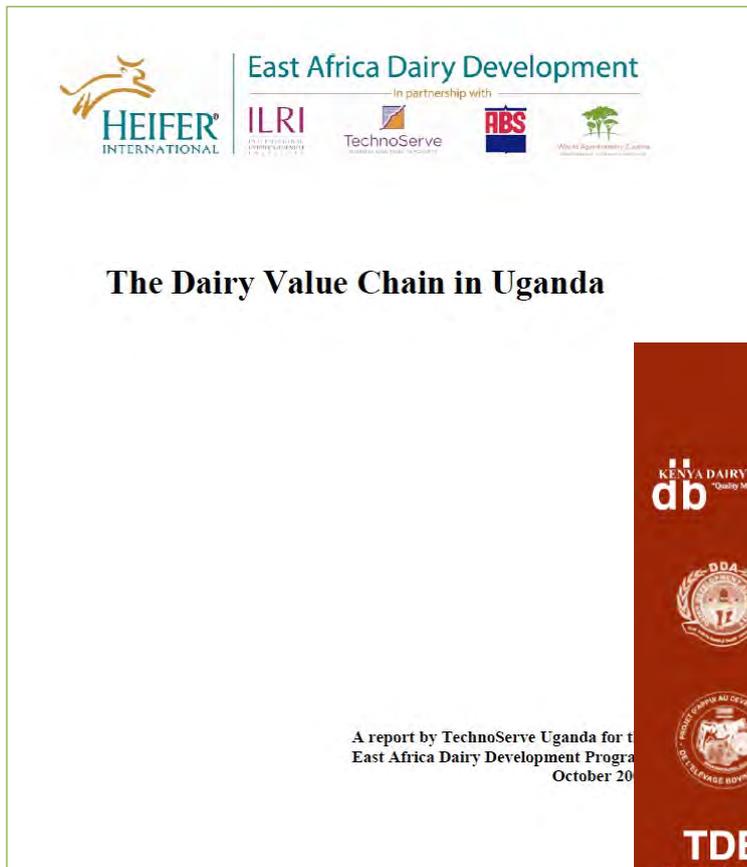
The screenshot shows the website of the Tegemeo Institute of Agricultural Policy and Development. The header includes the institute's name and a navigation menu with links for Home, Publications, Careers, and Contacts. A sidebar on the left provides quick access to Home Page, About Tegemeo, Publications, Conferences, Workshops, Careers, and Contact Information. The main content area features several news items, each with a title, a brief description, and a small image. The items include:

- Inception Workshop on Climate Change and Rural Livelihoods**: Discusses climate change as a major challenge for Sub-Saharan Africa, particularly for rural populations dependent on rain-fed agriculture.
- Conference on Expanding Kenya's Agricultural Competitiveness, Market Access and Food Security: Research Findings and Policy Options**: Focuses on the agricultural sector's role in Kenya's economic growth and development, highlighting challenges like poverty and market access.
- Workshop on Market Participation among Women and the Poor in Kenya**: Emphasizes the importance of market participation for breaking traditional semi-subsistence farming and achieving welfare gains.
- Kenya's food situation: challenges and opportunities Roundtable**: Addresses declining maize production since 2006, attributed to drought and other factors, and discusses strategies for dealing with the crisis.

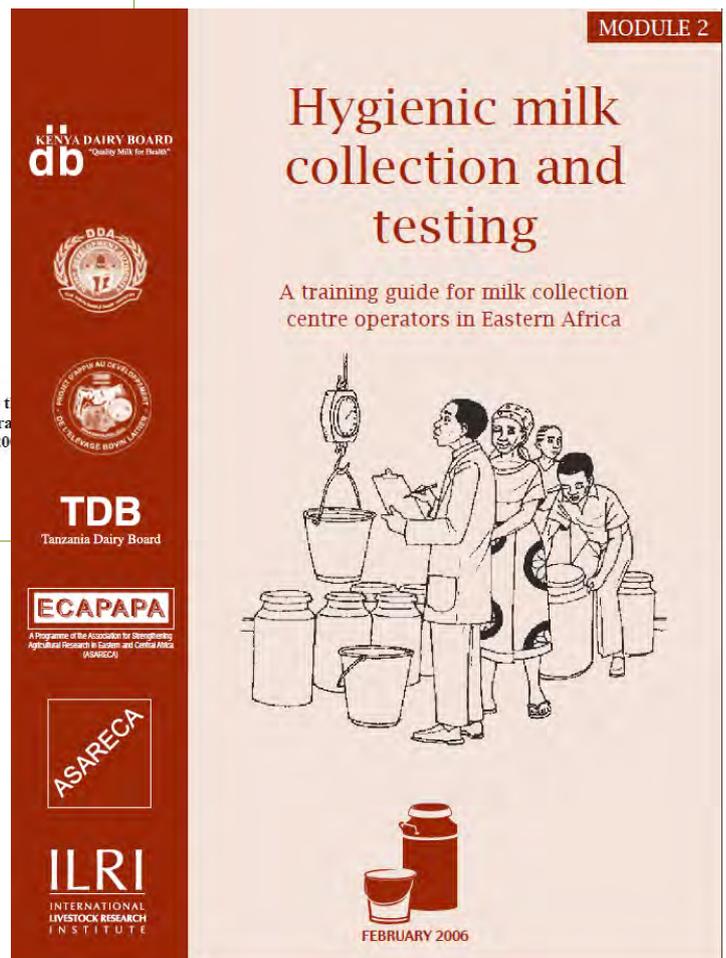
 A date stamp 'Friday, February 18, 2011' is located in the top right corner of the page content.

The Tegemeo Institute of Agricultural Policy and Development, which is a joint initiative of Egerton University in Kenya and Michigan State University in the United States, published several of the resources in this Guide. It would be worth browsing the publications section.

The schools of Veterinary Medicine and Agricultural Sciences of Makerere University collaborated on an OER project to improve the efficacy of the dairy value chain in Uganda. Makerere University currently conducts research and trains students in topics relating to the dairy value chain. The Faculty of Livestock Development and the Faculty of Agribusiness and Management worked together to develop OER modules on milk hygiene and agricultural marketing/management for the entire dairy value chain.



Both resources are published by ILRI, and described below. In addition to reproduction and distribution, the ILRI manuals, such as *Hygienic milk collection and testing* can be adapted and translated for local communities.



Makerere Value Chain: Veterinary Medicine

COURSE READINGS

Addressing the Public Health and Quality Concerns towards Marketed Milk in Kenya, A. Omore, T. Lore, S. Staal, J. Kutwa, R. Ouma, S. Arimi, and E. Kang'ethe, ILRI, 2005

<http://mahider.ilri.org/handle/10568/2177>

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This report, which was sponsored by the Smallholder Dairy Project and is about Kenya, might nevertheless be relevant to Ugandan conditions. From the Executive Summary: “Although small-scale traders efficiently link dairy producers and consumers, many are unlicensed due to concerns that the raw milk sold through the informal market poses public health risks. Because there has been no valid scientific evidence to support these concerns, this study was carried out to tackle the following research problems: lack of accurate information on milk-borne health risks; the need to identify practical steps to improve marketed milk quality; and, the need for a basis to define appropriate trade-offs between quality assurance on the one hand, and cost and restrictions on traders on the other.”

An Evaluation of Milk Quality in Uganda: Value Chain Assessment and Recommendations, P. Grimaud, M.L. Sserunjogi, and N. Grillet, *African Journal of Food, Agriculture, Nutrition, and Development*, 2007

<http://www.bioline.org.br/abstract?id=nd07045&clang=en>

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From the abstract: “The sanitary quality of raw milk is an important issue in Uganda for social, economical and healthy reasons. A survey on milk quality was carried out in Mbarara major milk producing region in Uganda, between June and August 2004. The milk production system described in this paper has largely remained unchanged up to now. Milk quality was analysed at six stages of the commodity chain: farm, bicycle collector at the farm level, pick-up collecting centre, milk collecting centre, urban cooler, and vendor in Kampala city at the urban cooler level. Milk quality was evaluated using platform tests (Clot on boiling (COB), Alcohol test, milk temperature and density) and microbiological tests (total plate count, total and faecal coliforms, *Escherichia coli* count).”

Animal Care Manual, National Milk Producers' Federation, 2010

<http://www.nationaldairyfarm.com/animal-care-resources.html>

Freely available, but copyright held by the National Milk Producers' Federation

This manual, which is intended for US farms, covers all of the basics—management, nutrition, animal health, and environment and facilities.

Brucellosis in Extensive Management System of Zebu Cattle in Sidama Zone, Southern Ethiopia, Kassahun Asmare, Yilkal Asfaw, Esayas Gelaye, and Gelagay Ayelet, *African Journal of Agricultural Research*, February 2010

<http://www.academicjournals.org/AJAR>

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Abstract: “The study was conducted in six districts of Sidama Zone, Southern Ethiopia. During the study a total of 1627 indigenous zebu cattle in 124 herds were considered from extensive management system. Serum samples collected were screened using Rose Bengal Plate Test (RBPT) and positive reactors were further subjected to complement fixation test to maximize specificity and positive predictive value. In the study, an overall prevalence of 1.66% has been established and the herd level infection rate was 13.70% (n = 124). Infected herds have been detected from all districts except Arroresa. Accordingly, the rate of seroreactor herds observed were, 33.3% (n = 6) for Awassa, 15.38% (n = 26) for Yirgalem, 13.15% (n = 38) for Aletawendo, 14.29% (n = 14) for Hageresalam and 18.18% (n = 22) for Arbogona in extensive

management. Regarding herd size, 4.81% for small, 50% for medium and 70% infection rate was recorded for large herds. The variation between small and large herd size was statistically significant ($P < 0.01$). In general the study concluded that brucellosis is prevalent at low rate in individual level, while relatively high in herd level and wide in geographic distribution.”

The Dairy Value Chain in Uganda, ILRI, 2008

<http://dSPACE.ilri.org:8080/jspui/handle/10568/2406>

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This report covers the entire value chain as it pertains to Uganda. For complete dairy value chain coverage, however, please review the resources in the dairy chain resource guide.

The Diagnosis of Trypanosome Infection: Applications of Novel Technology for Reducing Disease Risk, K.

Picozzi, A. Tilley, E.M. Fevre, P.G. Coleman, J.W. Magona, M. Odiit, M.C. Eisler, and S.S. Welburn *African Journal of Biotechnology*, December 2002

<http://www.academicjournals.org/AJB>

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Abstract: “Reliable DNA based methodologies to determine prevalence of trypanosome species in domestic livestock have been available for over 10 years. Despite this, they are rarely used to generate baseline data for control operations for these diseases in the field. Rather, such operations tend to rely on data which can be generated using low technology methods such as direct observation of parasites by light microscopy. Here we show the pitfalls of relying on such low tech methodology which, although simple in its application, can provide inaccurate and inadequate data on which to base control methodologies. Our analysis of 61 cattle selected for trypanosome carrier status by either microscopy, low PCV or poor condition score, showed that 90% were infected with trypanosomes while 84% of the total were infected with *T. brucei*. Diagnosis by PCR on buffy coat preparations on Whatman FTA matrices was the most sensitive methodology relative to the gold standard, whereas microscopy was the least sensitive.”

Farmers' Constraints, Objectives, and Achievements in Smallholder Dairy Systems in Uganda, A. Nakiganda,

A. McLeod, A. Bua, R. Phipps, M. Upton, and N. Taylor, *Livestock Research for Rural Development*, 2006

<http://www.lrrd.org/lrrd18/5/naki18069.htm>

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Introduction: “Dairying is one of the ways farmers earn a living. It was introduced by NGOs and the Uganda government to smallholder farmers. The NGOs involved in this work included: Send a cow, Masaka Diocese Development Organization (MADDO), 'World Vision' and Heifer Project International West Buganda. The introduction of a cow to the smallholder's farm was expected to provide additional benefits such as a daily income from milk sales, milk for home consumption and improved soil fertility through manure application. However, farmers encounter a lot of problems in dairying. Brown (1979) revealed that farmers on transition to commercial farming have many objectives that contribute to maximization of family satisfaction. Satisfaction is increased by the benefits of farm output and decreased by the cost of sacrificing food, leisure, and money or taking risks. Upton (1987) reports that the objective of profit maximization is modified by other aspects such as getting adequate cash income in commercial farming and adequate diet in subsistence farming. He further reveals that without these, neither the business nor the family could survive to aspire to any other objectives. Akatugba-Ogisi's studies (1994) in the Bendel states in Nigeria identified farmers' objectives as to: provide food for family from own farms, provide for education of own children, strive to repay debts and avoid more, make the most profit from farming, employ family members on own farms and arrange work so as to have more hours off farm work. Upton (1996) revealed that a farmer can have difficulty to achieve his goals and hence strives to minimize the extent of under achievement of the goals. However all farmer's goals are not equally important to him so prioritising them indicates the optimum choice of a particular farmer. This study was designed to understand farmers' constraints, objective and achievements in the dairy production.”

Feeding Dairy Cattle: A Manual for Smallholder Dairy Farmers and Extension Workers in East Africa, Margaret Lukuyu, Dannie Romney, Robert Ouma, and Keith Stones, ILRI, 2007
<http://mahider.ilri.org/bitstream/10568/478/1/FeedingManual.pdf>

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From the introduction: “This booklet is designed to guide extension workers and possibly smallholder dairy farmers through the basics of feeding dairy animals. It includes essential background information as well as practical advice and suggestions. By better understanding how a cow digests its food, the importance of providing a balanced diet, how nutritional needs vary at different stages of the animal’s life and how different types of feed can meet these needs, dairy farmers will be able to get the most benefit from their investment and keep their valuable animals healthy and productive.” The concepts are clear; the language is simple. This 60-page manual might be useful as students work with local communities.

Guide to Good Dairy Farming Practice, FAO, 2004

<http://www.fao.org/docrep/006/y5224e/y5224e00.htm#Contents>

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This Guide is a joint publication of FAO and the International Dairy Federation. Foreword: “Dairy farmers’ production systems worldwide must be able to combine profitability with the responsibility of protecting human health, animal health, animal welfare and the environment. In order to access markets successfully, all in the dairy supply chain must take up that responsibility, from the farmer producing the milk to the eventual customer. Dairy farmers, as the primary producers in the supply chain, must be given the opportunity to add value to their product by adopting methods of production that satisfy the demands of processors and customers. In order to do this, individual dairy farmers need a single guide on how to achieve this at a practical farm level. This guide should follow a proactive approach rather than reactive. The *Guide to good dairy farming practice* has been written in a practical format for use by farmers and should be seen as benefiting their business. When adopted it will support the marketing of safe, quality-assured milk and dairy products, and focus on the relationship between consumer safety and best practice at farm level. The guidelines on individual practices have been drawn from existing schemes around the world but are not intended to be legally binding. They aim to provide a genuine framework for farm assurance schemes to be developed world wide and give the opportunity for individual countries to develop schemes that are specific to their social, environmental, welfare and economic needs.”

Hygienic Milk Collection and Testing: A Training Guide for Milk Collection Centre Operators in Eastern Africa, T.A. Lore, L.R. Kurwijila, A. Omoro, ILRI, 2006

<http://mahider.ilri.org/handle/10568/1851>

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This is module two of the training manuals, covering hygienic milk production and handling; basic milk quality tests; milk quality and payment systems; and an appendix with a training curriculum and minimum competencies for milk collection center operators.

Hygienic Milk Handling and Transportation: A Training Guide for Milk Transporters in Eastern Africa, Isha Muzira, Michael Ngarambe, Obed Ndankuu, Philip K. Cherono, ILRI, 2006

<http://mahider.ilri.org/handle/10568/1591>

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This is module three of the ILRI training guides, and is meant for milk transporters. It covers hygienic milk production and handling; basic milk quality tests; hygienic milk storage, preservation, and transportation; and maintenance of milk handling and cooling equipment. There is also an appendix with the training curriculum

and minimum competencies.

Hygienic Milk Handling, Processing, and Marketing: Reference Guide for Training and Certification of Small-Scale Milk Traders in Eastern Africa (Volume One), Lusati R. Kurwijila, ILRI, 2006

http://mahider.ilri.org/bitstream/10568/1697/1/TrainerGuideVol-1_C.pdf

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This is volume one of the trainers' guide for the ILRI modules. The guide, which includes a glossary of terms, covers clean milk production on the farm, quality assurance, hygienic milk handling, and appropriate technologies for different dairy products. Although meant as a trainers' guide for small-scale traders, this volume might be appropriate for the Makerere course. All of these manuals, taken together, form a smallholder dairy farm value chain. (There may be some overlap in the training guides below.)

Hygienic Small-Scale Milk Processing: A Training Guide for Small-Scale Milk Processors in Eastern Africa,

Isha Muzira, Michel Ngarambe, Obed Ndankuu, and Philip K. Cheron, ILRI, 2006

<http://mahider.ilri.org/handle/10568/1696>

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This guide, module five, is aimed at proving small-scale milk processors, with the skills to ensure that they have adequate knowledge to practice good hygiene when they handle milk before and during processing.

Hygienic Milk Production: A Training Guide for Farm-Level Workers and Milk Handlers in Eastern Africa,

Isha Muzira, Michel Ngarambe, Obed Ndankuu, and Philip K. Cheron, ASARECA and ILRI, 2006

http://mahider.ilri.org/bitstream/10568/1763/1/ECAPAPAMilkHygieneModule1_C.pdf

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This guide, which is module one, is designed for farm workers to give them basic knowledge on how to produce and handle milk hygienically in order to reduce spoilage and ensure milk production that is safe for human consumption.

Impact of Major Diseases and Vectors in Smallholder Cattle Production Systems in Different Agro-Ecological Zones and Farming Systems in Uganda, M. Ocaido, C.P. Otim, and D. Kakaire, *Livestock Research for Rural Development*, 2009

<http://www.lrrd.org/lrrd21/9/ocai21155.htm>

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Abstract: "A study of the impact of major diseases and vectors among smallholder cattle farmers was done in three agro-ecological zones in Uganda. Studies were done in: Soroti district representing a semi-humid agro-pastoral system, Kayunga district representing a humid mixed crop-livestock system and Kiruhura district representing a semi-arid pastoral system. Soroti and Kayunga districts were found to be having mixed crop-livestock production systems practising communal and tethering grazing of indigenous cattle. Meanwhile in Kiruhura district a farming system was mainly livestock production system, practising communal and paddocking grazing systems of indigenous and improved dairy cattle. Economic costs of diseases, including potential losses of income from milk and use of the animals for traction and vectors per cattle head was higher in Soroti (Ug. Shs 42,700 valued at 1 US\$ = Ug. Shs 1,800) than Kayunga (Ug Shs 15,900) and Kiruhura (Ug Shs 22,800). This represented the lost production potential of cattle. In Kiruhura, East Coast Fever (ECF), starvation and tick control caused big losses in the form of control costs and mortality. Tick control contributed 91.1% of total disease control costs. Hence cheaper methods to control ticks should be explored and promoted. Starvation was causing 65% of total mortality losses. Efforts should therefore be made to de-stock herds. In Kayunga, 75.4% of losses were caused by ticks and Tick Borne Diseases (TTBDs) and the remaining by trypanosomiasis, helminthiasis and Lumpy Skin Disease (LSD). Losses were in the form of disease control costs and mortality. Efforts must be made to control TTBDs. TTBDs were causing 68.1% of total mortality losses.

While in Soroti, trypanosomosis, anaplasmosis, helminthosis and LSD were causing major losses in form of mortality, milk and traction losses. Efforts to control diseases and vectors were less in Soroti, leading to high losses observed.”

Improve the Quality of Your Milk and Please Your Customer: Training Guide for Small-Scale Informal Milk Traders in Kenya, ILRI 2004

<http://mahider.ilri.org/handle/10568/1758>

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This guide was prepared under the auspices of the Smallholder Dairy Project, about which more information is given in the section on useful websites. The guide covers milk quality and testing requirements to improve the quality of milk.

Mastitis in Smallholder Dairy and Pastoral Cattle Herds in the Urban and Peri-Urban Areas of the Dodoma Municipality in Central Tanzania, R.H. Mdegela, E. Karimuribo, L.J.M. Kusiluka, B. Kabula, A. Manjurano, A.M. Kapaga, and D.M. Kamarage, *Livestock Research for Rural Development*, November 2005

<http://www.lrrd.org/lrrd17/11/mdeg17123.htm>

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Abstract: “A cross-sectional study involving 64 smallholder dairy cattle was carried out in urban and peri-urban areas of Dodoma municipality situated in the semiarid central part of Tanzania in order to determine milking practices and prevalence of mastitis, bovine tuberculosis and brucellosis. Nineteen pastoral herds were also included in the study. A questionnaire survey was used to assess milking practices while clinical examination of animals, California mastitis test (CMT) and microbiological assessments of milk were used to establish the status of mastitis. Enzyme-linked immunosorbent assay (ELISA) and single comparative intra-dermal tuberculin tests (SCITT) were used to determine the prevalence of bovine brucellosis and tuberculosis respectively. In addition, milk samples were cultured for isolation of *Mycobacterium* species using standard techniques. While all animals were free of clinical mastitis at the time of farm visits, based on CMT at animal level, the prevalence of sub-clinical mastitis was significantly higher in dairy (61.2%) than in the traditional cattle (26.3%). Based on cultures, the prevalence of mastitis was also significantly higher in dairy animals at both herd and animal levels than in traditional animals. The isolation rates of aerobic bacteria, anaerobic bacteria, yeast, mucor and aspergillus in dairy herds at animal level were 62.4%, 0%, 30.6%, 1.2% and 8.2% respectively, whereas in the traditional animals, the isolates were aerobic bacteria (39.5%) and aspergillus (13.2%). In both dairy and traditional cattle, aerobic bacterial isolates comprised *Staphylococcus epidermidis* (55), *Staphylococcus aureus* (14), *Staphylococcus intermedius* (1), unidentified *Staphylococcus* species (26), *Escherichia coli* (7), *Klebsiella spp* (6), *Serratia spp* (6), *Arcanobacter pyogenes* (2), *Bacillus spp* (2) and unclassified bacteria (3). Whereas the seroprevalence of brucellosis was 3.9% and 4.8% in dairy and traditional cattle respectively, all tested animals were negative based on SCITT. Atypical mycobacteria were isolated from milk in dairy (15.3%) and traditional (5.1%) animals and the isolates comprised *Mycobacterium gordonae* (4), *Mycobacterium phlei* (3), *Mycobacterium fortuitum* (3); *Mycobacterium smegmatis* (2), *Mycobacterium flavescens* (2) and *Mycobacterium avium intracellulare* complex (1). The findings indicate that the prevalence of mastitis might be lower in the traditional sector than in smallholder dairy animals and that consumption of raw milk may be associated with health risks to consumers in relation to brucellosis and atypical mycobacteria infections albeit their low prevalence.”

Mastitis Occurrence and Constraints to Mastitis Control in Smallholder Dairy Farming Systems in Uganda, D.K. Myargaba, J.L. Nakavuma, M. Vaarst, and C. Laker, *Livestock Research for Rural Development*, January 2008

<http://www.lrrd.org/lrrd20/1/byar20005.htm>

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Abstract: “A study was conducted in the district of Jinja in Uganda to explore the pattern of mastitis including the occurrence of antibiotic resistant mastitis pathogens and to understand the constraints that limit effective control of mastitis in smallholder dairy farming systems. A questionnaire was administered to 60 farmers to collect data regarding their farm circumstances and management of their farms and the risk factors to mastitis. Quarter milk samples were collected from the milking cows and screened for mastitis using the California Mastitis Test (CMT). The milk samples were cultured for isolation of pathogens and assessment of their

susceptibility to commonly used antibiotics. A total of 172 milking cows were sampled corresponding to 688-quarter milk samples. The prevalence of CMT-positive cows was 61.3%, of which sub-clinical mastitis was 60.7%. The levels of hygiene on most of the farms were very low. Farmers had no knowledge on sub-clinical mastitis. Staphylococcus species were the most common isolates and more than 50% of the isolates were resistant to the commonly used antibiotics penicillin and tetracycline.”

Milking, Milk Production Hygiene, and Udder Health, FAO, 1989

<http://www.fao.org/DOCREP/004/T0218E/T0218E00.htm>

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From the foreword: “This short monograph aims to provide a concise description of the methods that should be used on farms to produce high quality milk. It is impossible to deal in detail with all the equipment and methods currently used on farms for all commercial designs of equipment. These can vary from simple hand milking to highly complex automated milking and cleaning systems for herds of several hundred cows. Fortunately the principles on which all the methods are based are the same and milk of the highest quality can be produced with the most simple equipment. The operation of both simple and complex systems is described in two ways. The numbered pages outline the principles and methods of farm milk production and hygiene. The facing pages provide a running summary, which draws the main conclusion from the text and with illustrations outlines the methods that farmers should use. Whilst these two parts of the manual are complementary the summary pages can be read separately to provide a guide to milk production methods.” Unfortunately, the document is only available online or in print form. But we downloaded the entire monograph in html format.

Modeling Growth of Dairy Cattle Heifers Fed Elephant Grass under Stall-Feeding System in Uganda, F.

Tibayungwa, J.Y.T. Mugisha, and M. Nabasirye, *African Journal of Agricultural Research*, June 2010

<http://www.academicjournals.org/AJAR>

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Abstract: “A simulation model was developed to predict growth rate and days required to reach target mating weight of dairy cattle heifers in a stall-feeding system. Input parameters for the model are gross energy (GE), ash, crude protein (CP), organic matter digestibility (OMD), dry matter (DM), protein degradation variables and heifer initial body weight. Based on these inputs, the model calculates metabolisable energy (ME) and metabolisable protein (MP) that re used to simulate weight gain. Results indicate that growth rate of heifers fed elephant grass as sole feed can be predicted by forage characteristics. Since decisions about heifer management influence future profitability in smallholder dairying, the results of this study are valuable in that being able to predict the growth of heifers can be crucial in providing insight for appropriate intervention.”

Pan African Animal Health Yearbook, 2008, Inteafrican Bureau for Animal Resources, 2009

<http://www.au-ibar.org>

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The Yearbook includes an update on the general disease situation in Africa, together with a detailed analysis classified by disease. It would be worth returning to the site to download the 2009 Yearbook; it is available in PDF form.

Relationship between Somatic Cell Counts, Dairy Cattle Milk Yield and Composition in Burkina Faso, G.A.

Ouedrogo, V. Millogo, A.G. Anago-Sidibe, and B.A. Kanwe, *African Journal of Biochemistry Research*, February 2008

<http://www.academicjournals.org/ajbr/contents/2008cont/Feb.htm>

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Abstract: “The study was carried out on ten local dairy cows called Zebu at a research centre located in the west part of Burkina Faso. Dairy cows were supplemented 53.8 MJ metabolized energy and 735.7 g Crude Protein and were free access to natural pasture. Milk yield recording and individual milk sample collection took place within one month. Milk samples were analyzed for composition with the method of mid infrared spectroscopy

and for somatic cell count with fluorescent method. The results showed that saleable milk yield varied between dairy cows and days. The lowest milk yield (1.04 ± 0.29 L/day) was associated to higher somatic cell count ($5.30 \pm 0.73 = \text{Log}_{10}$) compare to cows with the highest daily milk yield in this study (3.46 ± 0.39 litres/day and $4.73 \pm 0.45 = \text{Log}_{10}$). But, the higher fat content (5.79 ± 1.62) was found for cow with higher somatic cell count. Saleable milk yield and milk composition were strongly associated to somatic cell count but the study did not show how much milk and its components could vary with higher somatic cell count.”

Rural Dairy Technology, C.B. O'Connor, ILRI, 1995

<http://64.95.130.4/html/trainingMat/Manual.pdf>

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Foreword: “This training manual is based largely on ILCA Manual No. 4, written by the late Frank O'Mahony. As a result of experiences and suggestions obtained particularly from participants in our Rural Dairy Processing training courses it was considered necessary to provide a more comprehensive manual with more up to date technical information. Emphasis has been given to clean milk production as milk is our raw material for processing and preservation. In recognition of the need to comply with hygienic and compositional requirements of milk and milk products the chapter on analytical methods has been expanded. To recognise the importance of water in milk processing, water-quality standards are discussed and methods for the determination of its chemical quality are detailed. Milk production and processing is an important activity of smallholders throughout the world and with the help of this manual it is hoped that dairy technologists and extension workers will further assist and promote the development of milk processing particularly in countries with a developing dairy industry.” Please note that this manual was published in 1995, but we nevertheless hope that parts of it will remain relevant today.

The Seven Habits of Highly Successful Milking Routines

www.uwex.edu/milkquality/PDF/A3725.pdf

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This brief article, written by Pamela Rugg, Morten Dam Rasumssen, and Doug Reinemann in 1998 for the University of Wisconsin extension service, delineates successful milking routines on Wisconsin farms.

Survey on Dairy Cattle Milk Production and Milk Quality Problems in Per-Urban Areas in Burkina Faso, V. Millogo, G.A. Ouedrogo, S. Agenas, K. Svennersten-Sjaunja, *African Journal of Agricultural Research*, March 2008

<http://www.academicjournals.org/AJAR>

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Abstract: “A survey study was carried out around two large cities in Burkina Faso to contribute to the understanding of the situation of local milk production and milk processing. Twenty-two dairy farms associated with nine dairy processing units were selected for the study. Two separate questionnaires were used to investigate the prerequisites for animal production and milk processing and the interviews were carried out from August to October 2006. Meanwhile, 110 milk samples from individual cows, 22 farm tank milk samples and nine dairy tank milk samples were analyzed. Results of the survey show that daily milk yield was 1 - 2 L per cow in sedentary traditional farms and 2 - 4 L per cow in semi-intensive farms. Milk temperature at dairy farm level ($32.5 \pm 4.6^{\circ}\text{C}$) was an important factor reducing milk quality before reaching the collection centre. According to the survey, the use of cottonseed cake in the diet resulted in higher milk yield per cow, both during the rainy and dry season (Chi-square = 9.32; $P = 0.01$). The use of crossbred cows was also related to higher daily milk yield per cow (Chi-square = 31.80; $P = 0.001$). It was concluded that more extensive supplementation of diets and cross-breeding would improve milk production in Burkina Faso. Furthermore, milk cooling systems on farm and at dairy processing level are needed.”

The Ugandan Dairy Sub-Sector: Targeting Development Opportunities, S.J. Staal and W.N. Kagupngo, ILRI, 2003

<http://dspace.ilri.org:8080/jspui/handle/10568/2089>

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Executive Summary: “This report examines current trends and circumstances in the Ugandan dairy subsector, with a view towards guiding new efforts in dairy research and development. The analysis relies on multiple sources of data; a) several reports on the dairy subsector produced over the last decade, including an appraisal of the industry conducted by ILRI with Ugandan partners in 1996, and b) primary data obtained from recent land management household surveys conducted by IFPRI in 2002, as well as from national household and community data surveys conducted by the Gov. of Uganda in 1999/2000. The latter data were geo-referenced and put into a GIS, and a key contribution of this report is the spatial analysis of patterns of dairy development and associated factors. Following is a brief description of some of key findings of the study. General implications for dairy research and development are indicated, in the context of a proposed model for pro-poor dairy development.

WEBSITES AND OTHER RESOURCE MATERIALS

The Cattle Site: Diseases and Conditions

<http://www.thecattlesite.com/diseaseinfo/>

This part of the Cattle Site is building up a list of over 100 cattle diseases and conditions. You can browse the site or select a specific disease or condition—some of which are endemic to Africa, such as mastitis. Each entry describes the disease, its clinical signs, diagnosis, treatment (if any), and prevention. Although the site is sponsored by the National Animal Disease Information Service of the UK and is meant for British dairy farmers, it might be relevant to Makerere.

Dairy Mail Africa

<http://www.dairymailafrica.co.za/>

In 2007, the magazine published a supplement on Uganda, which delineates the dairy production value chain and relevant developments

(http://www.dairymailafrica.co.za/images/acrobat/dma_dec07/ugandasupplement.pdf). We downloaded the article for Makerere to review. Although the magazine ceased publication in July 2010, it might be worth browsing the website to ascertain whether any of the articles are relevant to your needs.

Dairy Nutrition Website

<http://www.idfdairynutrition.org/>

The Dairy Nutrition Website is an initiative of the International Dairy Federation. It aims to be a source for up-to-date and comprehensive science-based information on milk and milk products and their role in nutrition and health. There is a special page for health professionals, which might be relevant for this course.

FAO Milk and Dairy Products Website

<http://www.fao.org/ag/againfo/themes/en/dairy/home.html>

The FAO milk and dairy products website, which is a part of the animal production and health division brings together several FAO resources relevant to dairying. The milk chain page, for example, is subdivided into production, collection, preserving quality, processing, and marketing, each one with its own collection of resources. Unfortunately, most of these resources must be accessed online. Be sure to go to the information resources page, which is subdivided into manuals, papers and articles, newsletters and e-conferences.

International Livestock Research Institute

<http://www.ilri.org/>

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As is evident from this AgShare resource guide, ILRI documentation is extensive. Although we think we identified most of the relevant resources for this course, it would be well worth additional targeted searching. Moreover, it is a resource that should be borne in mind always. In addition to the home-page URL, above, the resources page should also be searched—<http://mahider.ilri.org>.

Kenya Smallholders Dairy Project

<http://www.smallholderdairy.org/default.htm>

The Smallholder Dairy Project (SDP) carried out research and development activities to support sustainable improvements to the livelihoods of poor Kenyans through their participation in the dairy sub-sector. SDP was jointly implemented by the Ministry of Livestock and Fisheries Development, the Kenya Agricultural Research Institute (KARI) and the International Livestock Research Institute (ILRI). The project was led by the Ministry with primary funding from the UK Department for International Development (DFID). Project staff worked with many collaborators, including government and regulatory bodies, the private sector and civil society organizations. There are excellent resource materials on the website—for researchers, extension workers, and practitioners. It is also worth searching the ILRI collection; the URL is http://mahider.ilri.org/handle/10568/1207/browse?type=dateissued&sort_by=2&order=DESC&rpp=90.

WWWeb Epidemiology & Evidence-based Medicine Sources for Veterinarians

<http://www.vetmed.wsu.edu/courses-jmgay/epilinks.htm>

Washington State University in the United States maintains a wonderful portal on epidemiology and evidence-based medicine in the veterinary sciences. It appears to be current although the links may not have been checked recently. There are also good links to learning resources in statistics.

World Organization for Animal Health

<http://www.oie.int>

The World Organization for Animal Health (OIE) was established to fight animal diseases at a global level. It is not an easy site to navigate, but it would be worthwhile to visit. When I browsed the site, I found the compilation of data by disease page (http://web.oie.int/eng/maladies/en_alpha.htm). For each disease, there is a link to the appropriate code, the disease card, if there is one, and the full *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*. If you click on the manual link, you will have to scroll down to find the disease you are looking for.

Makerere Value Chain: Agricultural Sciences

COURSE READINGS

Agricultural Value Chain Interventions: What Works, Where, and How, Stefano Ponte, Danish Institute for International Studies, PowerPoint presentation
<http://www.um.dk/NR/rdonlyres/AC2946D9-6AE4-4C08-8F8B-F60655460714/0/3PonteAgdevconf17032010v2.pdf>

Freely available but copyright held by Ponte

Ponte is a prolific researcher and writer on value chain issues. This PowerPoint is an excellent introduction to value chain intervention issues, including in the dairy industry. We would have

A Handbook for Value Chain Research, Raphanel Kapinsky and Mike Morris, IDRC, 2001
http://asiandrivers.open.ac.uk/documents/Value_chain_Handbook_RKMM_Nov_2001.pdf

Freely available online through the Open University-UK and IDRC websites, but copyright held by IDRC

This handbook is meant for researchers more than students. Even so, sections of the book will be relevant to both groups. There is a good chapter on definitions of the value chain, for example, as well as one on why value chain analysis is important. Key elements of the value chain course work are covered in this handbook.

A Market for all Farmers: Market Institutions and Smallholder Participation, Eleni Gabre-Madhin, University of California-Berkeley, 2009
<http://escholarship.org/uc/item/3k49r747>

Freely available online, but copyright held by author

The author is the founder of Ethiopia's first commodities exchange. Abstract: "The transition from subsistence to commercial agriculture, often referred to as the commercialization of agriculture, has long been considered an important part of the agrarian transformation of low income economies and a means of ensuring food security, enhanced nutrition, and enhanced incomes. However, in the face of imperfect markets and high transaction costs, smallholders are rarely able to exploit all the potential gains from commercialization. With the objective of better understanding smallholder participation in markets, the paper proceeds in Section 1 to examine the impact of early reforms on smallholder market participation. In Section 2, we characterize the dimensions of smallholder agriculture that constrain market participation. In Section 3, a conceptual framework for understanding market participation through the lens of market institutions is proposed, followed by an exposition to recent efforts to promote market development in Section 4 and an overview of participation through the market institution of a commodity exchange in Section 5, before proceeding to conclusions in Section 6." Value chain issues are discussed throughout this paper, which might offer a good connecting link between the traditional markets course that Makerere University is redesigning and the one stressing value chains.

An Evaluation of Milk Quality in Uganda: Value Chain Assessment and Recommendations, P. Grimaud, M.L. Sserunjogi, and N. Grillet, *African Journal of Food, Agriculture, Nutrition, and Development*, 2007
<http://www.bioline.org.br/abstract?id=nd07045&lang=en>

Bioline is an open access aggregator of journals. Article freely available.

From the abstract: "The sanitary quality of raw milk is an important issue in Uganda for social, economical and healthy reasons. A survey on milk quality was carried out in Mbarara major milk producing region in Uganda, between June and August 2004. The milk production system described in this paper has largely remained unchanged up to now. Milk quality was analysed at six stages of the commodity chain: farm, bicycle collector at the farm level, pick-up collecting centre, milk collecting centre, urban cooler, and vendor in Kampala city at the urban cooler level."

A 'New' Approach to Global Value Chain Analysis, Jodie Keane, ODI, 2008

<http://www.odi.org.uk/resources/download/2023.pdf>

Freely available online, but copyright held by ODI

Abstract: "This paper uses new trade/new growth theories to better contextualise Global Value Chain (GVC) analysis of 'traditional' and 'non-traditional' agricultural trade. Research suggests that GVC governance structures may limit or enhance the applicability of new trade/new growth theories in terms of 'learning by doing'; and therefore the ability to value chain upgrade. This paper tries to bridge the current divergence between input:output and value distribution approaches to GVC analysis. The case is made that both aspects are central to understanding upgrading processes within agricultural GVCs and growth through trade."

Beyond Harsh Trade? The Relevance of 'Soft' Competitiveness Factors for Ugandan Enterprises to Endure in Global Value Chains, Jorg Wietgratz, extended online version of article that appeared in *The African Journal of Business and Law*, 2008

<http://eprints.whiterose.ac.uk/4497/>

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From the abstract: "This article is based on an empirical study which examined the issues of organization and coordination of global production and trade for the case of trade between Uganda and Europe. The paper reviews some of the recent literature on Global Value Chains (GVCs) in order to construct its conceptual framework and presents an overview of the findings of the empirical study on GVC governance and exporters' upgrading. Respective experiences of 34 exporters in Uganda and 19 importers in Europe were documented through in-depth interviews and consequently analyzed. The paper discusses matters of cooperation between the exporters and importers and points to its significance for upgrading and enhanced competitiveness of the exporters studied. It further identifies firm level 'soft competitiveness factors' (SCFs) of Ugandan exporters (such as communication, trust, reliability, relationship management, or business practices) and discusses their relevance for the firms' performance in GVCs."

Building Competitiveness in Africa's Agriculture: a Value Chain Guide to Concepts and Applications, C.

Martin Webber and Patrick Labaste, The World Bank, 2010

<http://www.infodev.org/en/Publication.956.html>

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This guide, which is published by the World Bank, is designed for those who want to know more about value chain-based approaches and how to use them in ways that can contribute to sound operational decisions, improved market linkages, and results for enterprise and industry development. Using real examples, mostly from African countries, this book reviews and illustrates a range of concepts, analytical tools, and methodologies centered on the value chain that can be used to design, implement, and evaluate agricultural and agribusiness development initiatives that strive to enhance productivity and competitiveness. There is two Ugandan case studies—one on floriculture and one on Nile perch management, as well as chapters on quality management and certification (the one on Nile perch). There are excellent introductory chapters, including a literature review on value chains and supply chains. The book is available in two forms for payment—hard copy and also as a bundled package, which includes both hard cover and an interactive e-book. It can also be downloaded from the Website above.

Chain Empowerment: Supporting African Farmers to Develop Markets, Royal Tropical Institute (KIT) and International Institute of Rural Reconstruction (IIRR), 2006

<http://www.kit.nl/smartsite.shtml?pid=SINGLEPUBLICATION&ItemID=1952>

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This is the first of a series of three books published by KIT and IIRR on the value chain. It was produced in an IIRR writeshop, in which all of the key actors in the value chain participated and contributed material. *Chain Empowerment* describes two basic strategies that groups of farmers can use to improve their incomes: vertical and horizontal integration. Vertical integration means taking on additional activities in the value chain: processing or grading produce, for example. Horizontal integration means becoming more involved in managing the value chain itself – by farmers' improving their access to and management of information, their knowledge of the market, their control over contracts, or their cooperation with other actors in the chain. This book contains 19 case studies showing how groups of farmers throughout Africa have adopted one or both of these strategies to

improve their incomes. There is an excellent chapter on resources, including information on different approaches to the value chain, at the end of the book (chapter nine).

Dairy Investment Opportunities in Uganda-Report, David Wozemba and Nsanja Rashid, SNV International, 2008

<http://www.snvworld.org/en/countries/uganda/Pages/default.aspx>

Freely available, but copyright held by SNV International

SNV International is a Dutch NGO that has been working in Uganda since 1989. Within its work on agriculture, SNV concentrates on the value chain approach. This study on dairy investment had as its purpose: “to assess the development of the dairy sector in Uganda over time with the aim of: (a) generating information useful in directing and advising on the need for investment in the dairy sector; (b) providing guidance on the nature, scale and location of investments if the sectors prove to have opportunities for enterprising venture; and (c) identify investment opportunities in the dairy subsector of Uganda through value chain analysis to find out entry points into the business.” It might be useful to visit the SNV website above, for there are additional studies on the value chain and oilseed development in Uganda.

The Dairy Value Chain in Uganda, ILRI 2008

<http://dspace.ilri.org:8080/jspui/handle/10568/2406>

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This report covers the entire value chain as it pertains to Uganda. There are additional value chain materials in the veterinary medicine course. It would be wise to review this resource guide, as well, to ascertain the relevance of resources listed in it.

Economic Report on Africa 2009: Developing African Agriculture through Regional Value Chains, UN

Economic Commission for Africa and the African Union, 2009

http://www.uneca.org/eca_resources/Publications/books/era2009/

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From the Zunia.org knowledge exchange: The report “provides thorough analyses of the key economic and social development challenges in Africa. The Report has emphasized the need for developing regional value chains for agricultural commodities in order to enhance agricultural transformation and global competitiveness. In addition, it has highlighted the role played by globalization in promoting agricultural value chains. In the context of the current global financial and economic crisis, ERA 2009 stresses the need for African countries to maintain sound macroeconomic policies and for development partners to fulfill their commitments towards attainment of the Millennium Development Goals (MDGs). The Report concludes by arguing for comprehensive strategies at both the national and regional levels to promote value chain development. Such strategies should provide information on relevant investment opportunities, incentives for their exploitation, support spillovers from lead firms, promote inclusive standards, and widen access to markets and credit for both firms and farmers.”

Facilitating Pro-Poor Market Chain Innovation: An Assessment of the Participatory Market Chain Approach in Uganda, D. Horton, CIP, 2008

<http://www.cipotato.org/publications/pdf/004287.pdf>

Freely available but copyright held by CIP

Abstract: “The Participatory Market Chain Approach (PMCA) was developed by the Papa Andina Regional Initiative of the International Potato Center (CIP) to improve the competitiveness of potato market chains and small potato producers in the Andean region of South America. Beginning in 2005, CIP and Papa Andina partnered with the Regional Potato and Sweetpotato Improvement Network in Eastern and Central Africa (PRAPACE) and several local research and development (R&D) organizations to introduce the approach into Uganda and apply it in the commodity chains for potatoes, sweetpotatoes, and vegetables. The study reported on here was conducted to assess the process of introducing the PMCA into Uganda and the results to date, to assess the prospects for future use of the PMCA in Uganda and elsewhere in the region, and to identify essential elements of a strategy for introducing the PMCA into new settings. The overall conclusion is that the PMCA

has proven effective in Uganda for strengthening innovation capacity and for developing market chain innovations that benefit small farmers as well as other market chain actors. Valuable capacities for innovation have been developed, particularly in the realms of knowledge, attitudes, skills, and social capital. These new capacities are potentially valuable assets for stimulating future innovations in market chains in Uganda or in other countries of the region. The application and results of the PMCA to date have stimulated considerable interest in the approach in Ugandan R&D organizations, in policy circles, and among those market chain actors who have participated in or heard about the work. Yet, follow-up work is needed to ensure that prototype innovations are adequately refined and to consolidate the multi-stakeholder platforms and social capital created. Based on the experiences assessed, it is concluded that the PMCA has potential value as a means to stimulate pro-poor innovation in Uganda and in other countries of the region. Key elements of a strategy for introducing the PMCA into new settings are identified.”

Food Safety Control Measures in Emerging Aquaculture Enterprises in sub-Saharan Africa: Compliance of Uganda’s Operations against International Market Requirements, Ananias Bagumire, Ewen C.D, Todd, George W. Nasinyama, and Charles Muyanja, *African Journal of Food Science*, July 2010
<http://www.academicjournals.org/ajfs/contents/2010content/Jul.htm>
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Abstract: “Selected commercial aquaculture enterprises in Uganda were evaluated for compliance with internationally recommended food safety-related control measures. Food hazard control measures at potential critical control points of: farm siting, farm facilities and premises, and facilities for feed processing and storage, chemical storage, drug storage and waste storage were evaluated. Requirements for traceability, legal and certification, standard sanitation operating procedures and food safety skills for farm workers were the other measures evaluated. On a scale of 0 - 5 where 0 denotes none, 1 very low, 2 low, 3 acceptable, 4 almost total and 5, full compliance, the majority of control points evaluated had average scores below 3, a minimum acceptable level of compliance with international guidelines. Feed processing and storage areas were the most deficient of the potential critical control points. Other significant deficiencies occurred in requirements for traceability of fish and use of on-farm standard sanitation operating procedures. Veterinary drug use, a common problem with aquaculture exports, was not an issue since none of the farms was highly intensive – a practice that would increase the risk of infestation of fish with pathogens and raise the need for use of drugs. The compliance gap requires food safety policy and practice interventions in Uganda and other sub-Saharan countries that plan to export products to highly regulated markets like in the European Union.”

Gender and Value Chain Development, Lone Rusgaard, Anna Maria Escobar Fibla, Stefano Ponte, Danish Institute for International Studies, 2010

<http://www.diiis.dk/sw95266.asp>

This study was prepared for DANIDA, which holds the copyright.

From the Introduction: “Value chains have become a key concept in international discussions on development, in particular in relation to the effects of globalization on employment and poverty reduction in the South. Together with the increased attention to private sector development, the concept features prominently in the follow up to the recommendations of the Africa Commission established in 2007 by the previous Danish Prime Minister. At the same time, gender equality¹ and women’s empowerment also feature high on the development policy agenda in Denmark. Ensuring that gender issues are taken into consideration in value chain-related interventions is vital for facilitating the development of inclusive value chains that benefit both women and men... The overall purpose of this study is to examine which gender issues are important when and where in value chains – based on findings of existing evaluations complemented by other relevant studies.”

Governance, Coordination, and Distribution along Commodity Value Chains, FAO, 2006

<http://www.fao.org/docrep/010/a1171e/a1171e00.htm>

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From the introductory note: “A two-day workshop was held by the Commodities and Trade Division³ at FAO in Rome, 4-5 April 2006. The objective was to explore the issues arising from the changing structure of the various commodity chains, and to guide the future work of the Division in this area.

This set of proceedings of the workshop is published to assist in understanding the implications of the

developments in agricultural value chains and in the analysis of value chains by economists, from a competitive market structure to one where market players are characterised by varying degrees of market power. This changing pattern and the development of market power affect resource allocation in agriculture and equity between producers, and have implications for domestic as well as international policies.”

Guidelines for Rapid Appraisals of Agrifood Chain Performance in Developing Countries, Carlos A. da Silva and Mildo M. de Souza Filho, FAO, 2007

<http://www.fao.org/docrep/010/a1475e/a1475e00.htm>

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From the abstract: “This publication presents a methodological strategy for the analysis of agrifood value chains. Simply stated, chains can be seen as sets of interrelated activities that are typically organized as sequences of stages. In the agricultural, food and fiber sector, chains encompass activities that take place at the farm level, including input supply, and continue during first handling, processing and distribution. As products progressively move through the successive stages, transactions between chain actors - producers, processors, retailers, etc, - take place. Money changes hands, information is exchanged, and value is progressively added. Seen from a broader, systemic perspective, the chain concept includes also the ‘rules of the game’ - laws, regulations, policies and other institutional elements - as well as the support services, which form the environment where all activities take place. Value chain analysis under such a broad view seeks to characterize how chain activities are performed and to understand how value is created and shared among chain participants. It seeks also to evaluate the performance of chains and identify what, if any, are the barriers for their development.” In addition to excellent explanations of concepts and methodologies, there is a very good illustrative timeline on value chain concepts on page six.

Innovations for Agricultural Value Chains in Africa

<http://www.ilri.org/InnovationsforAgriculturalValue>

ILRI is collaborating with the Meridian Institute and the East Africa Dairy Project on an initiative to improve the efficiency of value chains on the Continent. The project focuses on four areas: animal health and disease; milk production; milk quality; and milk preservation, sanitation, and transport. A link to the ILRI website is above. The Meridian Institute (<http://sites.merid.org/value-chain-innovations/dairy.html>) has produced two publications on the dairy value chain. The first is a “Dairy Value Chain Overview Paper,” which provides a brief introduction to the dairy industry in sub-Saharan Africa. The second is an excellent PowerPoint to the Bill and Melinda Gates Foundation on the dairy value chain.

Both resources are freely available. In 2010 ILRI copyrighted its web sites and other published resources under the Creative Commons Attribution-Noncommercial-Share Alike 3.0 Unported License. Older documents remain Open Access and will be treated as if they have the same Creative Commons License. The ILRI resources are therefore Open Access.

Making Rice Agribusiness Work in sub-Humid Tropics of Nigeria: the Commodity Value Chain

Development Approach, Benjamin Odoemena, Damian Ihediha, Simon Ibane, and Paul Okoli, *African Journal of Agricultural Research*, 2008

<http://www.academicjournals.org/ajar/abstracts/abstracts/abstracts2008/Nov/Odoemena%20et%20al.htm>

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Abstract: “Nigeria is the largest rice producing country in West Africa, but is also one of the largest importers of rice in the World. Rice production in the country is characterized by a supply-driven production system that is rooted in subsistence model of farming. A commodity value chain development approach was recently put into use in the past two years to transform the rice agribusiness sub sector to satisfy consumer preferences in Nigeria. The model has been. The value chain approach is built on the efficiency of private-led business development encapsulated in a market-led model that drives input linkages and best agronomic practices. The model involves the production of high premium rice paddy, willingness of major input dealers to provide agro-chemicals to the farmers at affordable prices, use of private sector-led extension delivery system, project responsiveness to emerging opportunities including the establishment of spray-men, and appropriate use of improved agronomic practices. All inclusive participatory methods in project implementation further shaped the success of the

intervention. Three major rice processing firms which provided a sustainable market outlet for the farm produce from a total of 4000 farmers were involved in the process. Investigations indicate that about 53% of the farmers were formed into farmers' cooperative groups and linked to a credit institution. The farmers (69%) adopted the package of practices on their farms and achieved an average yield of 4.9 tons per hectare, as against national productivity average of 1.7 tons/ha. Female farmers (71.4%) produced an average of 6.2 tons/ha. Two major rice processing firms generated a total gross revenue of USD1,017,162 while 34 newly established processing enterprises generated income valued at USD855,843 in 2006. Over 300 young people were gainfully employed as agrochemical sprayers. This paper therefore shows that a market-led demand-driven agricultural development approach by high value commodities can lead to efficiency in the agricultural sector and generate the employment for idle youths."

Policy Change in Dairy Marketing in Uganda and East Africa: Economic Impact and Pathways to Influence from Research, Gabriel Elepu, a draft report submitted to ASARECA, 2007

<http://www.asareca.org/paap/uploads/publications/Policy%20change%20in%20Dairy%20Marketing%20in%20Uganda%20and%20East%20Africa.pdf>.

Freely available, but copyright held by ASARECA

This paper is not specifically about value chain issues, but it is an excellent introduction to issues pertaining to Uganda's dairy industry. The reference list at the end is also quite good, and includes links to websites, wherever available.

Trading Up: Building Cooperation between Farmers and Traders in Africa, International Institute of Rural Reconstruction (IIRR), 2008

<http://www.kit.nl/smartsite.shtml?id=SINGLEPUBLICATION&ItemID=2501>

Freely available, but copyright held by KIT and IIRR..

Trading Up was produced during an IIRR "writeshop," which brought together representatives of all the stakeholder communities, including traders, farmers, and NGOs. The book highlights the role of traders in the value chain. Unknown to most producers, traders operate in a climate of great uncertainty, encountering enormous risk. Most private traders possess little working capital. They often rely on their own funds, advances from wholesalers, acceptance by farmers of deferred payments and, at times of peak financing requirements, high-interest moneylenders. Farmers often believe that if they could just eliminate the trader, profits would improve. By contrast, traders fulfill a vital role in the value chain. Appropriate trading partners ensure better returns for farmers. Through case studies, this book describes and analyzes the role of all actors in the value chain.

Using Value Chain Approaches in Agribusiness and Agriculture, Martin Weber, World Bank, 2000

<http://vle.worldbank.org/bnpp/en/publications/trade/using-value-chain-approaches-agribusiness-and-agriculture>

Freely available; copyright held by World Bank, with permission to use in AgShare.

Abstract: "A value chain is a sequence of steps involved in the process of production to market delivery of a product. It provides a means of understanding relationships between businesses, methods for increasing efficiency, and ways to enable businesses to increase productivity and add value. Value-chain approaches are a vehicle for linking small businesses to markets, and thus are essential for improving rural sub-Saharan Africa's (SSA) economies and reducing poverty. The agricultural share of sub-Saharan Africa's total exports has declined sharply in the last 40 years, but remains the main source of export revenue for many SSA countries. Without further improvement to their business environments and increased competitiveness of their exports, many SSA countries risk being trapped by continuing to produce low-skill, low-value products and services and will fail to secure a niche in competitive world markets. This paper, financed by the Bank-Netherlands Partnership Program (BNPP), offers a guide of value-chain approaches in the context of five main issues: trust and cooperation, governance, market power, innovation and knowledge, and focus/intervention points. It offers value chain implementation tools such as designing new strategies and business plans, aligning supply to match market opportunity, improving the business environment, and monitoring results in value-chain development." There is a good introduction to the value chain approach, a literature review, and several African case studies—including one from Uganda on Nile perch quality management and certification. (This chapter might also be relevant to the section of the course on policy dimensions of value chain certification.)

Value Chain Analysis: a Tool for Enhancing Export Supply Policies, Raphael Kapinsky and Mike Morris, *International Journal of Technological Learning, Innovation, and Development*, 2008
<http://dx.doi.org/doi:10.1504/IJTLID.2008.019975>

Freely available through the Open University UK website.

Abstract: “Mainstream economics and the agenda promoted by Washington Consensus institutions focuses on the role played by markets. In recent years, this policy agenda has been concentrated on a series of behind-, beyond- and between-the-border trade-related issues. Whilst valuable, this agenda fails to address some of the major determinants of export supply in developing economies. By contrast, the value chain framework provides a rich agenda for the design and implementation of policies designed to enhance export supply. These issues are addressed in this paper through a discussion of the dynamics of rent and rent appropriation, the growing role of standards and turnkey production. Contemporary global value chains are in a state of flux, with a reduced likelihood of capability-building supply chain programmes in low-income economies outside of Asia.”

Value Chain Finance: Beyond Microfinance for Rural Entrepreneurs, KIT and IIRR
<http://www.kitpublishers.nl/smartsite.shtml?ch=FAB&cid=33693&ItemID=2740>

Freely available, but copyright held by KIT and IIRR.

In large parts of the world, small-scale farmers, traders and processors are constrained in their business operations due to a lack of finance. Farmers want to be paid immediately, but traders do not have the ready cash to buy their produce. Traders need working capital so they can buy and transport produce, but lack the collateral to get loans. Processors cannot get the money they need to buy equipment or ensure a steady supply of inputs. Value chain finance is a solution to such dilemmas. Value chain finance is when specialized financial institutions are linked to the value chain to offer services that build on the business relations in the chain. For example, a bank may loan money to a trader because the trader has a regular supply of produce from a farmers' group and a supermarket as a loyal customer. When lead firms are willing to vouch for their suppliers, even smallholder farmers become creditworthy. This book describes 13 cases from 10 countries (Bolivia, Ethiopia, India, Kenya, Nicaragua, Peru, Rwanda and Tanzania) where such initiatives have unclogged value chains, improved the lives of the rural poor, produced more and higher-quality agricultural products, and made the value chain more profitable for all concerned. (There is also a section on the dairy value chain.) Like the KIT/IIRR resource above, this book was produced in an IIRR writeshop, which involved all of the stakeholders in value chain finance. (Scroll down to the bottom of the page, where you will find the link to download the book.)

Value Chain Governance and Access to Finance: Maize, Sugar Cane, and Sunflower Oil in Uganda, Catherine Johnston and Richard L. Meyer, USAID, 2007

http://www.microlinks.org/file_download.php/mR+88+VALUE+CHAIN+GOVERNANCE+Uganda.pdf?URL_ID=12658&filename=12042326531mR_88_VALUE_CHAIN_GOVERNANCE_Uganda.pdf&filetype=application%2Fpdf&filesize=1401087&name=mR+88+VALUE+CHAIN+GOVERNANCE+Uganda.pdf&location=user-S/

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From the Executive Summary, but with footnotes deleted: “Value chain finance leverages value chain relationships in order to successfully screen clients, monitor their activities, and enforce formal or informal credit contracts. Value chain relationships allow value chain lenders to resolve the same problems that financial institution lenders face: knowing whether the client will be able to repay, and deciding whether the client will be willing to repay. The value chain governance structure is important in determining how well a finance provider within the value chain can screen and select clients, how well it can monitor their activities, and how effectively it can enforce contracts. Three value chains in Uganda were analyzed to better understand the relationship between governance and value chain finance.”

Value Chains versus Supply Chains, Andrew Feller, Dan Shunk, and Tom Callarman, BPTrends, 2006
<http://www.ceibs.edu/knowledge/papers/images/20060317/2847.pdf>

Freely available, but copyright held by authors

Abstract: “The concept of a Value Chain has existed for twenty years but we find it still is an unclear concept. It has been suggested that the third generation supply chain is based on customer intimacy and is fully synchronized. In this paper, the authors discuss the need to relate the concepts of the value chain and the supply chain in a more comprehensive and integrative manner. We begin with a discussion of value and the

development of the concept of value chain. We then discuss similarities and differences of the value chain and the supply chain, and conclude with suggestions regarding the need for synchronizing value and supply chains to optimize business performance.”

VIDEO

Ankole Cattle: One of Africa’s Disappearing Livestock Breeds?

http://blip.tv/file/3963979?utm_source=player_embedded

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Daniel Semambo, Director of Uganda’s National Animal Genetic Resources Centre and Data Bank, outlines the issues facing many developing countries as they try to improve their livestock productivity (largely by cross-breeding their native stock with higher-producing exotic breeds) while at the same time they try to stem losses of their native livestock breeds and genes. Hardy Ankole cattle have been part of farming in East Africa for generations. As farmers in Uganda and other countries increasingly cross-breed the Ankole with exotic, less disease and drought-resistant animals, fewer and fewer pure-bred Ankole remain. Daniel Semambo in this film makes the case for conserving this and other important animal genetic resources of Africa.

The Kenya Smallholders Dairy Project

<http://www.smallholderdairy.org/unheard%20voices.htm>

The Kenya Smallholders Dairy Project has a series of very short films titled “Untold Voices from Kenya’s Dairy Industry,” which shows interviews with Kenyan dairy farmers, traders, processors, NGOs, and shop owners. Most of the interviews are less than two minutes; the longest is three minutes. These films are copyrighted by the Kenya Smallholder Dairy Project, which is an initiative of ILRI.

WEBSITES AND OTHER RESOURCE MATERIALS

FoodNet

<http://www.foodnet.cgiar.org>

FoodNet was launched in 1999 as an ASARECA post-harvest and market research network for East and Central Africa and implemented by The International Institute of Tropical Agriculture (IITA). (ASARECA is discussed in Multidisciplinary Resources, below.) It focuses primarily on agricultural value-chain analyses, market studies, market and marketing information services, agro-collective enterprise development, and related business development support services in order to link agricultural producers, who are mainly smallholders, to markets. On the FoodNet website, users will find market information and studies; reports and trend analyses; and information on agro-enterprises. Although FoodNet materials are freely available, they are copyright protected. FoodNet also implements a market information service, which disseminates market information through radio throughout Uganda in different languages. There are ten radio scripts available on the website, focusing on the advantages of group marketing and of farmers working together in groups. The programs themselves are not available on the site, unfortunately

Value Chain Approach to Poverty Reduction and Development of Livelihoods

<http://www.researchintouse.com/nrk/RIUinfo/valuechain/valuechain.htm>

This resource provides an excellent description and analysis of the value chain approach to development. There is an excellent annotated list and links to PDF files of research projects related to value chains or market chains. There is an equally good page on further resources, with links to full text research literature. Many of the documents pertain to value chain issues in Africa. This might be a “one-stop” shop for value-chain issues except for the copyright, which appears quite restrictive for the document contained in the URL above. However, Research into Use does not own copyright on any of the non-RIU links. It is possible that the organizations that published the reports and papers to which RIU links maintain open access licenses for their publications.

Value Chains for Development Information Portal

<http://www.kit.nl/smartsite.shtml?id=12505>

The Royal Tropical Institute (KIT) of the Netherlands maintains a value chains for development information portal with links to e-publications, twitter, RSS feeds, and some video.

Value Chain Development Wiki

http://apps.develebridge.net/amap/index.php/Value_Chain_Development

The Value Chain Development Wiki, which is maintained by the US Agency for International Development (USAID) is a tool to explain and codify value chain concepts and practices. The entries are clearly written, with links on where to go for additional resources. The page is divided into sections—the value chain framework; the value chain project cycle; and a final section on resources. Several of the topics included in the value chain syllabus are covered.

Value Chain Development

Send comments or questions about this wiki to vcwiki@microlinks.org

Welcome to the Value Chain Development Wiki

These wiki pages codify good practice in value chain development, drawing from research conducted under the leadership of the USAID Microenterprise Development team by the ACDI/VOCA AMAP BDS consortium and many other contributing organizations, academics and institutions. (Click here to see the [list of contributors](#).)

USAID's approach to enterprise development has evolved from facilitating markets for business services to a broader value chain perspective. The premise of USAID's new approach is that enterprise development can create wealth in poor communities and promote economic growth by sustainably linking large numbers of micro- and small enterprises (MSEs) into international, national and/or local value chains. To achieve this goal, the approach calls for linking small firms to economic growth opportunities, while ensuring both the incentives for and the capability to compete in and benefit from market participation. The [Key Elements of the Value Chain Approach](#) details the rationale and background for USAID's new approach to enterprise development.

The Value Chain Development wiki is a tool to engage and share experiences amongst peers; it will only be truly useful if people like you—who design, implement and support value chain development programs—contribute to it. Conceptually, the pages are organized around the structural and dynamic elements of the value chain framework and the project cycle, providing annotated links to relevant papers, tools and project examples. Please click here for [Navigation Tips](#).

The Value Chain Framework

The [Value Chain Framework](#) comprises the structure and dynamics of the value chain.

- End Markets
- Business Enabling Environment
- Vertical Linkages
- Horizontal Linkages
- Supporting Markets
 - Value Chain Finance
 - Information and Communications Technology
- Value Chain Governance
- Inter-firm Relationships
- Upgrading

The Value Chain Project Cycle

The [Project Cycle](#) is a step-by-step process for designing and implementing programs with principles of value chain development, an approach that promotes economic growth by sustainably linking large numbers of micro- and small enterprises (MSEs) into competitive industries.

Highlights

- Visit our new sections on [Vulnerable Populations and the Value Chain Approach](#) and [The Value Chain Approach in Conflict-Affected Contexts](#).
- The [End Market Toolkit](#): For a step by step guide to conducting end market research, visit [End Market Analysis](#) and download the new toolkit.
- [CIBER](#): USAID's tool to prioritize regulatory constraints to value chain competitiveness and to engage value chain participants in the reform process can be found [here](#).
- [West Africa Value Chain Analysis Protocol](#): For an approach, methodology and practical tools for conducting regional analyses of staple crops, [click here](#).
- Resources from [SEEP's IGP Learning Network](#) on the use of ICT and incremental upgrading strategies.

Local Shared Value

Local Shared Value (LSV) is a business strategy that creates value for the company and the communities in which it operates. LSV is achieved through three main pathways: 1. **Productivity and Innovation**: Investing in research and development to create new products and services that meet the needs of the community. 2. **Local Procurement**: Sourcing raw materials and services from local suppliers, which helps to create jobs and support the local economy. 3. **Local Infrastructure**: Investing in infrastructure projects that improve the quality of life and economic opportunities for the community. The diagram shows how these pathways lead to **Competitive Advantage** for the company, which is supported by **Enabling Environments** and **Financial (cross cutting)** support.

The Value Chain Wiki was designed to encourage participation from as many people as possible—as long as they register first. Users can create and edit content. Go to: http://apps.develebridge.net/amap/index.php/Getting_Started_on_this_Wiki for instructions on how to use this resource. Why not think about asking students to navigate the site and using it? Any entries that they make could be considered part of an assignment and marked.

RUFORUM/AICM

Haramaya University

Haramaya University is one of the universities collaborating in a regional Master's Degree program on Agricultural Information and Communication Management (AICM) established by the Regional Universities' Forum for Capacity-Building in Agriculture (RUFORUM). As part of its participation in AgShare, Haramaya University focused on the creation of a comprehensive set of course materials for its Perspectives on Agricultural Extension course. This is a new course for Haramaya University.

This chapter is divided into the following sections—textbooks and sourcebooks; student readings (subdivided into the topics delineated in the course outline; and useful websites.

TEXTBOOKS AND SOURCEBOOKS

The resources listed below might serve as a textbook for all or some of the topics in this course. They could be used independently of one another or combined.

Concepts and Practices in Agricultural Extension in Developing Countries: a Source Book,

Anandajayasekera P, Puskur R, Sindu Workneh and Hoekstra D, IFPRI (International Food Policy Research Institute), Washington, DC, USA, and ILRI (International Livestock Research Institute), Nairobi, Kenya, 2008

<http://www.ipms-ethiopia.org/Training-Materials/In-English.asp>

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This 275-page source book commissioned by Improving Productivity & Market Success in Ethiopia (www.ipms-ethiopia.org) covers some of the major topics of this course and might be used as a textbook for them, if redistribution permission is obtained. There are chapters on the historical evolution of extension, challenges, and opportunities; extension methods and approaches; extension approaches, models and methods; research and extension (including a few pages on gender); and the role of R&D.

Global Review of Good Agricultural Extension and Advisory Service Practices, Burton E. Swanson, FAO, 2008

<http://www.fao.org/docrep/011/i0261e/i0261e00.HTM>

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This review might be considered instead of the 1985 FAO volume referenced below. The four chapters—“Overview of agricultural extension and advisory system,” “Factors affecting the development of more pluralistic extension and advisory services,” “The role of private and civil society organizations in a pluralistic extension system, and the conclusion, which focuses on lessons learned and transforming national advisory services into decentralized, farmer-led, and market driven extension systems—would all be relevant to different course topics. There is no specific chapter on extension education.

Improving Agricultural Extension: a reference manual, edited by Burton E. Swanson, Robert P. Bentz, Andrew J. Sofranko, FAO, reprinted in 1998

<http://www.fao.org/docrep/w5830e/w5830e00.HTM>

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Parts of this manual might serve as a textbook for different course topics. The book's first section lays out the evolution of agricultural extension over time, outlines different extension approaches that have emerged over the past thirty to forty years, revisits the role of extension in the development process, and summarizes the economic contribution of extension to agricultural and rural development. The second section concentrates on improving extension program development and delivery. The third section deals directly with improving the organization and management of extension systems. The final section, which might now be out-of-date, deals with current themes in the field of agricultural extension as the authors look toward the future and its implications for extension. Basically, this book and the source book above, might together form a textbook for the course. The FAO manual includes a full chapter on gender, for example, which is lacking from the IPMS source book. There is also one on economic impact. The two books should be evaluated together to ascertain how to make the best use of them. (This book is not available in PDF format from FAO.)

STUDENT READINGS BY TOPIC

Topic One: Concepts and Philosophy of Agricultural Extension

- **Agricultural Extension**, Syngenta Foundation for Sustainable Agriculture
<http://www.syngentafoundation.org/index.cfm?pageID=594>

The Syngenta Foundation website has a very good definition of agricultural extension, including past experiences and new approaches. Together with this, there is a paper by Yuan Zhou, "Reinventing agricultural extension to smallholders," which assesses concepts and approaches to agricultural extension, with a focus on the developing world. This paper is described below, and might also be relevant to topic four.

- **Extension in Sub-Saharan Africa: Overview and Assessment of Past and Current Models and Future Prospects**, Davis, K., Journal of International Agricultural and Extension Education, Fall 2008
<http://www.iaee.org/vol-153-fall-08.html>
Published by the International Agricultural and Extension Education.
Freely available, but no copyright information given.

Abstract: "This paper describes the role of agricultural extension in sub-Saharan Africa, and gives a typology for types of extension, which includes the basic forms of public top-down, participatory, and private. An overview of the evidence base for successes or failures of various models is given, which shows that evidence has been mixed on some of the major extension models in SSA, and that it is difficult to show impact for extension. There is also a lack of evidence on some of the newer models, extension reforms, and pluralistic models that involve many different extension providers. In general, though, problems in extension systems were due to a combination of a lack of relevant technology, failure by research and extension to understand and involve clientele in problem definition and solving, lack of incentives for extension agents, and weak linkages between extension, research, and farmers. The current status of extension in various sub-Saharan African countries is assessed, and new models are discussed. A framework for designing and analyzing extension systems is briefly described. Finally, future prospects for extension in sub-Saharan Africa are discussed."

- **Reinventing Agricultural Extension to Smallholders**, Yuan Zhou, Syngenta Foundation for Sustainable Agriculture, 2008, 7 pages
<http://www.syngentafoundation.org/index.cfm?pageID=131>
Freely available but copyright held by Syngenta Foundation

Introduction: "In recent years, many countries have realized the need to revive agricultural extension services to promote pro-poor growth, reach poor marginalised smallholder farmers and address new

challenges on sustainability, environmental degradation and climate change. This paper discusses evolving concepts and approaches in agricultural extension, past experiences of key countries, problems and failures, and future directions.”

Topic Two: Genesis of Extension Education

- **Agricultural Extension in Ethiopia: the Case of Participatory Demonstration and Training Extension System,** Kassa Belay, *Journal of Social Development in Africa*, January 2003, full-text held at Michigan State University, African e-journals project
<http://digital.lib.msu.edu/projects/africanjournals/html/itemdetail.cfm?recordID=3112>
The copyright to this journal is held by the publisher, the School of Social Work of the University of Zimbabwe. The article is freely available at MSU, but copyright held by author.

Abstract: “This paper examines the participation of farmers in the Participatory Demonstration and Training Extension System and looks into the principal barriers to the adoption of modern agricultural inputs. The paper is based on a review of the literature and an analysis of data collected from 482 household heads selected from 6 sites in four regional states, namely, the Amhara National Regional State, the Oromia National Regional State, the Southern Nations, Nationalities and People's Regional State and the Tigray National Regional State. The historical review reveals that extension programmes and policies have been formulated without due consideration to the farmers' opinion and traditional knowledge system. The various extension approaches have been biased against the livestock subsector and research and extension activities have been carried out by different organizations without proper coordination, which, in most cases, has led to redundancy of effort and wastage of resources. Both the historical review and the survey results reveal that extension service coverage in the country has been very low, the research-extension linkage has been very poor and extension agents have been involved in different activities which are not related to their normal duties. The study also makes it clear that a host of factors, some of which are policy related, were responsible for the low rate of adoption of modern agricultural inputs in the country.”

- **Challenges Facing Agricultural Extension Agents: A Case Study from South-western Ethiopia,** Kassa Belay and Degnet Abebaw, African Development Bank 2004
<http://www.eap.gov.et/node/630>
This article appeared in *African Development Review*, for which the African Development Bank holds copyright, but the full text of this article is mounted on the EAP website (which is described in Useful Websites).

Abstract: “This article examines the working conditions of extension workers and constraints to the adoption of modern agricultural technologies/ practices in south-western Ethiopia. Data collected from 85 extension workers form the empirical basis for the study. The empirical results indicate that extension work in the study area has not been participatory in its nature, little consideration was given to farmers' experiences and knowledge, and extension workers lack practical skills. In addition to deciding on who should take part in the extension programme, extension agents are found to supply more services to those farmers who are financially sound and show interest in the programme. The study reveals that apart from the fact that the number of extension workers in the study area is very small, their qualification and communication skills leave a lot to be desired. The study makes it also clear that a host of factors obstructs the promotion/adoption of modern agricultural technologies/ practices in the study area.”

- **Commercialization of Ethiopian Agriculture: Extension Service from Input Supplier to Knowledge Broker and Facilitator,** Berhanu Gebremedhin, D. Hoekstra and Azage Tegegne, IPMS Working Paper Number 1, 2006
<http://www.ipms-ethiopia.org/Documents-Publications/Working-Papers.asp>
Freely available. In 2010 ILRI copyrighted its web sites and other published resources under the Creative Commons Attribution-Noncommercial-Share Alike 3.0 Unported License. Older document remain Open Access and will be treated as if they have the same Creative Commons License. The ILRI resources are therefore Open Access.

From the introduction: “this paper looks at evolution of the extension institutions globally and in Ethiopia, and how effective these institutions have been in meeting their mandate in the past. It then reviews the present system (strengths and weaknesses) and the newly developed extension strategy for Ethiopia. It

concludes with suggestions for improving the extension services in order to fit into its new role in the context of market oriented transformation of the Ethiopian agriculture.”

- **Extension in Sub-Saharan Africa: Overview and Assessment of Past and Current Models, and Future Prospects**, Kristin E. Davis, *Journal of International Agricultural and Extension Education* Vol 15(3), Fall 2008
<http://www.iaee.org/vol-153-fall-08.html>
Full-text available online. Copyright held by Association for International Agricultural Extension and Education

Abstract: “This paper describes the role of agricultural extension in sub-Saharan Africa, and gives a typology for types of extension, which includes the basic forms of public top-down, participatory, and private. An overview of the evidence base for successes or failures of various models is given, which shows that evidence has been mixed on some of the major extension models in SSA, and that it is difficult to show impact for extension. There is also a lack of evidence on some of the newer models, extension reforms, and pluralistic models that involve many different extension providers. In general, though, problems in extension systems were due to a combination of a lack of relevant technology, failure by research and extension to understand and involve clientele in problem definition and solving, lack of incentives for extension agents, and weak linkages between extension, research, and farmers. The current status of extension in various sub-Saharan African countries is assessed, and new models are discussed. A framework for designing and analyzing extension systems is briefly described. Finally, future prospects for extension in sub-Saharan Africa are discussed.”

Topic Three: Extension Education and Society

- **Engaging Communities in Soil Fertility Management for Sustainable Agricultural Production: Case Studies from Kakamega and Nakuru Districts**, F.N Wegulo, P. Wandahwa, W. Shivoga, I. Tabu, N. Muhia, and S. Inoti, Eterton University, Kenya, paper presented at the 2009 12th General Conference of the Association of African Universities
http://gc.aau.org/papers/Francis_N_Wegulo_full20.pdf
Freely available, but the authors hold the copyright

From the Executive Summary: “Higher institutions of learning including universities have been accused of not responding as they should, to challenges confronting the African continent. These include the escalating poverty, food scarcities, the compounding environmental degradation, diseases, among others. Pedagogies are discipline based and stress intellectual pursuits at the expense of problem solving; the research agenda is equally irrelevant. Efforts to reverse this trend through engaging local communities in participatory research and learning are urgently required in the face of increasing demand for sustainable development. This paper presents preliminary results on an on-going project that is working closely with local communities with a view to empower them to mitigate soil fertility decline in two districts – Kakamega and Nakuru, Kenya.”

- **Farmers’ Training Effectiveness in Terms of Changes in Knowledge and Attitude: the Case of Holeta, Melkassa, and Debre Zeit Agricultural Research Centres, Ethiopia**, Tsion Tesfaye, Ranjan Karippai and Teklu Tesfaye, full length research paper in *Journal of Agricultural Extension and Rural Development*, Vol. 2 (5), June 2010
<http://www.academicjournals.org/JAERD/contents/2010%20cont/June.htm>
Academic Journals. Creative Commons license

From the abstract: “Several agricultural technologies and high yielding varieties have been disseminated from the research centres operating under the umbrella of Ethiopian Institute of Agricultural Research such as: Holeta, Debre Zeit and Melkassa Agricultural Research centres. While the core functions of Ethiopian Institute of Agricultural Research (EIAR) are technology supply, popularization, national coordination and capacity building and policy development, the research and extension divisions of EIAR are responsible for transfer of technologies that are being developed in the respective research centres to farmers and other functionalities through training. There is, therefore, an alarming need to improve agricultural extension activities with the involved farmers through training. Therefore, the objective of this study was to the effectiveness of farmers’ training in improving their knowledge and attitudes. One woreda was purposively

selected from areas where each one of the three research centres is offering training to the farmers.” Similar research was reported by these authors in “Effectiveness of training offered by Ethiopian Institute of Agricultural Research to farmers: the case of Holetta, Melkassa and Debre Zeit Agricultural Centres, *African Journal of Agricultural Research*, Vol. 5(7), 4 April 2010. Go to www.academicjournals.org/AJAR.

- **Tailoring Tertiary Agricultural Education for Sustainable Development in Sub-Saharan Africa: Opportunities and Challenges**, S. Chakeredza, A.B. Temu, J.D.K. Saka, D.C. Muntali, K. Muir-Leresche, F.K. Akinnifesi, O.C. Ajayi, and G. Sileshi, full-length research paper in *Scientific Research and Essay*, Vo. 3 (8), August 2008

<http://www.academicjournals.org/SRE/contents/2008content/Aug.htm>
Academic Journals. Creative Commons license

Abstract: “Sub-Saharan Africa’s economic growth hinges on the development and promotion of a vibrant and sustainable agricultural production base. The prime movers for sustainable agricultural production include: availability of improved technologies, human capital, sustainable growth of biological and natural resource capital, improvement in performance of supporting institutions and favourable economic policy environment. Central to making these components operational is the production of suitable graduates, who are (i) technologically competent and relevant, ii) equipped with the necessary soft skills” and business skills and (iii) able to work with local and especially rural communities. In this paper we review the current weaknesses in the tertiary agricultural education system and propose the necessary changes to be instituted. It is projected that the number of hungry people in Africa will continue to increase further in the 2020s. To turn the continent around, tertiary agricultural education must be transformed. Issues of faculty retention, institutional management, curricula content and education delivery, urgently require review and re-designing. We demonstrate the “best practices” which if replicated on a wide scale can move the continent in the desired direction.”

Topic Four: Extension Methods and Approaches

- **Agricultural Extension in the Drylands of Ethiopia**, Dejene Abesha, et. al., Drylands Coordination Group, 2000
www.drylands-group.org/noop/file.php?id=414
Freely available, but the Drylands Coordination Group holds the copyright.

From the executive summary: “This study was undertaken by the Dryland Coordination Group on request from Norwegian NGOs working in Ethiopia. Several parts of southern Ethiopia, including Borana, Konso, South and Northern Omo were visited. The objective was to study agricultural extension in the drylands of Ethiopia. Major issues covered were suitability of national extension programme, the package approach, farmers’ participation and relationship between the national extension system and NGOs.”

- **Literature Review on Experiences with Farmers’ Field Schools in Ethiopia**, Eyasu Elias, SOS Sahel International, October 2002
<http://www.lei.dlo.nl/inmasp/files/b0c440b40ccdfd24710bda6f271c01cf.doc>
Freely available, but SOS holds copyright

This is a very good background paper on the role of farmers’ field schools within the extension system of Ethiopia. There is a good list of references at the end of this report.

- **Participatory Approaches to Agricultural Research and Extension**, Scott Killough in *Participatory Research and Development for Sustainable Agriculture and Resource Management*, IDRC, 2005
http://www.idrc.ca/en/ev-85045-201-1-DO_TOPIC.html
IDRC holds the copyright and allows distribution. From the copyright statement: “For noncommercial and academic use, users may read, download, copy, distribute, print, search, or link to any content on this website, provided suitable credit and reference is given to IDRC and the original source page.”

This chapter reviews how participatory approaches can intersect with research systems and extension. In particular, there is a very good table reviewing the typology of extension approaches from the literature.

This chapter might also be appropriate to topics 9 and 14. This volume is not available in PDF format.

Topic Five: Conceptual Foundation for Extension Impact

- **Participatory Communication Strategy Design: A Handbook**, Paolo Mefalopulos and Chris Kamlongera, SADC Centre of Communication for Development, FAO, 2004
www.bvsde.paho.org/bvsacd/cd46/fao-partici.pdf
Freely available, but copyright held by FAO. FAO encourages the reproduction and dissemination of material published on its Website. Noncommercial use is authorized free of charge upon request to FAO. Accordingly, AgShare requested and received FAO permission for reproduction and dissemination of this resource.

The handbook was prepared as a training and reference guide for designing and implementing Communication for Development strategies for field projects. It presents a step-by-step methodology for participatory communication strategy design, and the principles for communication planning, message development, multimedia material production and the implementation of communication activities in the field. Although the book does not deal with the technical aspects of media production, it specifies the requirements for effective use of communication approaches, media and materials among rural communities. In this way users of the handbook will be able to plan, supervise and monitor the implementation of the communication strategy whole process. The methodology proposed by the PCSD handbook has been tested through several training workshops in Africa. It has also been applied with success to various development projects dealing with agriculture, health, education, income generation, gender, water and sanitation, animal husbandry and poverty alleviation.

- **Participatory Rural Communication Appraisal: A Handbook**, Chike Anyaegbunam, Paolo Mefalopulos, Titus Moetsabi, FAO 2004
http://www.fao.org/sd/dim_kn1/kn1_050901_en.htm
Freely available, but copyright held by FAO. FAO encourages the reproduction and dissemination of material published on its Website. Noncommercial use is authorized free of charge upon request to FAO. Accordingly, AgShare requested and received FAO permission for reproduction and dissemination of this resource.

From the Website: “Over the past thirty years FAO has field-tested successful Communication for Development approaches and methods for sharing information and knowledge and promoting development action, using participatory message design and the combined integrated use of traditional and modern media. Participatory Rural Communication Appraisal, Starting with the People – A Handbook describes the procedure for planning and conducting Participatory Rural Communication Appraisal (PRCA) as the first step in the design of cost-effective and appropriate Communication for Development programs, strategies and materials at the field level. PRCA is a rapid and participatory method for conducting communication action-research. Using a simple, easy to follow step-by-step methodology to conduct rural communication appraisals with communities, this handbook also provides a range of participatory tools to actively involve people in the research process to identify communication needs and to assess communication systems as a prerequisite for effective communication strategies and programs design (see also Participatory Communication Strategy Design, above)Partici. PRCA is a handy guide for communication practitioners and development workers who need to know what is involved in designing and implementing effective Communication for Development programmes and initiatives. The book may be used either as a reference in conducting PRCA in the field or as an introductory training guide to basic principles and procedures for initiating participatory Communication for Development processes.

- **The Impact of Agricultural Extension and Roads on Poverty and Consumption Growth in Fifteen Ethiopian Villages**, Stefan Dercon Daniel O. Galligan, John Hoddinott, Tassew Woldehanna, IFPRI, 2008
<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.146.2700&rep=rep1&type=pdf>
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Abstract: “This paper investigates whether public investments that led to improvements in road quality and increased access to agricultural extension services led to faster consumption growth and lower rates of

poverty in rural Ethiopia. Estimating an instrumental variables model using Generalized Methods of Moments and controlling for household fixed effects, we find evidence of positive impacts with meaningful magnitudes. Receiving at least one extension visit reduces headcount poverty by 9.8 percentage points and increases consumption growth by 7.1 percent. Access to all-weather roads reduces poverty by 6.9 percentage points and increases consumption growth by 16.3 percent. These results are robust to changes in model specification and estimation methods.

Topic Six: Extension Policy and Organizational Issues

- **Extension, Poverty and Vulnerability: the Scope of Policy Reform**, Final report of a study for the Neuchatel Initiative, John Farrington, Ian Christoplos, Andrew D. Kidd, with Malin Beckman, ODI, March 2002 http://se1.isn.ch/serviceengine/Files/ISN/104715/ipublicationdocument_singledocument/731C1CFA-BC07-4E63-A25F-B951C730ACEE/en/155combined.pdf. Freely available, but copyright held by ODI

This working paper is a very good assessment of current extension policies in the developing world, their implications, and recommendations for the future. There is one chapter on Uganda, which might be used as a case study, together with the report preface and introduction. From the abstract: “Extension policy in many countries over recent decades has been exclusively production-focused, institutionally monolithic, centrally directed, and organised on the premise that public sector extension structures can effectively reach down to village level. Partly in reaction to this, neoliberal voices have recently urged ‘reform’ in the sense of wide-scale privatisation of extension and removal of the state ‘subsidy’ that it implies. The evidence reviewed in this study challenges both perspectives...”

- **Modernizing National Agricultural Extension Systems**, M. Kalim Qamar, FAO, 2005 <http://www.fao.org/docrep/008/a0219e/a0219e04.htm> Freely available, but copyright held by FAO. FAO encourages the reproduction and dissemination of material published on its Website. Noncommercial use is authorized free of charge upon request to FAO. Accordingly, AgShare requested and received FAO permission for reproduction and dissemination of this resource.

Chapter two of this volume—“Global development necessitating reforms in extension”—would be particularly useful for the globalization section of this topic. From the introduction to this section: “Agricultural extension organizations, like most other disciplines and institutions, are not immune to various developments taking place around them. Some major developments and their influence on various aspects of extension are mentioned in this section.” The remaining sections in this guide might also be useful for other topics in this course. They include—the framework for determining the need for extension reform, guidelines for modernizing national extension systems, and normative framework for extension review and reform.

Topic Seven: Organizational Linkages in Agricultural Extension Services

- **An Analytical and Comparative Review of Country Studies on Agricultural Knowledge and Information Systems for Rural Development**, William M. Rivera, M. Kalim Qamar, and Henry K. Mwandemere, FAO, Fall 2005 <http://www.fao.org/docrep/008/y9087e/y9087e00.htm> Freely available, but copyright held by FAO. FAO encourages the reproduction and dissemination of material published on its Website. Noncommercial use is authorized free of charge upon request to FAO. Accordingly, AgShare requested and received FAO permission for reproduction and dissemination of this resource.

From the Introduction: “The present study provides a preliminary response to the question: How can developing countries encourage the various systems, organizations and producers concerned with agricultural research, education and extension, and operating in the public or private sector, to behave as one system with regard to the agricultural development component of rural development? In other words: What do developing countries need to establish and maintain an Agricultural Knowledge and Information System (AKIS) that targets agriculture - broadly conceived as crops, livestock, fisheries and forestry - as a main component of rural development (RD)? Cases studies on the present status and direction of

AKIS/RD in ten countries are reviewed and compared with a view to providing preliminary answers to this question.” This paper might also be relevant to Topic Nine. (Note: a search on “agricultural knowledge and information systems” pulled up many possibly pertinent hits.)

- **Are Agricultural Extension Packages What Ethiopian Farmers Want? A stated Preference Analysis**, Fredrik Carlsson, Gunnar Kohlin, Alemu Mekonnen, Mahmud Yesuf, Working Papers in Economics no. 172, Goteborg University, August 2002
<http://gupea.ub.gu.se/bitstream/2077/2747/1/gunwpe0172.pdf>
Freely available, but copyright unknown.

This paper is based on data collected as part of a Sida/SAREC-supported project between Goteborg University and Addis Ababa University. Abstract: “There is an evident dichotomy in many rural development policies in the world between extension driven adoption of modern inputs and community driven local public goods. However, the target populations of these policies seldom have the possibility to express their preference between these two policies. In this paper we report the results of a stated preference survey in the highlands of Ethiopia where the farmers are given a choice between an agricultural extension package and a local public good - health care or protected spring. The study finds that a majority of people prefers the public good. However, when the extension package is combined with insurance in terms of no payback of the credit in case of crop loss, then we find a significant increase in the choice of the extension package. The study thus sheds light on why Ethiopia’s major development strategy has had limited success and gives evidence of how stated preference methodologies can be utilized for development policy design.”

- **Decentralizing Agricultural Extension: Lessons and Good Practice**, World Bank AKIS thematic Team, August 2000
<http://siteresources.worldbank.org/INTARD/825826-1111063678817/20431788/Decentralization.pdf>
Freely available; copyright held by World Bank, with permission to use in AgShare.

From the Executive Summary: “Agricultural extension services are under increasing pressure to become more effective, more responsive to clients, and less costly to government. Decentralization is an increasingly common aspect of extension reforms. Field extension advisory services are well suited to decentralized approaches, but a comprehensive extension system requires a range of extension support services and programs, some of which (strategy formulation, training, monitoring and evaluation, specialized technical support) are often best carried out at the central level.”

- **Demand-Driven Approaches to Agricultural Extension: Case Studies of International Initiatives**, William Rivera and Gary Alex, Editors, The World Bank, 2004
http://pdf.usaid.gov/pdf_docs/PNADJ763.pdf
Freely available; copyright held by World Bank, with permission to use in AgShare.

This volume contains case studies from Africa and other developing regions of the world. From the foreword: “Public agricultural extension services around the world are being forced to adapt to new funding constraints and a changing agricultural sector. The global perspective on extension is no longer that of a unified public sector service, but of a multi-institutional network of knowledge and information support for rural people. This present compilation of case studies views extension within the context of a wide rural development agenda. With emphasis on agriculture and increasingly complex market, social, and environmental demands on rural production systems, this view of extension recognizes the need for a sophisticated and differentiated set of services. From the policy standpoint it implies that governments need to act to redefine extension and implement a coherent extension policy to advance a pluralistic system of extension providers.”

- **Promises and Realities of Community-Based Agricultural Extension**, Gershon Feder, Jock R. Anderson, Regina Birner, Klaus Deininger, IFPRI, 2010
www.indiaenvironmentportal.org.in/files/agricultural%20extension.pdf
Freely available, copyright held by IFPRI, with permission to reproduce to AgShare—with the exception of any tables, figures, or graphics that are the work of a non-IFPRI author

From the abstract: “In view of the market failures and the state failures inherent in providing agricultural

extension, community-based approaches, which involve farmers' groups, have gained increasing importance in recent years as a third way to provide this service. The paper discusses the conceptual underpinnings of community-based extension approaches, highlights theoretical and practical challenges inherent in their design, and assesses the evidence available so far on their performance. The paper reviews both quantitative and qualitative studies, focusing on three examples that contain important elements of community-based extension: the National Agricultural Advisory Services program of Uganda, the agricultural technology management agency model of India, and the farmer field school approach."

Topic Eight: Gender Issues in Agricultural Extension

- **Agricultural Censuses and Gender: Lessons Learned from Africa**, FAO regional office for Africa, October 2005
http://www.fao.org/sd/dim_pe1/pe1_051003_en.htm
Freely available, but copyright held by FAO. FAO encourages the reproduction and dissemination of material published on its Website. Noncommercial use is authorized free of charge upon request to FAO. Accordingly, AgShare requested and received FAO permission for reproduction and dissemination of this resource.

This document highlights lessons learned in Africa with regard to the integration of gender concerns into agricultural censuses and provides recommendations on how to further improve the integration of these concerns into agricultural data collection systems.

- **Agriculture Extension in Ethiopia through a Gender and Governance Lens**, Tewodaji Mogues, Marc J. Cohen, Regina Birner, Mamusha Lemma, Josee Randriamamonjy, Fanaye Tadesse, and Zelekawork Paulos, International Food Policy Research Institute, 2009
http://www.ifpri.org/publication/agricultural-extension-ethiopia-through-gender-and-governance-lens?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+Ifpriupdate+%28IFPRI+Website+Update%29
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From the abstract: "Drawing on a household survey collected in eight woredas in seven Ethiopian regions in 2009, as well as on qualitative fieldwork in four of the eight woredas, this paper provides analysis of agricultural extension delivery in Ethiopia. While overall extension services are relatively accessible in Ethiopia, there are differences in access between men and women, and particularly stark differences by region. Individual visits by public sector extension agents to household farms are by far the most common mode of extension delivery; alternative modes of extension (either in delivery method or type of service provider) play a rather limited role. Using the method widely applied in the "Citizen Report Card" approach, questions to farmers regarding satisfaction with services yielded near 100 percent reporting of satisfaction; however, the study also showed relatively low uptake of extension advice. This suggests the need to revisit or refine the Citizen Report Card method of eliciting satisfaction with services in this type of empirical context."

Topic Nine: Strengthening Research-Extension-Farmer Linkages

- **Building an Agricultural Research for Development System in Africa**, Adiel N. Mbabu and Cosmos Ochient, IFPRI, October 2006
<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.141.3401&rep=rep1&type=pdf>
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"This paper discusses how impact-oriented agricultural research for development systems in Africa can be better organized and managed. Specifically, the paper puts forth the argument that achieving the development targets set by African leaders and the international community, for example, through the Millennium Development Goals, will be extremely difficult without a satisfactory re-orientation of the organization and management of African research for development systems. Such a re-orientation involves carefully linking the agricultural research agenda with national development priorities; improving coordination, interaction, interlinkages, partnerships, and networks among system agents—that is,

agricultural research institutes, extension systems, higher education institutions, farmer organizations, civil society, and the private sector—and finding innovative financing and resourcing mechanisms to support the numerous components of the system.”

- **Multi-Stakeholder Linkages in Rural Innovation Processes in Amhara Region, Ethiopia**, Demekech Gera, Fisseha Moges, Getnet Zeleke, Kindie Tesfaye, Melkamu Ayelew, International Centre for Development of Research in Agriculture, University of Bahir Dar, Amhara Region Agricultural Research Institute, Bureau of Agriculture and Rural Development
<http://www.icra-edu.org/page.cfm?pageid=publicenglishEthiopia>
Freely available, but appears that ICRA holds the copyright

From the Executive Summary: “A study was commissioned to analyze previous multi-stakeholder platforms and existing linkages between agents involved in rural innovation in Amhara Region, Ethiopia, and to identify constraints and opportunities for developing effective linkages and partnerships in the region. The study was conducted from 15 March to 21 April, 2010. Secondary data were collected on the historical development of multi-stakeholder platforms in the region as well as in the entire country.”

Topic Ten: Role of Extension in Sustainable Agricultural Development

- **Adoption of Organic Farming Technologies: Evidence from Semi-Arid Regions of Ethiopia**, Menale Kassie, Precious Zikhali, Kebede Manjur, and Sue Edwards, working paper in economics for School of Business, Economics, and Law, University of Gothenburg, December 2008
http://gupea.ub.gu.se/bitstream/2077/18889/1/gupea_2077_18889_1.pdf
Copyright holder unknown.

From the abstract: “In the wake of resource constraints faced by farmers in developing countries in using external farm inputs, sustainable agricultural production practices that rely on local or farm renewable resources present desirable options for enhancing agricultural productivity. In this paper we use plot-level data from the semi-arid region of Ethiopia, Tigray, to investigate the factors influencing farmers' decisions to adopt sustainable agricultural production practices, with a particular focus on conservation tillage and compost.”

- **Agricultural Sustainability: Implications for Extension Systems**, Mohammad Sadegh Allahyari, *African Journal of Agricultural Research*, September 2009
<http://www.academicjournals.org/ajar/contents/2009%20cont/Sep.htm>
Published by Academic Journals, Creative Commons license

Abstract: “Extension could play a key role in fostering sustainability through its educational programs but there has been a growing realization that traditional extension models have not been sufficiently effective in promoting adoption of sustainable agricultural practices. Since sustainable agriculture is a knowledge intensive system, it requires a new kind of knowledge, which differs from other forms on the basis of conventional agricultural practices. In fact, conventional extension system cannot accomplish sustainability in agriculture; because today's agricultural extension must consider environmental implications, social issues, and overall economic growth within the agriculture sector. The purpose of this paper is to describe new extension model to achieve sustainable agriculture.”

- **Strategies for Sustainable Agricultural Development in the Ethiopian Highlands**, John Pender, Berhanu Gebremedhin, Samuel Benim, and Simeon Ebui, IFPRI, August 2001
<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1.3288&rep=rep1&type=pdf>
Freely available, copyright held by IFPRI, with permission to reproduce to AgShare—with the exception of any tables, figures, or graphics that are the work of a non-IFPRI author (It appears that this work was later published in final form in the *American Journal of Agricultural Economics*, which is not an Open Access journal.)

Abstract: “This paper investigates the impacts of population growth, market access, agricultural credit and technical assistance programs, land policies, livelihood strategies and other factors on changes in land management, natural resource conditions and human welfare indicators since 1991 in the northern Ethiopian highlands, based on a survey of 198 villages. We find that population growth has contributed

significantly to land degradation, poverty and food insecurity in this region. In contrast, better market access and some credit and technical assistance programs were associated with improvement (or less decline) in land quality, wealth and food security; suggesting the possibility of “winwin- win” development outcomes with appropriate interventions. Land redistribution was associated with adoption of inorganic fertilizer, but also with declining use of fallow and declining soil fertility. We find also that different land management practices are adopted where different livelihood strategies are pursued, suggesting the importance of considering livelihood strategies in technical assistance programs. Development strategies should be tailored to the different comparative advantages of different locations; no “one-size-fits-all” strategy will work everywhere.”

Topic Eleven: Extension Privatization

- **Ethiopia’s Coffee Sector: A Bitter or Better Future?**, Nicolas Petit, *Journal of Agrarian Change*, Vol. 7 No. 2, April 2007
<http://www3.interscience.wiley.com/journal/118523582/issue>
Freely available online, but copyright held by author

Abstract: “Coffee, Ethiopia’s largest export crop, is the backbone of the Ethiopian economy. The Ethiopian coffee sector is highly dependent on international prices and affected by the structure and workings of the world coffee market. In this context, this paper seeks to identify what can be done in Ethiopia to improve the performance of the sector so as to yield benefits for the government and the estimated 15 million people dependent on coffee in the country. The paper argues that despite a limited room for manoeuvre, Ethiopia has not yet fully exploited its position as the producer of some of the best coffees in the world. A number of competitive advantages may still be seized if quality and consistency are guaranteed. In order to maximize this potential, and on the basis of a critical analysis of government policies and donor interventions in the sector, a number of recommendations are made.”

- **Outsourcing Agricultural Advisory Services**
<http://www.kit.nl/eCache/FAB/23/864.UGFydD1SZXNvdXJjZXM.html>

The Royal Tropical Institute (KIT) of the Netherlands maintains a webpage with links to resources on outsourcing agricultural advisory services. We identified the three documents below by visiting this page and clicking on the resource link. All of the publications are available in PDF format through this link. It would be worth checking the entire page for other publications that might be relevant.

- **Changing Incentives for Agricultural Extension—a Review of Privatized Extension in Practice**, Robert Chapman and Robert Tripp, Overseas Development Institute, 2003
Freely available, but copyright held by authors or Overseas Development Institute.

Abstract: “This paper summarises a recent AgREN email discussion on privatised extension. The discussion highlighted the fact that private extension delivery is subject to a range of interpretations. A number of experiences in both industrialised and developing countries provide opportunities for examining the advantages and limitations of a privatisation strategy for extension. The examples include instances of purely market-based extension service, extension service linked to the private provision of inputs or purchase of outputs, cost-recovery schemes for public services, and public programmes that provide a partial subsidy for private extension providers. No single model is adequate to describe private extension, and the empirical evidence illustrates a range of experience regarding the adequacy of private providers, the ability of farmers to take advantage of a privatised system, and the capacity of governments to manage the transition.”

- **From ‘Best Practice’ to ‘Best Fit’: a Framework for Designing and Analyzing Pluralistic Agricultural Advisory Services**, Regina Birner, *et.al*, IFPRI, 2006
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This IFPRI policy brief “provides and overview of pluralistic agricultural advisory services and presents an analytical framework that can help policy planners and extension managers to identify best fit options for financing and providing these services.” There is an excellent table that delineates the

different providers of extension services—public, private, nongovernmental, and farmer-based. This document might be more useful in preparing the course than assigning it as a reading.

- **Privatization of Extension Systems: Case Studies of International Initiatives**, William Rivera and Gary Alex, editors, The World Bank, 2004
[Freely available; copyright held by World Bank, with permission to use in AgShare.](#)

This is one of five volumes on extension reform and rural development. From the foreword: “This present compilation of case studies views extension within the context of a wide rural development agenda. With emphasis on agriculture and increasingly complex market, social, and environmental demands on rural production systems, this view of extension recognizes the need for a sophisticated and differentiated set of services. From the policy standpoint it implies that governments need to act to redefine extension and implement a coherent extension policy to advance a pluralistic system of extension providers. The compilation highlights the widening body of experience worldwide with such reforms as decentralization, privatization, demand-driven approaches and other national strategies, including revitalization efforts within public sector services.” Following a chapter delineating privatization of extension services, there are case studies from around the world, including four from Africa—South Africa, Uganda, Mali, and Niger.

Topic Twelve: Role of NGOs in Agricultural Extension

This topic is amply covered in the section on textbooks and sourcebooks as well as in the topics above.

Topic Thirteen: Indigenous Technology in Research and Extension

- **Farmers’ Knowledge of Soil Fertility and Local Management Strategies in Tigray, Ethiopia**, Marc Corbeels, Abebe Shiferaw, and Miliku Haile, International Institute for Environment and Development, 2000
<http://www.iied.org/pubs/display.php?o=7421IIED&n=87&l=344&c=agric/food&b=t>
Freely available, but copyright held by IIED

Declining soil fertility is a major constraint on crop production in the semi-arid highlands of Tigray, Northern Ethiopia. In order to design more appropriate research and development programs geared to improving integrated nutrient management practices, researchers need to understand farmers’ knowledge and perception of soil fertility. This working paper presents the results of a participatory survey designed to characterize and analyze local knowledge about soil fertility and soil fertility management practices.

- **Implications of an Extension Package Approach for Farmers’ Indigenous Knowledge: the Maize Extension Package in Southwestern Ethiopia**, Negussie Efa, et. al, *Journal of the Association for International Agricultural and Extension Education*, Fall 2005
<http://www.iaee.org/vol-123-fall-05.html>
Freely available, but copyright held by publisher

From the abstract: “This article is based on a study of the effects of a “maize extension package” on farmers’ indigenous knowledge (IK) in the Jima area of South-western Ethiopia. Both qualitative and quantitative approaches were employed to collect information from farmers, extension workers, and researchers. Initially, semi-structured interviews and discussions were used extensively to collect information. The structured questionnaires were administered to 80 randomly selected farmers and to 40 purposively selected extension personnel.”

- **Indigenous Knowledge Systems in Sustainable Utilization of Wetlands in Communal Areas of Zimbabwe: Case of Hwedza District**, Christopher Tafara Gadzirayi, et. al., *African Journal of Agricultural Research*, November 2006
<http://www.academicjournals.org/AJAR/contents/2006cont/Nov%2006.htm>
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From the abstract: “The purpose of this research was to investigate how Indigenous Knowledge Systems (IKS) has helped in the sustainable management of wetlands in Mukondwa ward of Hwedza District in

Zimbabwe. The wetlands are found in patches of about 2-3 square km per patch and accommodating an average of 15 households and are managed as a community asset. A descriptive survey was used and a structured questionnaire was administered to 280 farmers in seven villages.”

Topic Fourteen: Participatory Extension and Communication

- **Participatory Farm Management Methods for Analysis, Decision-Making, and Communication**, P. Dorward, D. Shepherd, and M. Galpin FAO, 2007
<http://www.eldis.org/go/topics/resource-guides/agriculture/communication-and-extension&id=44848&type=Document>
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From the abstract: “Central to the use of Participatory Farming Management (PFM) methods is the understanding that the farmer is the decision maker and that he or she takes the risks associated with change, not the advisor or researcher. PFM methods should be seen as useful tools to assist the farmer in his or her decision-making process rather than techniques to persuade farmers to adopt particular practices or to elicit information. The PFM methods outlined in this document were developed by working closely with small-scale farmers in developing countries and have been successfully used in many countries for a range of purposes in research, extension and development.”

- **Participatory Systems put Farmers Knowledge into Research: Integration of Participatory Technology Development into Research and Extension**, Research into Use, 2003
<http://www.researchintouse.com/nrk/RIUinfo/PF/NRSP20.htm>
Freely available, but licensed by RIU

This is a project report. From the introduction: “The objective of the project was to develop land use strategies to convert shortening bush-fallow rotations into sustained and more productive systems, through the process of participatory technology development, by incorporating farmers' indigenous ecological knowledge of management of the fallow into designs sensitive to local tenurial and cultural practices. The project was expected to contribute to the more general purpose of the development and promotion of strategies to secure the livelihoods of poor people dependent on agricultural systems near the receding forest margin.”

Topic Fifteen: ICT-based Extension Services

- **Digital Green: Participatory Video and Mediated Instruction for Agricultural Extension**, Rikin Gandhi, et. al, Research paper prepared for University of Southern California School for Communication
<http://itidjournal.org/itid/article/viewPDFInterstitial/322/145>
Creative Commons license

From the abstract: Digital Green is a research project that seeks to disseminate targeted agricultural information to small and marginal farmers in India using digital video. The unique components of Digital Green are: (1) a participatory process for content production; (2) a locally generated digital video database; (3) a human-mediated instruction model for dissemination and training; and (4) regimented sequencing to initiate new communities. Unlike some systems that expect information or communication technology alone to deliver useful knowledge to marginal farmers, Digital Green works with existing, people-based extension systems and aims to amplify their effectiveness. While video provides a point of focus, it is people and social dynamics that ultimately make Digital Green work.” This article might be relevant to topic fourteen, above.

- **ICT-enabled Knowledge Sharing in Support of Extension: Addressing the Agrarian Challenges of the Developing World Threatened by Climate Change, with a Case Study from India**, V. Balaji, Shaik N. Meera, and Streenath Dixit, *SAT e-Journal*, December 2007
<http://vasat.icrisat.ac.in/>
Creative Commons license

Abstract: “The need for improved agricultural extension throughout the developing world has never been greater. Agricultural and rural development and hence rural extension continue to be in a phase of transition in this part of the world. The vulnerability of farming in the developing world to climate change, to changes in natural resources quality (including desertification over large tracts), and lack of coping and adaptation strategies at micro and macro levels of decision making are all well documented, while globalization of commodity trade offers a mix of opportunities as well as challenges. The role of extension and support systems in this background is undergoing profound changes while no unified alternative framework has emerged (Eicher, 2007). In this paper, we offer some suggestions on building new and more effective linkages between research and extension sub systems in agricultural knowledge systems, with a range of information and communication technologies offering platforms and mediation services. The focus is on assessing the effect of improved information access and development of human capacity in supporting extension processes at the micro-level.”

- **Farm Africa Videos**
<http://www.farmafrika.org.uk/smartweb/news-views/videos>
License information unknown

Farm Africa has a number of training videos on its website that could be used in conjunction with teaching this course, as examples of using video in extension education for farmers. There are a number of videos in a variety of subjects. These and the rice videos below might be used as examples in teaching this topic. There are 22 YouTube videos. It is necessary to review them online.

- **Inventory of Innovative Farmer Advisory Services using ICTs**, Mucemi Gakuru, Kristen Winters and Francois Stepman, Forum for Agricultural Research in Africa, February 2009
http://www.fara-africa.org/media/uploads/File/NSF2/RAILS/Innovative_Farmer_Advisory_Systems.pdf
Freely available, but copyright held by FARA

From the Foreword: “Agricultural informatics is a new concept that has arisen following the rapid development in information and communication technologies (ICTs), and of the internet. Referred to as e-agriculture, agricultural informatics is an emerging field which combines the advances in agricultural informatics, agricultural development and entrepreneurship to provide better agricultural services, enhanced technology dissemination, and information delivery through the advances in ICT and the internet. The e-Agriculture concept, however, goes beyond technology, to the integration of knowledge and culture, aimed at improving communication and learning processes among relevant actors in agriculture at different levels i.e. locally, regionally and globally... This Inventory of Innovative Farmer Advisory Services (66 pages) is the result of an online consultation with the FARA Regional Agricultural Information & Learning System (RAILS) held during the month of October 2008 + desk study. It is an attempt to document all known innovative farmer advisory services or systems, currently in design, in existence or recently completed in Africa.”

- **Rice Videos**, African Rice Organization”
<http://www.africarice.org/warda/guide-video.asp>
Freely available. Copyright statement includes this statement: “Fair use of this material is encouraged. Proper citation is requested.”

The African Rice Organization prepared a number of videos in several languages, which incorporate lessons from participatory learning and action research to build the capacity of farmers and institutions within the rice sector in Africa. The videos range from six-twenty minutes, and are low resolution. It is also possible to obtain high resolution. They might be useful as examples in teaching this topic of the course.

- **Rural Radio in Agricultural Extension: the Example of Vernacular Radio Programmes on Soil and Water Conservation in N. Ghana**, Robert Chapman, Robert Blench, Gordana Kranjac-Berisavljevic, and A.B.T. Zakariah, Overseas Development Institute, 2003
http://www.odi.org.uk/agren/papers/agrenpaper_127.pdf
Freely available, but ODI holds copyright

Using the example of vernacular radio programs on soil and water conservation in Ghana, the authors demonstrate the importance of sharing information locally and opening up wider information networks for farmers. They refer to the rapidly changing technology environment and discuss the implications for policy makers of harnessing rural radio to improve agricultural extension. In particular, the authors conclude that the national policy environment in many developing countries could be improved through legislation to encourage independent community broadcasting, including streamlined licensing and subsidies for new information services such as FM stations, internet providers, and rural telecommunication services.

- **Using Information and Communications Technology for Agricultural Extension**, Commonwealth of Learning, 2005
<http://www.col.org/resources/publications/trainingresources/knowledge/Pages/ICTagriculture.aspx>
Freely available, with copyright held by COL. The COL privacy statement includes the following: “Non-profit use of COL's publications, through printed or electronic means, is encouraged. Reprinted, repackaging and translation is also permitted for non-profit use. Credit and attribution to COL must be clear in all cases and translated versions must also state that COL takes no responsibility for the accuracy of the translation. Further, such use must preserve the integrity of COL's content and not be taken out-of-context in such a way that the meaning of the content could be misconstrued.”

This six-page guide provides a useful introduction to the kinds of technology that can be used in extension services, with practical examples for each category. There is also a very good bibliography for additional reading.

WEBSITES AND OTHER RESOURCE MATERIALS

African Agricultural Technology Foundation

<http://www.aatf-africa.org/>

The African Agriculture Technology Foundation is a not-for-profit organization designed to facilitate and promote public/private partnerships for the access and delivery of appropriate proprietary agricultural technologies for use by resource-poor smallholder farmers in Sub-Saharan Africa. The AATF has published a number of studies on the introduction of new technologies and approaches to technology transfer to smallholder farmers. The site would be a rich resource to students and staff particularly interested in issues pertaining to new technologies.

Agri-gender Statistics Toolkit

<http://www.fao.org/gender/agrigender/en/>

This database was developed by the Food and Agriculture Organization of the United Nations (FAO) in support of enhanced production and use of sex-disaggregated agricultural data. It presents examples of gender relevant questions and tables jointly developed by national statisticians and FAO for agricultural censuses undertaken in Africa between 1993 and 2006. Statistics producers and users alike called for the development of such a database to improve the production of reliable sex-specific agricultural data needed for targeted policy formulation and planning of agricultural and rural development. The database has been developed in line with the framework of the 2010 round of the World Program for the Census of Agriculture. This toolkit might be useful for AICM students doing their theses on gender-related topics.

Arid Lands Information Network

<http://www.alin.net/>

ALIN is a network of community development workers. Over 2,000 grassroots organizations, government

departments and other organizations are ALIN members. ALIN works directly with local communities in Kenya, Uganda, and Tanzania in order to learn from their experiences and to share with them useful drylands farming methods and technologies developed elsewhere. ALIN uses a variety of communications tools (print, radio, Internet) and languages in its work. The website contains links to numerous resources that ALIN has produced, including some in Ki-Swahilli and other African languages. The ALIN website might be relevant to topics twelve, thirteen, fourteen, and fifteen.

e-Agriculture

<http://www.e-agriculture.org/>

The e-Agriculture Community of Practice is a global initiative to enhance sustainable agricultural development and food security by improving the use of information, communication, and associated technologies in the sector. The overall aim is to enable members to exchange opinions, experiences, good practices and resources related to e-agriculture, and to ensure that the knowledge created is effectively shared and used worldwide. There are links to numerous resources on the site. e-Agriculture also organizes online discussion groups. This site is particularly relevant to topic fifteen.

Ethiopian Agriculture Portal

<http://www.eap.gov.et/>

The Ethiopian Ministry of Agriculture and Development maintains an excellent website, with many resources on agricultural extension. Documents include the history of extension in Ethiopia, participatory extension systems, innovations in extension delivery, and challenges. Some materials are in English; others in Amharic. Permission to use these resources must be obtained from the publisher

Outsourcing Agricultural Advisory Services

<http://www.kit.nl/eCache/FAB/23/864.UGFydD1SZXNvdXJjZXM.html>

The Royal Tropical Institute (KIT) of the Netherlands maintains a webpage with links to resources on outsourcing agricultural advisory services. We identified the three documents listed in the resource guide by visiting this page. It would be worth checking the entire page for other publications that might be relevant

Research and Extension Portal

http://www.fao.org/sd/sdrr/portal/index_en.htm

The FAO Research and Extension Portal is a very rich resource, with publications policies, institutional strengthening, human development, technology, and methodologies. There are separate databases for each theme, including one on funding agencies. Three publications published and mounted on this portal are already included in this resource guide, but it would be worthwhile to browse the site for additional materials of relevance to AICM.

Virtual Academy for the Semi-Arid Tropics

<http://vasat.icrisat.ac.in/>

The Virtual Academy for the Semi Arid Tropics is an initiative of ICRISAT to link and mobilize stakeholders in Asia and Africa, with a focus on drought mitigation, using ICT. It might be a useful site to which to refer students during topics pertaining to ICT, in particular.

United States International University

As part of its participation in AgShare, the United States International University designed a pilot course module on agribusiness management for farmer organizations, with the goal of teaching them the skills necessary to transform their farming from livelihood practices to a business enterprise. USIU hopes to develop a leadership institute, into which this module would fit.

The resources listed below are based on a list of requests from USIU. Many of the ones described for the module on entrepreneurship might also be relevant to entrepreneurial management and *vice-versa*. This is also true for other resources described below.

COURSE READINGS

A NOTE ON READINGS: The International Centre for Tropical Agriculture in Columbia published several of the readings. Although they were tested for use in Latin America, they may nevertheless be relevant to USIU, particularly for topics one and two.

Agriculture and Agricultural Policies

Urban Agriculture in Kampala City, Uganda, Ssembalirwa Edward (Senior Fisheries officer), City Council of Uganda, 2008

<http://www.cityfarmer.info/2010/01/25/urban-agriculture-in-kampala-city-uganda/>

Complete story freely available online, but copyright held by City Council of Uganda or author

From the City Farmer website: “Urban agriculture has always been part of Kampala’s economy and an important livelihood strategy for the city’s urban poor, especially women (Hooton et al 2007). But the policy environment has been unfavourable or hostile because of perceived nuisance and public health risks. Also until 2005 it has been illegal to carry out farming in the City. Until the early 1990s there were few activities to support urban agriculture but after decentralization in 1993 the Kampala District Agricultural Extension Officer started building capacity for urban agriculture work, mainly through collaboration with NGOs e.g. Environmental Alert. By 1999, despite many people within KCC still regarding urban agriculture as illegal, there was more open collaboration between KCC, NGOs and researchers.” The report by Mr. Ssembalirwa tells the story of KELP—the Kyanja Edible Landscape Project—which appears to be a success story of government/NGO/local community linkages.

Sustainable Agriculture

Conservation Agriculture as Practiced in Kenya: Two Case Studies, edited by Pascal Maumbutho and Josef Kienzle, FAO, 2007

www.fao.org/ag/ca/doc/Kenya_casestudy.pdf

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This is one of a series of case studies on conservation agriculture published by the African Conservation Tillage Network, an arm of FAO. According to FAO, conservation agriculture is one of the most promising ways of implementing sustainable agriculture while minimizing the environmental degradation that is all too common on the Continent. This volume may be too technical in nature for course participants, although some sections might not be, and course lecturers could benefit from reviewing it.

Conservation Agriculture: Using Planting Holes

http://www.mamud.com/publications_ag.htm

Freely available through Paul Mundy’s site, but copyright probably held by FAO and/or the WFP

Developed for Lesotho, this manual might be relevant to the sustainable agriculture module. It briefly describes conservation agriculture, its benefits, and advice in digging planting holes—all in language a non-scientist can understand.

Sustainable Agriculture: A Pathway out of Poverty for East Africa's Rural Poor, Sustainable Agriculture Information Network, 2007

<http://www.sustainet.org/en/information-office.htm>

Freely available online, but copyright held by Network.

This publication describes and analyzes nine examples of successful projects, plus lessons on policy changes and approaches to scale up sustainable agriculture approaches in Kenya and Tanzania. There are two volumes, parts one and two for text and a third for photos. We have downloaded all of them.

Sustainable Agriculture: A Pathway out of Poverty for India's Rural Poor, Sustainable Agriculture Information Network, 2006

<http://www.sustainet.org/en/information-office.htm>

Freely available online, but copyright held by Network.

Fourteen examples of successful sustainable agriculture approaches in India, plus how to realize the potential of sustainable agriculture in the areas of organic farming, land and water management, and tapping new products and new markets. The case studies also address market potential, and government-NGO collaboration. It would be relevant to a number of USIU modules.

Entrepreneurship

Establishing and Using a Farm Financial Record-Keeping System, Delton C. Gerloff, Associate Professor, Agricultural Economics, and Robert W. Holland, Jr., Assistant Area Specialist-Farm Management, University of Tennessee Agricultural Extension Service

<http://utextension.tennessee.edu/publications/Documents/pb1540.pdf>

Freely available online, but copyright held by University of Tennessee

A simple and easy-to-understand guide to record-keeping for farmers. It is very US-centric. It might be useful to USIU in preparing the module, but not necessarily relevant to the students.

Farmers' Organizations and Agricultural Innovation: Case Studies from Benin, Rwanda, and Tanzania, Bertus Wennink and William Heemskert (eds.), Royal Tropical Institute of the Netherlands (KIT), 2006

http://www.kit.nl/net/KIT_Publicaties_output/showfile.aspx?e=908

Freely available online, but KIT holds copyright.

From the Executive Summary: "Research and extension organizations have moved from working with individual farmers to collaboration with groups and, increasingly, with farmers' organizations. At the grass-roots level, farmers' associations, producers' groups and cooperatives, as well as specially created farmers' groups, are all involved in research and extension activities. At higher levels, unions, federations and syndicates are implicated in multi-stakeholder platforms for planning research and extension services. Nowadays FOs present a highly diverse picture: from the former, state-managed, cooperative societies and unions to the new, farmer-initiated federations and syndicates, as well as market-driven farmers' groups. As a consequence, links with public and private knowledge-for-innovation service providers are encountered at all levels, with various status, aims and function modalities. But the role of FOs in agricultural innovation goes much further than simply participating in, and contributing to, research and extension. Support functions, such as guiding innovation processes (e.g. information on norms, regulations and markets), sharing experiences for learning purposes, providing complementary services (e.g. credit facilities) are equally important. FOs can therefore fulfill several roles, contribute to various functions that enhance successful innovation and increasingly provide services themselves." The case studies focus on different farmer groups in Benin, Rwanda, and Tanzania. **Note:** This study might be more suitable to Drs Wamyama and Wambalaba and their postgraduate students.

The Farmapine Model: A Cooperative Marketing Strategy and a Market-Based Development Approach in Sub-Saharan Africa, Godfred Yeboah, *Choices*, 2005

<http://ageconsearch.umn.edu/handle/93336>

Choices is the magazine of food, farm, and resource issues of the American Agricultural Economics Association. The copyright statement reads: “All rights reserved. Articles may be reproduced or electronically distributed as long as attribution to *Choices* and the American Agricultural Economics Association is maintained.

This article describes, analyzes, and assess the scale-up potential elsewhere in Africa of an experimental model of pineapple production and marketing in Ghana—Farmapine.

Fundamentals of Marketing and Dairy Business Management, Isha Muzira, Michel Ngarambe, Obed Ndankuu, Philip K. Cherono, ILRI, 2006

<http://mahider.ilri.org/handle/10568/1757>

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This guide was developed to provide dairy farmers (and others) with the basic concepts of business management and marketing—carrying out a feasibility study, preparing a business plan, distribution and retailing, and record keeping and credit management.

The Farmer’s Guide to Agricultural Credit, John Bonitz and Jason Roehrig, Rural Advancement Foundation International, 2006

<http://www.rafiusa.org/pubs/Farmer's%20Guide.pdf>

Freely available online, but copyright held by RAFI

From the executive summary: “Accessing capital is one of the many challenges facing farmers. Agricultural financing is crucial for maintaining production, expanding operations, or trying different enterprises. To maximize profits, more and more farmers and farm entrepreneurs are turning away from simple commodity crops in favor of more complicated or diversified enterprises. This can create a problem. New business models may be unfamiliar to agricultural lenders. So the farmer may need to take some extra steps in preparing and presenting his or her business plans. This Guide is a tool to help transitioning farmers and farm entrepreneurs to take those useful steps.” Although aimed at a US farmer, this guide might be relevant.

Fodder for a Better Future: How Agroforestry is Helping to Transform the Lives of Smallholder Dairy Farmers in East Africa, Charlie Pye-Smith, World Agroforestry Centre, 2010

<http://www.worldagroforestry.org/downloads/publications/PDFs/B16723.PDF>

Freely available online. Copyright statement reads: “This booklet may be quoted or reproduced without charge, provided the source is acknowledged. No use of this publication may be made for resale or other commercial purposes.”

This booklet describes an agroforestry success story in Kenya that has helped to improve livestock diets and milk yields, the fodder trees provide a range of other benefits—to soil fertility, firewood without deforestation, pollen for honey bees, protection against erosion. International research centers, KARI, farmer associations, and local farmers all collaborated in this initiative—which has resulted in higher incomes and better productivity.

Stories from the Field, Alliance for a Green Revolution in Africa

<http://www.agra-alliance.org/section/people/stories>

Freely available online, but copyright held by AGRA

This page on the AGRA website tells the stories of entrepreneurs within the AGRA network. There is a brief précis, and by clicking on the name of the person profiles, there is a link to the full story, which is not long.

In addition, for the module on management, AGRA has also embarked on an “innovative financing” initiative that works to lessen the risks of lending to agriculture; develop appropriate financial products for farmers;

improve the performance of agricultural markets' and improve farmers' financial literacy. There isn't very much information about this initiative on the AGRA website, but go to <http://www.agra-alliance.org/section/work/finance> for a description. In addition, the AGRA "toolbox" (http://www.agra-alliance.org/section/work/toolbox_exhibits) that might also be relevant. There are examples of a seed production planning spreadsheet, an inventory tracker spreadsheet, an income statement spreadsheet, a business economics summary spreadsheet, a document on how to use Excel, and more. Although most of these tools are earmarked for seed producers, they could be extrapolated for other agroenterprise industries.

In short—it would be well worthwhile visiting the AGRA website and contacting AGRA staff. One of them might be interested in coming to USIU to give one of the lectures in the agroenterprise course.

William Kamkwamba on Building a Windmill, TEDGlobal, 2007

http://www.ted.com/talks/william_kamkwamba_on_building_a_windmill.html

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William Kamkwamba is from Malawi. At the age of 14, he decided to build a windmill for his home in a rural district of the country without access to the electricity grid. He borrowed a book from the library, adapted the design and constructed a windmill that generates sufficient power for four light bulbs and the family radio. This is a six-minute video interview with Kamkwamba, who has become so entrepreneurial that he plans to build a larger windmill for irrigation, has co-authored a book, and established a website at <http://williamkamkwamba.typepad.com/williamkamkwamba/2009/04/my-book-the-boy-who-harnessed-the-wind.html>. He is raising money to carry out village projects. Well worth watching the video and visiting the website.

Yes Africa Can: Success Stories from a Dynamic Continent, World Bank, 2010

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/0,,contentMDK:22549653~pagePK:146736~piPK:146830~theSitePK:258644,00.html>

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The World Bank is collecting stories that illustrate a wide range of development success stories. From the *Yes African Can* blog: "20 cases will be selected for in-depth study. The analysis of each successful experience will evaluate the following: (1) the drivers of success—what has worked and why; (2) the sustainability of the successful outcome(s); and (3) the potential for scaling up successful experiences. African success stories offer valuable insights and practical lessons to other countries in the region." There are five sectors—agriculture (six); ICT (one); power and energy (one); tourism (one); trade (one). Ten more cases need to be identified.

This is a website from which the full text of each story can be downloaded in PDF format. There is also a 24-page brochure that we have downloaded for USIU to review, which provides the policy, implementation, and outcome frameworks for each "success story." The case studies appear to be academic papers, so they might be more relevant to Drs. Nduati and Wmabalaba and their postgraduate students.

Use of ICT to Support Agribusiness

ICTs and Small-Scale Agriculture in Africa: A Scoping Study, Hilda Munyua, IDRC, 2007

www.idrc.ca/uploads/user-S/12212542261Final_Report_HMunyua.pdf

Freely available online, but copyright held by IDRC

From the Executive Summary: "The present study examines the following areas: the specific prevailing policy regimes that govern information and communication technologies (ICTs), agriculture and land reforms; the policy and institutional frameworks that can empower small scale-farmers; ICT policy reform activities and other related policies, such as environment and natural resources policies; the effects and potential of ICTs in projects aimed at restructuring extension services; the applications of ICTs in e-commerce and in micro-finance initiatives meant to benefit small-scale farmers; options for developing an Africa-wide initiative on ICTs and small-scale agriculture."

Linking Farmers to Markets through Modern Information and Communication Technologies in Kenya, A.W. Mukhebi, J. Kundu, A. Ikolla, M. Wambua, W. Ochieng, G. Fwamba, paper delivered at the 2007 conference of the African Association of Agricultural Economists

<http://ageconsearch.umn.edu/handle/51988>

Freely available on AgEcon Search, but copyright held by authors

Abstract: “This paper highlights a market information and linkage system (MILS) developed and tested by the Kenya Agricultural Commodity Exchange Limited (KACE) that increases the efficiency of agricultural markets to work better for smallholder farmers and other small and medium sized agro-enterprises (SMEs). The MILS involves harnessing modern information and communication technologies (ICTs) to empower farmers with low-cost reliable and timely market information to enhance the bargaining power of the farmer for a better price in the market place, and to link the farmer to markets more efficiently and profitably. The components of the KACE MILS are (www.kacekenya.com): Rural based Market Information Points (MIPs) which are information kiosks located in rural markets, District-level Market Information Centres (MICs), Mobile Phone Short Messaging Service (SMS), Interactive Voice Response (IVR), Internet based database system, rural FM radio and the Central Coordinating Hub in Nairobi. KACE has adopted a business approach to the provision of its services: users pay for the services. For instance it charges: placement fees per initial offer or bid (US\$ 1.5-15), commissions on concluded deals (0.5%-5%), subscriptions to price information recipients (US\$ 65 for 6 months or US\$ 125 for 12 months), fees to visiting foreign groups (US\$ 2,000-5,000/visit) and revenue sharing agreements with SMS and IVR service providers. When the KACE MILS services are scaled out and widely used by many farmers and SMEs across Kenya, the system will generate sufficient revenue to sustain its services without reliance on development partner funding. To enhance the financial sustainability of the MILS services further, KACE has recently initiated two innovations: franchising MIPs and MICs to local entrepreneurs, and establishing a virtual trading floor to improve the matching of offers and bids through a rural-based FM Radio program. A recent study of the impact of the KACE MILS concluded that the proportion of farmers and traders that say their incomes has increased and their bargaining positions have improved is very high (75% farmers and 60% commodity traders). Furthermore, the study concluded that it was clear that during the years in which the KACE MILS has been operational, market integration improved for two commodities studied (i.e. maize and beans). This study also highlights the challenges faced by the KACE MILS, including poor infrastructure that imposes high transport costs to markets, high costs of mobile phone calls and SMS and small quantities of produce of varying quality offered.”

Voice-based Farmers' Helpline Delivers Agricultural Information to Farmers in Kenya

http://www.kencall.com/index.php/site/kenya_farmers_helpline/

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A brief description of the Kenya Farmers' Helpline, which was established in 2009 to provide agricultural and horticultural information, advice, and support over the phone to small holder farmers, who are living on or around the subsistence level.

Agri-Business Management for Farmer Organizations

Business Management for Small-Scale Agro-Processors, Peter Fellows and Alexandra Rottger, FAO, 2005

<ftp://ftp.fao.org/docrep/fao/011/aj995e/aj995e00.pdf>

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This is an excellent and clearly written guide to establishing and managing a small-scale agro-processing business. It includes components, such as production, finance, inventory management, managing people, and managing quality. The chapter on finance includes sections on writing a business plan, the importance of keeping books, and what goes in to a good bookkeeping system.

Business Skills for Small-Scale Seed Producers, Handbook Two, Soniia David and Beth Oliver, CIAT, 2002
http://isa.ciat.cgiar.org/catalogo/listado_tools.jsp?pager.offset=20&tema=AGROENTERPRISES
Freely available. CIAT holds copyright, but CIAT copyright statement permits distribution of the guide, with attribution, without alterations, without requesting permission.

From the CIAT website: “This handbook is the second of a series of three seed production handbooks. It was written for people who have no formal training or experience in seed production, oriented especially toward small-scale farmers, entrepreneurs, and community-based institutions, such as schools and churches, that are interested in producing seed of various crops for sale.” Although the handbook is meant for seed producers, much of it would be relevant to any small-scale agricultural entrepreneur. There is also a trainer’s guide available from the website above.

Enabling Rural Innovation in Africa: a Market Facilitator’s Guide to Participatory Agroenterprise Development, S. Ferris, E. Kaganzi, R. Best, C. Ostertag, Ml Lundy and T. Wandschneider, International Centre for Tropical Agriculture, 2006
<http://webapp.ciat.cgiar.org/africa/eri.htm>
Freely available, but CIAT holds copyright. CIAT copyright statement permits distribution of the guide, with attribution, without alterations, without requesting permission.

This guide is based on experiences and lessons learned by CIAT in implementing agroenterprise projects in eastern and southern Africa. It seeks to empower farmer groups with the necessary skills to make informed decisions for their economic development, based on an analysis of their surroundings, assets, and skills. It deals with the entire enterprise development value chain, including marketing and management basics, selecting the best products or enterprises, and evaluation.

From Agronomic Data to Farmer Recommendations: an Economics Training Manual, CIMMYT, 2005
<http://apps.cimmyt.org/english/docs/manual/agronomic/manual/contents.htm>
Freely available online, but copyright held by CIMMYT

The International Maize and Wheat Improvement Center (CIMMYT) is affiliated to the Consultative Group on International Agricultural Research (CGIAR), and like other CG centers maintains an active training program in addition to its research initiatives. Although the focus of this manual is on helping farmers understand what goes in to on-farm experiments, the economic/record keeping components might well be relevant to the decision-making process in agribusiness more generally. Parts of the manual might also be useful in helping student understand economic principles. There are sections on gross field benefits, cost-benefit analysis in budgeting, statistical and economic analysis, etc. The manual comes with an excellent workbook (<http://apps.cimmyt.org/english/docs/manual/agronomic/workbook/contents.htm>) and answers to the workbook exercises (<http://apps.cimmyt.org/english/docs/manual/agronomic/exercises/contents.htm>).

Identifying Market Opportunities for Rural Smallholder Producers, C. Ostertag, M. Lundy, M. Gottret, R. Best, and S. Ferris, International Centre for Tropical Agriculture, 2007
http://webapp.ciat.cgiar.org/agroempresas/ingles/good_practice_guide_series.htm
Freely available, but CIAT holds copyright. CIAT copyright statement permits distribution of the guide, with attribution, without alterations, without requesting permission.

This guide combines market research, product concept evaluation and business analysis techniques, within a practical, innovative approach for identifying market opportunities for rural agroenterprise development projects within a defined area or territory. The participatory methods enable rural producers to make key decisions in market analysis and evaluation. It is aimed at assisting service providers to gain a better understanding of the marketing options and relationships that a selected farmer/client group can develop in order to sell their goods and services more profitably and on a sustainable basis. This Guide is the third in the CIAT Good Practices series.

Market-Oriented Farm Management for Trainers of Extension Workers, FAO, 2007

<http://www.fao.org/docrep/011/a1298e/a1298e00.HTM>

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This manual, which is one of a series for different regions of the world, was developed at a writers' workshop, held at Egerton University. It is intended for the trainers of agricultural extension workers or others who deal with small-scale market-oriented farmers. There are chapters on planning, management tools, planning, and other topics.

Participatory Market Chain Analysis for Smallholder Producers, Mark Lundy, Maria Veronica Gottret, Carlos Ostertag, Rupert Best, and Shaun Ferris, International Centre for Tropical Agriculture, 2007

http://webapp.ciat.cgiar.org/agroempresas/ingles/good_practice_guide_series.htm

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This guide was developed as a key step in the area-based approach to rural agroenterprise development, and is the fourth in the Good Practices series. It is based on the principles of developing market-led interventions that go beyond single intervention projects. The aim of this guide is to enable service providers to work with a range of actors in selected market chains and design interventions that initiate systemic changes in the marketplace. The goal of the Guide is to upgrade the level of competitiveness for all actors within a market chain, thus enabling rural producers, traders, and processors to make the shift from opportunistic and irregular market linkages to systematic players within growth value chains. Note: This guide was piloted in Latin America; most of the case studies are Latin American. We nevertheless hope that parts of the Guide will be relevant to USIU.

WEBSITES

In addition to visiting the websites of the content providers listed above, the following might be useful.

Arid Lands Information Network

<http://www.alin.net>

The Arid Lands Information Network (ALIN), which has branches in Kenya, where it is headquartered, Uganda, Tanzania, and Ethiopia, collaborates with local communities, NGOs, extension workers and government on issues pertaining to dry lands agriculture. ALIN focuses its efforts on communicating the needs of local communities—and how these communities meet their needs through application of indigenous knowledge (IK) and innovations using local techniques. The January 2010 issue of the ALIN newsletter, Baobab, for example has articles on the application of IK in Kenya, growing matooke in Uganda, and soap making. ALIN also publishes a magazine called Kilimo Endelevu Africa on low external input and sustainable agriculture. Finally, ALIN has begun to produce short videos—there is one on tapping rainwater and one on micro-climate change in Naivasha—both told from the point of view of local communities and farmers. ALIN materials would be relevant to all of the USIU modules.

e-agriculture

<http://www.e-agriculture.org/>

E-agriculture is a global initiative to enhance sustainable agricultural development and food security by improving the use of information, communication, and associated technologies in the sector.

The overall aim is to enable members to exchange opinions, experiences, good practices and resources related to e-agriculture, and to ensure that the knowledge created is effectively shared and used. In addition to finding information resources on the site, users can register to take online courses. (We are not certain the extent to which this site is updated.)

Innovation in Africa Symposium

http://webapp.ciat.cgiar.org/africa/eri_symposium06_fulltext.htm

In 2006, a group of centers affiliated with the CGIAR system and African NGOs convened a symposium on agricultural innovation systems. This website provides links to the entire symposium program. Full-text of the presentations and papers will be found at <http://webapp.ciat.cgiar.org/africa/pres.htm>. Several would be relevant to the USIU course, although possibly only to the lecturers and postgraduate students.

Kenya Agricultural Commodities Exchange MIS Project

<http://www.kacekenya.co.ke>

The KACE MIS project collects, processes, updates, and disseminates market information daily to farmers and other market intermediaries through the MIS.

Livestock Information Network Knowledge System

<http://www.lmiske.net/Pages/Public/Home.aspx>

LINKS is a livestock marketing monitoring system, which provides regular livestock prices and volume information on most of the major livestock markets in East Africa. The URL above is the Kenya page.

The Organic Farmer

<http://www.organicfarmermagazine.org/>

The Organic Farmer is a magazine for sustainable agriculture in Kenya. In addition to reading articles from this journal, you can also listen to radio programs.

Sustainet East Africa

<http://sustainetea.org/>

This is the East Africa page for the Sustainable Agriculture Information Initiative.

TechnoServe

<http://www.technoserve.org/>

TecnoServe is an international organization that helps entrepreneurial men and women in poor areas of the developing world to build businesses that create income, opportunity and economic growth for their families, their communities and their countries. Agriculture and agribusiness are important components of TechnoServe's work. There are offices throughout the world, including in Kenya, which serves all of East Africa. More information on Kenya will be found at <http://www.technoserve.org/work-impact/locations/kenya.html>

Among its resources, TechnoServe has made a number of videos that might be relevant to the USIU course. They can be found at TechnoServe's YouTube channel: <http://www.youtube.com/believebeginbecome>. Some of them might be relevant to the USIU program. Bear in mind, however, that these are copyright protected. You can link to these videos by providing the URL, but you may not incorporate them into your modules unless we receive permission from TechnoServe.