**Market Information and Food Insecurity Response Analysis (MIFIRA) Framework**

**March 2012 revised version**

**Course Description**

Food aid is no longer the only, or even the dominant, response to widespread food insecurity. Donors, governments, NGOs and recipient communities exhibit rapidly growing interest in and experimentation with cash-based alternatives, both in the form of direct cash distribution to food insecure persons, and of local or regional purchase of food using cash provided to operational agencies by donors. But humanitarian assistance and development communities lack a systematic, field-tested framework for choosing among food- and/or cash-based responses to food insecurity.

This course outlines the rationale for “response analysis” and introduces a field-tested, systematic approach to this emergent activity. The Market Information and Food Insecurity Response Analysis (MIFIRA) framework (reflected in the heuristic below) provides a logically sequenced set of questions that help operational agencies anticipate the likely impact of alternative (food- and/or cash-based) responses and thereby identify the response that best fits a given food insecurity context. The first MIFIRA question: “Are local markets functioning well?” is broken down into five subquestions. The second MIFIRA question: “If not, is there sufficient food available nearby to fill the gap?” is broken down into three subquestions. We describe and demonstrate analytical tools to answer each subquestion.

**MIFIRA Framework**



Lectures and accompanying powerpoints are arranged from abstract to concrete and in sequential order. First, we briefly motivate why response analysis is important, what approaches are available, and how MIFIRA works. Then, we describe each analytical tool before turning to how to put the tools together to conduct an analysis.

MIFIRA questions can be organized around three distinct levels of analysis: macro, meso and micro levels, as reflected in the figure below. Macro level subquestions, which focus on national policies and prices, employ analytical tools relying secondary data often collected by national governments or international governments. Meso level questions, which focus on local wholesalers and intermediaries, are generally best answered using a blend of analytical tools that use primary and secondary data. Micro level subquestions, which focus on food insecure households to be targeted and the markets they use, employ analytical tools that utilize local information and primary data collection.

**Scales of MIFIRA analysis**

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Source: Barrett et al. 2009

By the end of this course, analysts should (1) understand why each MIFIRA sub-question is important, (2) be able to identify which analytics can answer each question (3) be able to work through examples using these analytics to generate and interpret their findings. This combination of theoretical motivation and applied tools should provide analysts with adequate flexibility to adjust the MIFIRA approach to suit a variety of contexts.

This course was developed and initially piloted at Cornell University (USA) in spring 2010. It was subsequently taught at both Makerere University (Uganda) and the University of Nairobi (Kenya) in the first half of 2011. This syllabus and the accompanying course materials have been revised to reflect those instructional experiences. They are intended as an aid for instructors offering this as a short-course, typically as a sequence of 13 periods of 45 minutes each, or for individuals to work through as self-paced instruction.

Lastly, this course is appropriate for those who have successfully completed at least one statistics course and who have a strong understanding of at least intermediate microeconomics.

The course content is as follows. We recommend working through the materials in the sequence noted. Some readers may be able to skim through some material, as reflected in the NOTES column. For the convenience of users, for readings readily available online as of March 2012, we have included hypertext links that are current as of that date. Some links may break subsequently, in which case readers are encouraged to search online for an active link to the target document.

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| **Lecture Number** | **Lecture Topics** | **NOTES** |
|  | PART I: MOTIVATION |  |
| 1 | Context of food insecurity* What is food insecurity
* Food insecurity measurement
* Causes of food insecurity

*Readings:** Barrett C.B. and Lentz, E. (2010) "Food Insecurity." In Robert Denemark et al. eds. *The International Studies Compendium Project.* Oxford: Wiley-Blackwell.

[http://dyson.cornell.edu/faculty\_sites/cbb2/Papers/Barrett,%20Lentz\_Food%20Insecurity\_June%202009%20final%20version.pdf](http://dyson.cornell.edu/faculty_sites/cbb2/Papers/Barrett%2C%20Lentz_Food%20Insecurity_June%202009%20final%20version.pdf)* Barrett, C.B. (2010). “Measuring Food Insecurity” *Science* Vol. 327 no. 5967. February. pp. 825-828.

 [doi:10.1126/science.1182768](http://dx.doi.org/10.1126/science.1182768) <http://www.sciencemag.org/content/327/5967/825>*Supplementary Readings** Sen A. (1980) “Famines” *World Development* 8, pp. 613-621

[doi:10.1016/0305-750X(80)90053-4](http://dx.doi.org/10.1016/0305-750X%2880%2990053-4)<http://www.sciencedirect.com/science/article/pii/0305750X80900534>* Devereux S. (2009) “Why does famine persist in Africa?” *Food Security* 1(1) pp. 25-35.

[doi:10.1007/s12571-008-0005-8](http://dx.doi.org/10.1007/s12571-008-0005-8)<http://www.springerlink.com/content/h4505q2822216533/> | Optional for practitioners |
| 2 | Response analysis and MIFIRA * Responses to food insecurity
* Response analysis
* Benefits and costs of different transfers
* Definitions
* Market Information and Food Insecurity Response Analysis (MIFIRA)
* Scales of analysis

*Readings:** Barrett, C.B., Bell, R., Lentz, E.C. and Maxwell, D.G.  2009. “Market Information and Food Insecurity Response Analysis.” *Food Security*1:151‐168.

[doi:10.1007/s12571-009-0021-3](http://dx.doi.org/10.1007/s12571-009-0021-3)<http://www.springerlink.com/content/20t80w3656428335/>*Supplementary Readings:** Selections from World Food Program (2009) Emergency Food Security Assessment Handbook. Annexes 4 and 5. Pp. 255-269.

<http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp203245.pdf>* Harvey, P. (2007) “Cash – based responses in emergencies.” London: Overseas Development Institute HPG Report No. 24.

[doi:10.1111/j.1759-5436.2007.tb00383.x](http://dx.doi.org/10.1111/j.1759-5436.2007.tb00383.x)[www.**odi**.org.uk/resources/docs/265.pdf](http://www.odi.org.uk/resources/docs/265.pdf)* Michelson, H., E.C. Lentz, R. Mulwa, M. Morey, L. Cramer, M. McGlinchy and C. B. Barrett, “Cash, Food or Vouchers in Urban and Rural Kenya? An Application of the Market Information and Food Insecurity Response Analysis Framework,” *Food Security*, forthcoming. <http://dyson.cornell.edu/faculty_sites/cbb2/Papers/20110331MIFIRADraft.pdf>
* Mude, A. G., R. Ouma, and E.C. Lentz, “Responding to Food Insecurity: Employing the Marking Information and Food Insecurity Response Analysis framework in rural Northern Kenya.” *Journal of Development Studies,* forthcoming. <http://dyson.cornell.edu/faculty_sites/cbb2/MIFIRA/apps/>
* Hill, E., J. Upton, A. Xavier, 2011. “Local and Regional Procurement in Uganda: Lessons learned from a pilot study of the Market Information and Food Insecurity Response Analysis (MIFIRA) framework. July. Draft. <http://dyson.cornell.edu/faculty_sites/cbb2/MIFIRA/apps/>
 | Instructor note: this lecture will probably take two periods |
| 3 | Other approaches to market analysis * Emergency Market Mapping and Analysis Tool (EMMA)
* World Food Program Emergency Food Security Assessments
* FEWs Net Market Assessment and Analysis
* Tradeoffs

*Readings** Donovan, Cynthia and Megan McGlinchy. 2006. “Market Profiles and Emergency Needs Assessments: A summary of methodological challenges.” May. World Food Programme, Emergency Needs Assessment Branch (ODAN). <http://documents.wfp.org/stellent/groups/public/documents/ena/wfp095655.pdf>

*Supplementary Readings** WFP, “Emergency Food Security Assessments Technical Guidance Sheet 2: Integrating non-food responses to food insecurity into emergency food security assessments (EFSAs) <http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp197292.pdf>
* Selections from Albu, M. (2009) EMMA Implementation Guidelines. “Introduction and Overview.” <http://practicalaction.org/docs/emma/EMMA-introduction-and-overview.pdf>
* Selections from World Food Program (2009) Emergency Food Security Assessment Handbook. Chapter 5 pp. 193-208. <http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp203245.pdf>
* FAO, 2006. “Briefing Note: The IPC.” http://www.ipcinfo.org/attachments/esaf\_pb\_issue3\_IPC.pdf
* FEWs Net (2008) “Market Assessment and Analysis: Learners Notes. Lesson 2: Assessing Markets: Annex 12 & 13” FAO. pp. 39-43. <http://www.fews.net/docs/Publications/Market%20Assessment%20and%20Analysis%20Training%20Module.pdf>
 | Optional for practitioners |
|  | PART II: CONCEPTS, DATA AND METHODS1. MACRO-SCALE ANALYSIS TOOLS
 |  |
| 4 | Food policies * Food price dilemma and food policy definition
* Categories of policies
* Examples
* Sources of policy risk
* Sources of information about policies

*Readings** FEWS NET (2008) “Market Assessment and Analysis: Learners Notes. Lesson 3: Market Indicators: Annex 3: Policy impacts on markets and population” FAO. P. 24. <http://www.fews.net/docs/Publications/Market%20Assessment%20and%20Analysis%20Training%20Module.pdf>
* Dorosh, Paul A., 2001. “Trade Liberalization and National Food Security: Rice Trade between Bangladesh and India.” *World Development* 29 (4) pp. 673-689.

[doi:10.1016/S0305-750X(00)00121-2](http://dx.doi.org/10.1016/S0305-750X%2800%2900121-2)<http://www.sciencedirect.com/science/article/pii/S0305750X00001212>*Supplementary Readings** Barrett, C.B., Bellemare, M. (2011) “Why price volatility doesn’t matter” *Foreign Affairs.* July 12. <http://www.foreignaffairs.com/articles/67981/christopher-b-barrett-and-marc-f-bellemare/why-food-price-volatility-doesnt-matter>
* Dorosh, P., Dradri S., Haggblade, S. (2009) “Regional trade, government policy and food security: Recent evidence from Zambia. Food Policy.” *Food Policy* 34: 350–366.

[doi:10.1016/j.foodpol.2009.02.001](http://dx.doi.org/10.1016/j.foodpol.2009.02.001)<http://www.sciencedirect.com/science/article/pii/S0306919209000189>* Timmer, P. (2008) Causes of High Food Prices. Asian Development Bank.

<http://www.adb.org/documents/Working-Papers/2008/Economics-WP128.pdf> |  |
| 5 | Supply responsiveness* Spatial and temporal price analysis
* Market integration
* Parity bounds model (supplementary)

*Readings** Barrett C. (2008) “Spatial Market Integration” in Durlauf, S., and Blume, L., ed. New Palgrave Dictionary of Economics. <http://www.dictionaryofeconomics.com/article?id=pde2008_S000448>
* World Food Program (2008) “PDPE Market Analysis Tool: Market Integration.” <http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp187901.pdf>
* Lentz, E.C. (2011) “LRP: Monitoring and Analyzing Data 25 March 2011.doc”. Draft. <http://dyson.cornell.edu/faculty_sites/cbb2/MIFIRA/apps/>
* Lentz, E.C. (2011) “Lentz 11 LRP Price Analysis - How Prices Change.ppt” <http://dyson.cornell.edu/faculty_sites/cbb2/MIFIRA/apps/>
* Lentz, E.C. (2011) “Lentz 12 LRP Price Analysis – Approaches to Analysis.ppt” Draft. <http://dyson.cornell.edu/faculty_sites/cbb2/MIFIRA/apps/>
* “Maize Kenya price series detrend and deseasonalize.xls” <http://dyson.cornell.edu/faculty_sites/cbb2/MIFIRA/apps/>

*Supplementary Readings** Fackler, P.L. and B.K. Goodwin (2001) “Spatial Price Analysis,” in G. Rausser and B. Gardner, eds., *Handbook of Agricultural Economics,* Amsterdam: Elsevier.

 [doi:10.1016/S1574-0072(01)10025-3](http://dx.doi.org/10.1016/S1574-0072%2801%2910025-3)<http://www.sciencedirect.com/science/article/pii/S1574007201100253>  |  |
| 6 | Domestic availability and prospective source markets* Price bands
* Import parity prices

*Readings** Famine Early Warning System (2008) “Import / Export Parity Price Analysis.” FewsNet Market Guidance (1). May. <http://www.fews.net/docs/Publications/MT%20Guidance_Import%20Export%20Parity%20Price%20Analysis_No%201_En.pdf>
* World Food Program (2008) “PDPE Market Analysis Tool: Import Parity Prices.” <http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp187902.pdf>

*Supplementary Readings* * Tadesse G. and Shively G. (2009) “Food Aid, Food Prices, and Producer Disincentives in Ethiopia.” *American Journal of Agriculture Economics* 91(4)

[doi:10.1111/j.1467-8276.2009.01324.x](http://dx.doi.org/10.1111/j.1467-8276.2009.01324.x)<http://ajae.oxfordjournals.org/content/91/4/942>* Barrett, C.B. (2008) “Smallholder market participation: Concepts and evidence from eastern and southern Africa.” *Food Policy* 33(4): 299-317. [http://dx.doi.org/10.1016/j.foodpol.2007.10.005](http://dx.doi.org/10.1016/j.foodpol.2007.10.005%22%20%5Ct%20%22doilink)
 |  |
| 7 | Regional availability and prospective source markets* Food balance sheets
* Informal cross border trade

*Readings** Food and agriculture organization (FAO). 2002. “Training in the Preparation of Food Balance Sheets: Food Balance Sheets: Applications and uses.” June-July. No. 6. FAO, Rome. <http://www.foodsec.org/DL/course/shortcourseFA/en/pdf/5_FBS_concepts.pdf>
* Famine Early Warning System (2006) “Informal Cross Border Food Trade in Southern Africa” November. - *In Public Folder* [www.fews.net/docs/Publications/1001210.pdf](http://www.fews.net/docs/Publications/1001210.pdf)

*Supplementary Readings** Tschirley, D. and A.M. del Castillo (2006) “Local and Regional Food Aid Procurement: An assessment of experience in African and elements of good donor practice.” Policy synthesis for cooperating USAID offices and countries missions No. 79. Washington: USAID. <http://ageconsearch.umn.edu/bitstream/54486/2/wp_27.pdf>
* East African Grains Council and Regional Agricultural Trade Intelligence Network. “East African Food & Trade Bulletin” (monthly publication) [www.ratin.net](http://www.ratin.net)
 |  |
|  | 1. MESO-SCALE ANALYSIS TOOLS
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| 8 | Marketshed Mapping * Introduction to market mapping
* Seasonal calendar
* Market maps
* Limitations of market maps
* Seasonal flow reversals

*Readings** FEWs Net (2008) “Market Assessment and Analysis: Learners Notes. Lesson 3: Market Indicators: Annex 3: Policy impacts on markets and population” FAO. pp. 24. <http://www.fews.net/docs/Publications/Market%20Assessment%20and%20Analysis%20Training%20Module.pdf>
* Timmer, C. P., W.D. Falcon, and S.R. Pearson (1983) *Food Policy Analysis*. Baltimore: Johns Hopkins University Press: chapter 4, “Marketing Functions, Markets, and Food Price Formation.” <http://www.stanford.edu/group/FRI/indonesia/documents/foodpolicy/fronttoc.fm.html>
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| 9 | Competition: supply chains * Perfect competition
* Supply chains and marketing margins

*Readings** Mendoza, Gilberto (1995) “Chapter 11: A Primer on Marketing Channels and Margins,” in Scott, Gregory J., ed. *Prices, Products, and People: Analyzing Agricultural Markets in Developing Countries*. Lynne Rienner, Boulder.

*Supplementary Readings** Hill, E., J. Upton, A. Xavier, 2011. “Local and Regional Procurement in Uganda: Lessons learned from a pilot study of the Market Information and Food Insecurity Response Analysis (MIFIRA) framework. July. Draft. <http://dyson.cornell.edu/faculty_sites/cbb2/MIFIRA/apps/>
* MIFIRA Uganda Trader Survey 29 Sept 2010 comments: “Trader Interview: Individual Competition and Characteristics: wholesale and retail food staple traders” <http://dyson.cornell.edu/faculty_sites/cbb2/MIFIRA/survey/>
 |  |
| 10 | Competition: trader behavior* Imperfect competition
* Barriers to entry
* Structure, conduct and performance
* CR4 and HHI

*Readings** Timmer, C. P., W.D. Falcon, and S.R. Pearson (1983) *Food Policy Analysis.* Baltimore: Johns Hopkins University Press: chapter 4, “Marketing Functions, Markets, and Food Price Formation”. <http://www.stanford.edu/group/FRI/indonesia/documents/foodpolicy/fronttoc.fm.html>

*Supplementary Readings** Barrett, Christopher B. 1997. “Food Marketing Liberalization and Trader Entry: Evidence from Madagascar,” *World Development* 25(5): 763-777.

[doi:10.1016/S0305-750X(96)00132-5](http://dx.doi.org/10.1016/S0305-750X%2896%2900132-5) <http://www.sciencedirect.com/science/article/pii/S0305750X96001325>  |  |
|  | C. MICRO-SCALE ANALYSIS TOOLS |  |
| 11 | Household preferences and consumption behavior * Access
* Preferences
* Demand elasticities
* Marginal propensities to consume
* Terms of trade
* Net benefits
* Commodities to examine

*Readings** Timmer, C. P., W.D. Falcon, and S.R. Pearson (1983) *Food Policy Analysis*. Baltimore: Johns Hopkins University Press. Pp. 35-60 “Food Consumption Analysis.” <http://www.stanford.edu/group/FRI/indonesia/documents/foodpolicy/fronttoc.fm.html>
* World Food Program (2008) “PDPE Market Analysis Tool: Price and Income Elasticities.” <http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp187903.pdf>
* World Food Program (2008) “PDPE Market Analysis Tool: Terms of Trade.” <http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp187906.pdf>

*Supplementary Readings:**Tools for Primary Data Analysis** Kumar, K. (1989) “Conducting Key Informant Interviews in Developing Countries.” AID Program Design and Evaluation Methodology Report No. 13. <http://pdf.usaid.gov/pdf_docs/PNAAX226.PDF>
 | Instructor note: This will take two periods |
| 12 | Local supply responsiveness* Estimating local supply responsiveness
* Adding in demand
* Example of local responsiveness in Bangladesh
* Example of local responsiveness in northern Kenya
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|  | PART III: MIFIRA Analysis |
| 13 | Putting together the pieces - walk through each subquestion with application Using Kenya and Uganda cases* Triangulating findings
* Monitoring
* Triggers
* Appendix: MIFIRA analytics by specific subquestion

*Readings** Michelson, H., E.C. Lentz, R. Mulwa, M. Morey, L. Cramer, M. McGlinchy and C. B. Barrett, “Cash, Food or Vouchers in Urban and Rural Kenya? An Application of the Market Information and Food Insecurity Response Analysis Framework,” *Food Security*, forthcoming.

<http://dyson.cornell.edu/faculty_sites/cbb2/MIFIRA/apps/>* Mude, A. G., R. Ouma, and E.C. Lentz, “Responding to Food Insecurity: Employing the Marking Information and Food Insecurity Response Analysis framework in rural Northern Kenya.” *Journal of Development Studies,* forthcoming. <http://dyson.cornell.edu/faculty_sites/cbb2/MIFIRA/apps/>
* Hill, E., J. Upton, A. Xavier, 2011. “Local and Regional Procurement in Uganda: Lessons learned from a pilot study of the Market Information and Food Insecurity Response Analysis (MIFIRA) framework. July. Draft. <http://dyson.cornell.edu/faculty_sites/cbb2/MIFIRA/apps/>
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|  | SUPPLEMENTARY MATERIALS* Assignments
* Sample trader and household surveys
* LRP Learning Alliance price collection and analysis
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