USDA LOCAL AND REGIONAL FOOD AID PROCUREMENT PILOT PROJECT

Independent Evaluation Report

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USDA LOCAL AND REGIONAL FOOD AID PROCUREMENT PILOT PROJECT

INDEPENDENT EVALUATION REPORT

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ACRONYMS

AARREC	Agence d'Assistance aux Rapatriés et Réfugiés au Congo
ACE	Agricultural Commodity Exchange for Africa (Malawi)
ACDI/VOCA	Agricultural Cooperative Development International/Volunteers in Overseas Cooperative Assistance
AECP	Agir Ensemble Contre la Pauvreté
AES	Agro-Economic Survey
BAGSA	Bolsa Agropecuaria de Nicaragua
BL	Bill of Lading
CEMIR	Commission Episcopale pour les Migrants et les Refugies
COMACO	Community Markets for Conservation
CRS	Catholic Relief Services
CSB	Corn Soy Blend
DFID	Department for International Development (UK)
EC	European Community
EFSP	Emergency Food Security Program of the USAID Office of Food for Peace
EMOP	Emergency Operations of the World Food Programme
FAD	U.S. Department of Agriculture, Food Assistance Division
FAO	Food and Agriculture Organization of the United Nations
FAS	U.S. Department of Agriculture, Foreign Agricultural Service
FBF	Fortified Blended Food
FCF	Fabretto Children's Foundation
FEWSNET	Famine Early Warning Systems Network
FIMAC	Financial and Management Accountancy Centre
FO	Farmer's Organization
FRA	Food Reserve Agency (Zambia)
FSA/KCCO	U.S. Department of Agriculture, Farm Service Agency, Kansas City Commodity Office
FY	Fiscal Year
GAO	U.S. Government Accountability Office
GM (GMO)	Genetically Modified (Genetically Modified Organism)
HACCP	Hazard Analysis and Critical Control Point
HEPS	High Energy Protein Supplement
IDP	Internally Displaced People
IFFS	Iron-Fortified Fish Sauce
IKP	In-Kind Procurement (commodities originating in the United States)
IDA	International Disaster Assistance
INTERFAIS	International Food Aid Information System
IPHD	International Partnership for Human Development
IPP	Import Parity Price
IRD	International Relief and Development
ITSH	Internal Transport, Storage and Handling
LNHAA	Laboratorio Nacional de Higiene de Alimentos e Aguas
LRP	Local and Regional Procurement
LTSH	Landside Transport, Storage and Handling
MDA	Médecins d'Afrique
MSI	Management Systems International
MT	Metric Ton
MYAP	Multi-Year Assistance Program
NGO	Non-Governmental Organization
NSRA	National Strategic Reserve Agency

OCBD	Office of Capacity Building and Development
OMA	Observatoire du Marché Agricole
P4P	Purchase for Progress program of the World Food Programme
PASSCO	Pakistan Service and Storage Corporation
PCIMS	Processed Commodities Inventory Management System
PRRO	Protracted Relief and Recovery Operation of the World Food Programme
PVO	Private Voluntary Organization
RFQ	Request for Quotation
RUTF	Ready-to-Use Therapeutic Foods
SACCO	Savings and Credit Cooperatives
SAFEX	South African Futures Exchange
SIMA	Système d'Information sur le Marché Agricole au Niger
SYAP	Single-Year Assistance Program
TBL or T/BL	Through Bill of Lading
TOPS	Technical and Operational Performance Support at USAID
TSH	Transport, Storage and Handling, Including Ocean, Inland and Internal Transport
UMCOR	United Methodist Committee on Relief
UNHCR	United Nations High Commissioner for Refugees
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USG	United States Government
WBSCM	Web Based Supply Chain Management
WFP	World Food Programme
WV	World Vision
ZAMACE	Zambia Agricultural Commodities Exchange

GLOSSARY[1]

Aflatoxins – Naturally occurring mycotoxins formed on food and agricultural products during conditions of high temperature and humidity by various species of the *Aspergillus* fungi. Aflatoxin is a known human carcinogen that is prevalent in maize and groundnuts across much of Africa and has caused fatalities in recent outbreaks.

Beneficiary local purchase – An approach to food aid distribution whereby donors give targeted food-insecure populations cash or vouchers with which they can purchase food in local markets. The U.S. Department of Agriculture (USDA)-financed Local and Regional Procurement (LRP) project did not include cash transfers, but some Private Voluntary Organization (PVO) projects did use food vouchers.

Cargo preference – The Cargo Preference Act (P.L. 83-664) requires that whenever the federal government pays for equipment, material, or commodities shipped to other countries, a minimum percentage of the gross tonnage shipped by sea must be transported by U.S. flag vessels. USDA is required to ship a minimum percent of all food aid cargoes on U.S. flag vessels. Cargo preference laws would have applied to local and regional procurements under the USDA LRP Project, but no participants procured commodities that required ocean transportation during the pilot project.

Cash transfers – Cash provided directly to targeted beneficiaries to purchase food. Though the USDA LRP Project did not use cash transfers, it is one of the tools available for LRP under certain circumstances.

Development food assistance (including development LRP projects) – An activity or activities that will enhance (a) the availability of and/or access to adequate food to meet the caloric and nutritional needs of populations suffering from chronic food insecurity, or (b) the ability of such populations to build assets to protect against chronic food insecurity.

Development LRP project – A project providing food assistance via LRP that will enhance (a) the availability of, access to or the utilization of adequate food to meet the caloric and nutritional needs of populations suffering from chronic food insecurity, or (b) the ability of such populations to build assets and to protect against chronic food insecurity.

Direct distribution – For purposes of this evaluation report, this term refers to the provision of locally or regionally purchased commodities directly to targeted beneficiaries, in contrast to the distribution of cash- or

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[1] United States. Dept. of Agriculture, Agricultural Marketing Service. "Country of Origin Labeling (COOL) Frequently Asked Questions." Country of Origin Labeling. 12 Jan. 2009. Web. 22 Apr. 2012. <http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5074846>.

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World Food Programme, Food Aid Information System. "Glossary and Abbreviations." N.d. Web. 24 Apr. 2012. < http://www.wfp.org/fais/quantity-reporting/glossary>

World Food Programme. "Experiences of P4P Capacity Building Efforts and Procurement from Farmer Organizations: Kenya, Tanzania, Burkina Faso, Mali, El Salvador, and Nicaragua. With contributions from Guatemala, Honduras." N.d. 7 Apr. 2012. <http://documents.wfp.org/stellent/groups/public/documents/reports/wfp244737.pdf>

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World Vision. "Hunger Glossary." *About Hunger. N.d.* Web. 24 Apr. 2012. http://www.worldvision.org/content.nsf/learn/hunger-glossary-a-e?open&lpos=ctr_txt_A-D

quantity-denominated vouchers where beneficiaries must purchase the food themselves. See *distribution approaches,* below. This term has an industry definition referring to in-kind food aid programs in which commodities are not monetized; that definition does not apply to this report.

Direct purchase – A non-competitive *procurement approach* in which a participant purchases a commodity directly from one or more suppliers without a competitive bidding process. This approach may be used for commodities that are only available from one vendor, or in situations in which only one vendor can meet the necessary quality and tonnage requirements. In other cases, participants may target farmers' organizations (FOs) for direct purchases in order to achieve development objectives.

Distribution approaches – For purposes of this report, distribution approaches refer to the methods by which participants in the LRP Project choose to distribute locally or regionally procured food commodities to beneficiary households. The participants used only vouchers and direct (food) distribution under USDA-funded LRP projects.

Emergency food assistance – Food assistance provided to victims of natural or man-made disasters or economic crises on a short-term basis in order to address an acute food security need. Emergency food assistance may be delivered through various mechanisms including through the provision of in-kind food aid, cash transfers or food vouchers.

Emergency LRP project – A project providing food assistance via LRP in response to the acute food needs of populations affected by a natural or man-made disaster or an economic crisis. Such projects may also serve developmental goals in at least two ways: (1) by boosting long-term additional supply from local and/or regional farmers, and (2) from beneficiaries building local infrastructure in return for food, food-vouchers or cash transfers. Also see the definition for *Development food assistance*.

Food aid – A type of food assistance that involves direct distributions of food commodities (i.e., transfers) to targeted beneficiaries. Commodities purchased for such programs can be sourced in the U.S. or in local, regional, or international markets. In-kind food assistance provided through U.S. Government- funded Title II, Food for Progress and McGovern-Dole International Food for Education and Child Nutrition programs, falls into this category.

Food assistance – Food assistance refers to a variety of interventions designed to enhance access to food for vulnerable and food insecure populations. Direct forms of food assistance include in-kind food aid, cash transfers, and food vouchers. Indirect assistance may include market-available self-targeted commodities which help the economically vulnerable to purchase less expensive and more nutritious foods. Indirect food assistance is sometimes defined to include forms of production and market support.

Food aid distribution approach – The approach (e.g., cash, vouchers, or direct food transfers) through which donors choose to deliver food assistance to targeted beneficiaries.

Food aid needs – The type, quantity, and quality of food aid commodities required by targeted beneficiaries to meet the immediate need for food.

Food aid procurement modality – For purposes of this report, procurement modality refers to the geographic area where food aid is sourced. *In-kind aid* is sourced from the donor country whereas *locally or regionally procured (LRP)* aid is sourced either within the country affected by food insecurity or in a country that is on the same continent as the affected country. Individual projects may use one or more of these modalities to respond to a food security need and participants often have parallel projects running simultaneously, each using one modality. For this report, food aid procurement modality refers only to the source area. Other documents use the word modality to refer to sub-categories of LRP or the method of procurement or distribution of food aid. This report describes sub-categories of LRP as alternative "procurement approaches" that indicate how commodities were procured, such as hard tendering, soft tendering, direct or sole-source purchases, or voucher-based food assistance. Distribution approach is used to indicate the manner in which beneficiaries

receive aid. See *distribution approaches* and *procurement approaches* below for further explanation of sub-categories of LRP.

Food for work – A program in which a targeted food-insecure population is offered food aid, cash, or food vouchers in exchange for work, often to build or rehabilitate community or household assets (e.g., roads, irrigation infrastructure). This type of project may be undertaken for either development or emergency food assistance projects.

Food-insecure populations – Populations lacking adequate and stable access to food for immediate consumption at the level and quality that is necessary to lead healthy and active lives.

Food security – A condition that exists when all people at all times have physical and economic access to sufficient food to meet their nutritional needs for productive and healthy lives.

Food transfers – Transfers of rations of food directly to beneficiaries. The food may be sourced in the U.S. as well as locally, regionally, or internationally.

Food vouchers – A voucher provided directly to targeted food-insecure individuals to purchase a fixed quantity of food (commodity-based vouchers) or to purchase food up to a fixed monetary value (value-based vouchers) from selected vendors.

Fortified Blended Foods (FBFs) – "Blends of partially precooked and milled cereals, soya, beans and pulses fortified with micronutrients (vitamins and minerals). Special formulations may contain vegetable oil or milk powder. FBFs are designed to provide protein supplements…[i]n food assistance programs to prevent and address nutritional deficiencies. Also, to provide extra micronutrients to complement the general ration."[2]

Forward contract (also known as forward purchase) – A forward contract defines the quantity and price of a commodity with delivery taking place at a specified future date. Food buyers may use forward contracts for hedging (i.e., locking in a price to reduce risk). The World Food Programme (WFP) uses forward contracts, with options to adjust prices if they rise between contract and delivery, to build the marketing capacities of FOs targeted under the Purchase for Progress (P4P) initiative. Forward contracts may be competitive or non-competitive.

Hard tendering – A fully competitive tendering process or *procurement approach* for food aid commodities, in which all suppliers that are able to meet the tendered quantities and other requirements can bid.

Import parity price (IPP) – The cost of importing a specific commodity from the world market. The IPP serves as a benchmark price for locally or regionally procured food aid commodities. With knowledge of the IPP, a participant can make decisions between local and regional procurement or between LRP and *in-kind food aid*.

In-kind food aid – Food aid purchased by donors from within their own countries (or, in some cases, on the world market) and shipped to a country where the food is required. This report uses the term to refer to food aid sourced in the U.S.

Livelihoods – The various ways in which principal adult members of households work, earn their income, and acquire their food. Groups of households with similar patterns are characterized as belonging to a homogenous livelihood group.

Local procurement – The purchase of food aid by donors and food aid organizations from within the country in which the food is needed.

LRP project – A project carried out under the Local and Regional Food Aid Procurement Pilot Project (USDA LRP Project). These projects included local and/or regional procurement of food aid for targeted food-insecure populations, in contrast to in-kind food aid that is sourced from the U.S.

[2] World Food Programme, "Our Work: Special Nutritional Products," Web. 15 June 2012. < http://www.wfp.org/nutrition/special-nutritional-products>

Local purchase (also known as local procurement) – Food purchases from within the country in which the food is needed to increase the food consumption of targeted beneficiaries. The food may be purchased by food aid organizations, beneficiaries, or purchase intermediaries. *Local purchase* includes *food aid* purchased locally and provided directly *to* beneficiaries (*local procurement*) or locally produced food purchased *by targeted beneficiaries* themselves using *cash transfers* or *food vouchers* (*beneficiary local purchases*). Donors can also support increased *beneficiary local purchases* through self-targeting strategies. Local purchase may also include food purchased locally *for* beneficiaries by designated intermediaries (*intermediary local purchases*). *Intermediary local purchases* can keep food markets functioning in affected areas during emergencies and increase the market supply of food available for *beneficiary local purchases*.

Metric Ton (MT) – The standard unit of weight measurement for food aid commodities, equivalent to 1,000 kilograms (2,204.6 pounds).

Modality – See *food aid procurement modality*, above.

Monetization – The practice of selling (monetizing) donated commodities and using the proceeds to support development programming. This evaluation does not directly address monetization projects.

Participant (also known as project participant) – A term used by USDA to describe the prime recipient of a food assistance grant. Participants are usually PVOs or intergovernmental organizations such as WFP. This term is used throughout this report.

Pre-positioning ("Prepo") – The practice of storing food aid in strategic regional hubs so that it can be rapidly dispatched to populations affected by a food crisis.

Processed foods – One "derived from a covered commodity that has undergone specific processing resulting in a change in the character of the covered commodity, or that has been combined with at least one other covered commodity or other substantive food component. Specific processing that results in a change in the character of the covered commodity includes cooking, curing, smoking, and restructuring."[3] For purposes of this report, processed foods include all processed and milled cereals like rice, maize meal, and bulgur wheat blends; vegetable oils; fortified blended foods; and several commodities in the "other" category, including noodles, cereal bars, canned fish, dairy products and condiments such as iron-fortified fish sauce.

Procurement approaches – For purposes of this report, these are the methods used to procure commodities. Procurement approaches used by participants in the USDA LRP Project included hard tender, soft tender, direct purchase, and vouchers.

Regional procurement – The purchase of food aid by donors and food aid organizations in a country located in the same region and/or on the same continent as the recipient country.

Response analysis – The process of conducting a situation analysis and identifying the most appropriate tools for meeting food assistance needs during each phase of a food crisis. For the USDA-funded LRP projects, participants were expected to use a form of evidence-based response analysis to determine whether, and when, local and/or regional procurement, food vouchers, cash transfers, in-kind food aid, or some combination of these tools was appropriate to meet beneficiary needs, while also meeting the requirement to do no harm[4].

Soft tendering – A semi-competitive tender that limits participation to invited vendors, generally small-holder FOs or small-scale traders, and allows flexibility in contract negotiations and delivery terms. In some cases,

[3] U.S. Department of Agriculture, "Country of Origin Labeling (COOL) Frequently Asked Questions," *Country of Origin Labeling*, Agricultural Marketing Service, January 12, 2009. Accessed from the web April 22, 2012 at: <*www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5074846*>

[4] Although USDA could not fund cash transfers or in-kind food aid with LRP pilot funds, the response analysis requires a nuanced approach to identifying the given tool that is most appropriate at each phase of the food crisis. Therefore, some of the proposals that USDA received requested funding to complement the resources (including cash transfers and in-kind food aid) provided by other donors, including other USG donors.

soft tendering is used when small-scale vendors cannot afford to put up standard performance bonds or do not have the capacity to meet other requirements of a hard tendering process. It is also used to build the capacity of small-holder FOs and small-scale traders by teaching them the skills they need to operate in a commercial manner. Limiting soft tenders to invited vendors permits participants, both PVOs and WFP, to procure from lower capacity vendors to support capacity building and agricultural and market development.

Transport, Storage, and Handling (TSH) – A term developed for this report only to refer to any and all ocean, inland, and internal transport, storage, and handling applicable to a given procurement. TSH facilitates cost comparisons between in-kind food aid, which requires ocean freight transport, and local and regional procurement, which may or may not require ocean freight transport. Participants had the option to use ocean freight transport where available or necessary, but none chose to do so under any of the LRP projects. TSH is not a term used by the U.S. government or industry groups.

Vouchers – Please see the definition for *food vouchers* above.

ACKNOWLEDGEMENTS

This independent evaluation of the U.S. Department of Agriculture's Local and Regional Food Aid Procurement Pilot Project (USDA LRP Project) is conducted under the leadership of the Food Assistance Division (FAD) of the Office of Capacity Building and Development (OCBD), Foreign Agricultural Service (FAS); of the U.S. Department of Agriculture (USDA). This team, led by Jamie Fisher, is dedicated to the pilot project activities in the spirit and letter of the 2008 Farm Bill, and was highly supportive of our complex and varied field work and analysis. We appreciate their support in moving this evaluation forward. In addition, the evaluation team would like to extend our thanks to Ross G. Kreamer and Corey Pickelsheimer, from the FAS Office of Agricultural Affairs in South Africa, for sharing information with us during our site visit to that country. This complex evaluation has demanded flexibility and creative thinking, and with their guidance and involvement, the team at USDA has been deeply involved in reviewing, approving and monitoring progress.

We extend our gratitude and sincerest appreciation to the beneficiary respondents in eight countries who participated in the study. We thank the district authorities who received our teams, extended their welcome and hospitality, and helped us to navigate our entry into their communities. Other vital respondents included members of the participant private voluntary organizations (PVOs) and the World Food Programme (WFP), who implemented the local and regional procurement (LRP) pilot projects around the world. Whether in person, on site visits, or by phone for other projects, we were warmly welcomed.

We would also like to thank representatives from the participants who helped our team to gather data and share their observations on in-kind food aid. Headquarters and local staff from ACDI/VOCA, Africare, Mercy Corps, CARE, Counterpart International, Catholic Relief Services, International Partnership for Human Development, International Relief and Development, Project Concern International, Save the Children, SHARE Guatemala, the WFP, and World Vision provided much needed information relevant to the evaluation.

Regional research assistance was provided by Makori Alkaly Abdoulkarim in Niger; Somonea Ieng in Cambodia; Andrew Kizito in Uganda; Erika Ruano in Guatemala; Neville Dumisani Takavarasha in Zimbabwe; and Gelson Tembo in Zambia. Their professionalism and dedication were essential to carrying out this research, before we arrived in country and after we left.

EXECUTIVE SUMMARY

The U.S. Department of Agriculture Local and Regional Food Aid Procurement Pilot Project (USDA LRP Project) is a five-year, $60 million pilot authorized by the Food, Conservation and Energy Act of 2008 (The Farm Bill). Under the pilot program, the U.S. Department of Agriculture (USDA) funded agreements for twenty-one[5] local and regional procurement (LRP) projects in nineteen countries; this evaluation examines the activities of the final 20 projects in 18 countries. The pilot program was designed to evaluate the timeliness, cost and market impact of using LRP as a tool to respond to natural disasters and other food crises in developing countries. A portion of the funds was also made available for development assistance projects of one year or more in duration.

Ten emergency projects and ten development projects were funded. The participants[6] assessed areas of need and presented project proposals to USDA for comment, revision, and approval. Project budgets ranged from a $106,098 development activity to an emergency intervention of $5,719,963; the mean, or average, amount per project was $2,467,967.[7] Priority was given to projects in Africa per the Farm Bill requirement, and to emergency programs, which received approximately 62 percent of the total funding available for field projects. Sixteen of the projects procured locally, three procured regionally, and one procured through both local and regional sources. Local procurements are those made within the recipient country, and regional procurements are those located in the same region and/or on the same continent as the recipient country. Fourteen projects distributed food directly, two projects distributed vouchers, and four used both direct distribution and voucher approaches.

Multiple donors have pursued LRP activities for food assistance as a means to limit costs and time to delivery, particularly in crisis circumstances. In recent years the U.S., alongside other major funders, has begun to utilize LRP in some of its multiple forms: participants can buy food in local, regional, or international[8] markets for distribution, or give cash or vouchers directly to targeted beneficiaries so they can buy food in local markets. LRP participants choose approaches, or combinations of approaches, in line with response analyses undertaken in the area targeted for assistance. These choices are also guided by the potential for market impact, both negative and positive. Sustained food aid procurement in developing countries can stimulate market development, spur investment in food processing industries, and enhance farmers' productivity.[9] LRP also often results in foods more suited to beneficiaries' tastes.[10]

A 2009 study by USDA's Office of Capacity Building and Development describes an environment where the timeliness and efficiency gains associated with LRP are of increasing importance.[11] Declining values of food distributions coupled with an increasing percentage of food aid used for emergency situations requires participants to buy efficiently and deliver quickly, both documented advantages of LRP over in-kind transfers in many situations.[12] The USDA LRP Project allowed USDA and participants to test some local and regional approaches, while gathering information on their processes and outcomes.

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[5] Two WFP-implemented LRP projects were funded for two fiscal years each, but in each case, this evaluation treats the project individually, in accordance with WFP's project reports. One project (in Benin) was ended before procurement began. The net total, then, is 20 projects in 18 countries, and those figures are used throughout this report.

[6] "Participants" is the term used by USDA for implementing partner organizations, whether private voluntary organizations (PVOs), the World Food Programme, or cooperatives. "Participant" is used throughout this report to refer to these organizations.

[7] USDA restricted individual awards to approximately $5 million, in order to ensure meeting the Farm Bill requirements regarding a diversity of projects across geographical, food-deficit and food-surplus regions.

[8] Although international procurement is a recognized means of obtaining commodities, it was not permitted under the USDA pilot.

[9] World Food Programme. "Food Procurement in Developing Countries." Presented to the Executive Board First Regular Session, Rome, Italy.

[10] Barrett, Christopher B. and Maxwell, Daniel G., 2005. Food Aid After Fifty Years: Recasting its Role. Routledge, New York, NY.

[11] Office of Capacity Building and Development, Foreign Agricultural Service, The United States Department of Agriculture, 2009. "The Use of Local and Regional Procurement in Meeting the Food Needs of Those Affected by Disasters and Food Crises."

[12] See, for example, Government Accountability Office. GAO-09-570 (2009). "International Food Assistance: Local and Regional Procurement Can Enhance the Efficiency of U.S. Food Aid, but Challenges May Constrain Its Implementation." Barrett, Christopher B., Samuel D. Bell, Teevrat Garg, Miguel I. Gomez, Aurélie P. Harou, Erin C. Lentz, Simone Passarelli, Joanna B. Upton and William J. Violette. "Final Report: A Multidimensional Analysis of Local and Regional Procurement of US Food Aid," January 2012. Cornell University. Tschirley, David and Anne Marie del Castillo, 2007. "Local and Regional Food Aid Procurement: An Assessment of Experience in Africa and Elements of Good Donor

THE USDA LRP PROJECT EVALUATION

As a pilot program, the USDA LRP Project emphasizes a set of learning objectives relevant to the array of actors and stakeholders engaged in LRP. The 2008 Farm Bill authorizing the program laid out a research agenda, including the independent final evaluation, to develop a comprehensive understanding of the timeliness, cost-effectiveness and market impacts of the pilot implementation.[13] Management Systems International, Inc. (MSI) was chosen to carry out this evaluation. This report presents MSI's findings addressing the Farm Bill requirements and the management objectives of USDA. Therefore, as an independent evaluation of the USDA LRP Project, the views expressed in the report are solely those of MSI and do not necessarily reflect the views of the U.S. Government.

The evaluation has gathered quantitative and qualitative data through reviewing LRP project documents and datasets, conducting site visits in eight countries (representing nine projects), and carrying out in-depth interviews with participants, researchers, and others in the United States. The evaluation does not assess the performance of participants, but rather highlights characteristics that may affect timeliness, cost-effectiveness, or market impacts associated with LRP. Evaluation results will help USDA and other USG agencies determine when, where, how, and under what circumstances LRP is the most suitable tool for providing U.S. food assistance.

The evaluation questions below, in addition to the 2008 Farm Bill factors, come from USDA's scope of work and were used to guide the design of research and analysis.

Timeliness—What amount of time was required by each project, and across LRP projects, to procure and deliver food assistance? What differences are found between different LRP approaches?

Cost-effectiveness—How much did each procurement cost under the LRP projects? Were there differences in cost-effectiveness between LRP approaches?

Impacts on markets—To what quantifiable extent have the LRP projects contributed to increased prices or price volatility in the markets in which the procurement took place and, if observed, what conditions contributed to adverse market impacts?

Quality—To what extent did the commodities purchased under the LRP projects satisfy relevant quality and safety standards?

Comparison to in-kind food aid—In what situations can LRP modalities deliver food aid in a more timely fashion than can in-kind transfers? How cost-efficient is LRP relative to in-kind transfers, and what factors contribute to the relative cost-effectiveness of the two approaches?[14]

MAIN FINDINGS AND CONCLUSIONS

The main findings and conclusions presented below reflect MSI's findings in response to these evaluation questions from the scope of work, as well as the factors of the 2008 Farm Bill. For that purpose, the list of factors appears immediately following this Executive Summary, alongside page numbers provided for the treatment of each factor in the report and its annexes. Given the breadth of projects and countries, the annexes following the report allow additional space to provide detail on each project and individual market

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Practice," MSU International Development, East Lansing, Michigan. Working Paper No. 91; and the Organization for Economic Cooperation and Development study, "The Development Effectiveness of Food Aid: Does Tying Matter?" available at http://www.oecd.org/document/63/0,3343,en_2649_33721_35440255_1_1_1_1,00.html

[13] The Food, Conservation, and Energy Act of 2008, Title III, Section 3206, 122 Stat. 1840 (June 18, 2008).

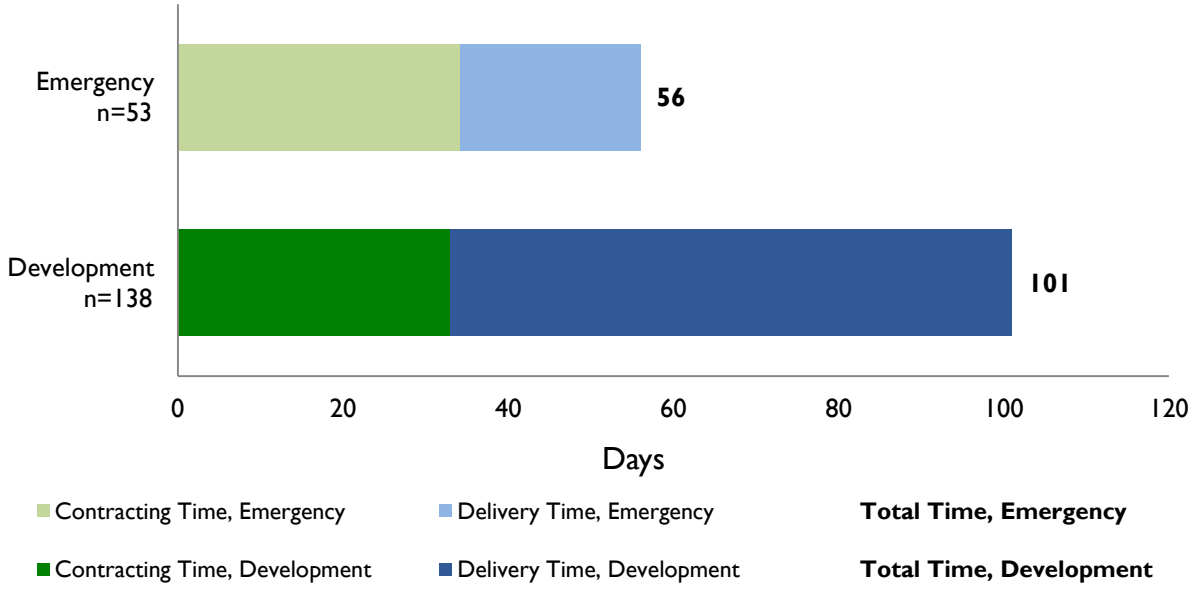
[14] It is important to note that data on pre-positioning ('prepo") was not made available for purposes of comparison in this report.

analyses. The main body of the report provides summary information on each factor from the 2008 Farm Bill requirements.

Comparisons of LRP on Timeliness

Among the procurements through LRP, timeliness is most important for emergency projects. Timeliness in reaching vulnerable populations with critical food insecurity is often considered more important than cost by donors. The evaluation finds that the total time for contracting and delivery of food for emergency LRP projects averaged 45 days faster than the total time for development LRP projects (Figure A).

FIGURE A: AVERAGE TIMELINE OF LOCAL AND REGIONAL PROCUREMENTS, BY RESPONSE TYPE, IN DAYS



The 191 procurements from which this figure is drawn reflect all twenty LRP projects in eighteen countries; ten of the twenty projects were directed toward emergencies, and ten toward development projects. Development LRP projects averaged 13.8 procurements in each project, while the average for emergency LRP projects was 5.3 procurements per project. The difference of 45 days between development and emergency projects follows from the urgency of the latter projects. It is notable that a greater part of the difference is in delivery time, which for emergency project procurements took less than a third of the time to deliver (at 22 days) than did development project procurements (at 68 days). In the context of food aid, a "timely" procurement process results in the delivery of food when it is needed or expected, and the additional time for development project procurement met this standard for timeliness.

The full report weighs timeliness for emergency and development procurements with additional variables – such as how commodities were procured and distributed, by categories of commodities, and by region. Findings show that voucher programs had the shortest average time, for example, though more voucher project research will be needed. The remainder of these analyses provides important lessons for programming for both emergency and development projects, on how to take advantage of different procurement and distribution approaches to meet the food security needs of vulnerable populations. Since vendor and

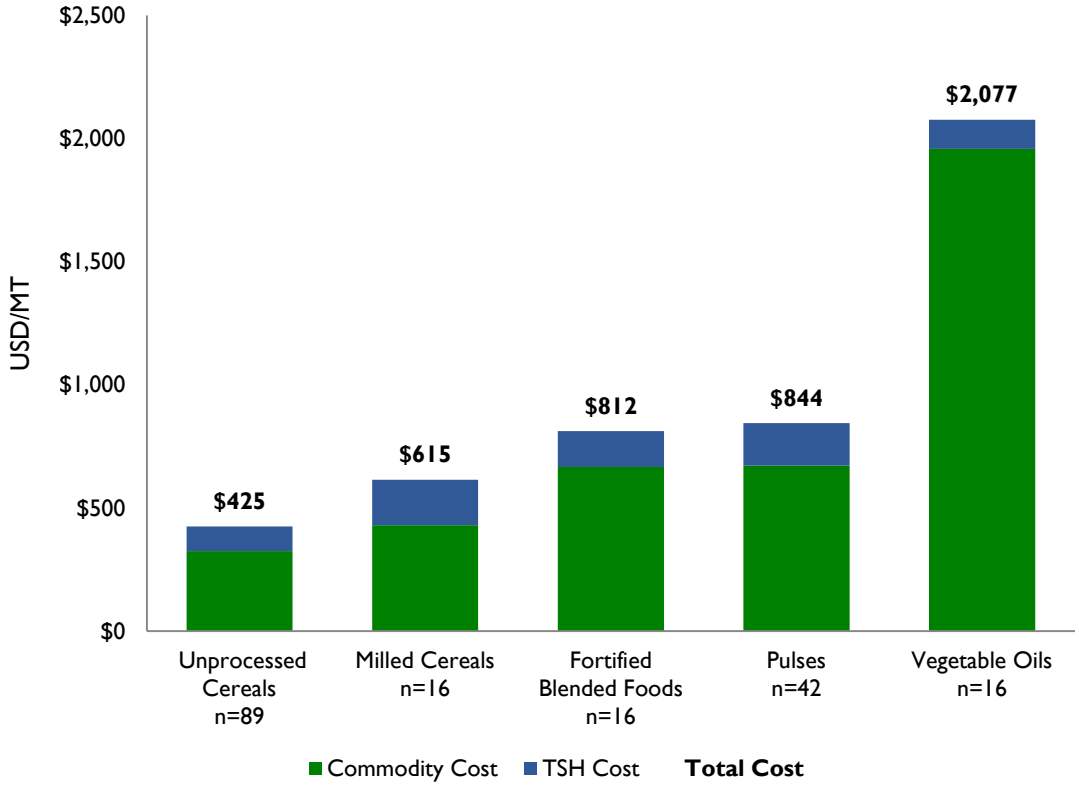
producer capacity can affect timeliness of procurements in LRP, the report also provides examples of participant capacity building in these areas.

Comparisons of LRP on Cost-Effectiveness

The variable that most affects cost-effectiveness in LRP is the type of commodity procured. The evaluation team's analysis thus focuses primarily on commodity category as the main variable of study, with procurements falling into five major categories of commodities: unprocessed cereals, milled cereals, fortified blended foods (FBFs), pulses, vegetable or cooking oils, and an "other" category, comprised of a range of other commodities procured in small amounts. Average costs were weighted by tonnage purchased for the analysis, to control for price variation based on economies of scale.

Among LRP project procurements, unprocessed cereals were the least expensive of all commodities purchased in the LRP projects, at approximately $326 per metric ton (MT). Milled cereals (e.g., maize flour and rice) cost $429/MT. Pulses averaged $672/MT and FBFs $667/MT (see Figure B, which also shows transport, storage and handling costs). Vegetable oils and "other" commodities (e.g., canned fish, iron-fortified fish sauce (IFFS) and salt) were the most expensive categories of commodities purchased under the LRP Project.

FIGURE B: AVERAGE TOTAL LRP COSTS BY COMMODITY CATEGORY, IN USD/MT[15]



[15] This figure does not include purchases that fall into the "Other" category of commodities, which, for purposes of comparability are excluded.

Costs for transport, storage and handling[16] (abbreviated as TSH in the figure) were highest for milled cereals and pulses, and lowest for unprocessed cereals.

The full report weighs cost-effectiveness across commodity categories by additional variables – such as how commodities were procured and distributed, whether they were purchased locally or regionally, and by the region of the recipient country. For example, local procurement had a cost advantage because of low average costs for TSH. Additional analyses provide important lessons for programming to maximize cost-effectiveness while meeting the food security needs of vulnerable populations. Since vendor and producer capacity can affect timeliness of procurements in LRP, the report also provides examples of participant capacity building in these areas.

The majority of procurements were sourced competitively, with 46 percent of procurements using hard tenders and three percent using soft tenders. An additional nine percent were voucher procurements, in which beneficiaries could choose from among competing, approved vendors. The remainder of procurements, or 42 percent, was carried out by direct purchase, or sole sourcing, generally with development goals in mind, such as targeting farmers' organizations (FOs).

The availability and characteristics of suppliers had an influence on the procurement approach used, and on the competitiveness of the procurement prices. These findings call for an awareness of the context and its ramifications on cost effectiveness during project design.

Market Analysis

The market impact part of this assessment focuses on the impact on procurement markets because this is what distinguishes LRP from in-kind food aid. This impact is more complex than the impact on distribution markets because of wider market catchment areas and the possibility of multi-country contributions to supply. The impact on the procurement market is therefore more diffuse and more difficult to detect. The assessment largely limits itself to searching for evidence of price rises due to LRP.

The evaluation team's assessment of market impact drew on: Learning Alliance[17] results, sets of limited market price data around purchase dates, diverse secondary data sets, an approach based on the price elasticity of supply, and evidence from key informants. The analytic approach taken by the evaluation for any particular LRP country, market, or procurement depended critically on the specific data available for that particular project.

Analysis of the 20 LRP projects' market interventions could neither confirm nor find probable that any of the projects caused market impact in procurement markets.[18] For all commodities procured for which there existed enough information to evaluate market impact, the analysis concluded that 15 projects were "unlikely" to have caused any impact and that three had "possibly" caused an impact. The remaining two projects fell into the "unlikely" category for two commodities and into the "possibly" category for another.[19]

Competition in procurement processes was generally high. The evaluation team did not identify any evidence of collusion in bidding and most hard and soft tenders received several, if not numerous, bids. Voucher schemes were also characterized by competition in the market, as beneficiaries chose between approved

[16] In the case of projects with regional procurements requiring overland transportation, then the notation for TSH should be understood to include inland and internal transport, storage and handling.
[17] The Learning Alliance is a consortium of four U.S.-based private PVOs (Mercy Corps, Catholic Relief Services, World Vision, and Land O'Lakes) working with Cornell University to establish a framework and indicators to monitor LRP projects.
[18] The evaluation methodology, described in detail in the Methods and Market Analysis chapters of this report, classified each outcome as "confirmed", "probable", "possible" or "unlikely". At one extreme, "confirmed" corresponded to a clear pattern of market impact demonstrated by empirical criteria; at the other, "unlikely" represented the opposite: a complete absence of market impact. Between these extremes, market impact was "probable" if at least one source of evidence suggested it and no others contradicted this; it was "possible" if at least one source of evidence suggested it, even if others contradicted this.
[19] The assessment covered all procurements of major staples, where possible. It did not deal with food aid commodities from the "Other" category. Where there was not enough data to form a judgment the evaluation team omitted it from its project ratings for market-assessment.

vendors in their local markets. Eight development projects and one emergency project used multiple procurement approaches, allowing them to get a sense of competitiveness across alternative mechanisms.

LRP participants were required to compare the local price for each commodity procured with the "import parity price" (IPP) to ensure that they were procuring at the lowest possible cost. Meeting the IPP criterion meant that participants were not risking raising prices in local markets with food-security problems in their catchment areas. On IPP grounds, projects chose procurement zones where food was low-cost.

Projects suffered few commodity defaults, but proportionally more hit projects that focused on building the capacity of FOs, which were sometimes institutionally immature or financially weak.

Non-farmers and farmers whose harvests are not sufficient to feed their households for the entire year are net buyers of food. Both would suffer if prices were to rise due to purchases by LRP projects. However, there was evidence neither that LRP specifically encouraged non-self-sufficient farmers to sell when they would not otherwise have sold nor that they sold more food than they would have otherwise sold due to increased LRP demand. USDA, for their part, made every effort during proposal review, ongoing monitoring, and site visits to ensure that participants were not encouraging smallholder FOs to produce solely for the purpose of meeting project needs.

During 2009 – 2011, several LRP projects were directly or tangentially affected by government participation in staple food markets. This included overvaluing the national currency, imposing trade restrictions, buying and selling staples, setting ceiling and floor prices, taxation and regulation of commerce, and corruption. For further information regarding specific host government interference in agricultural markets, please see the market impact section of the report for an overview of such interference, and Annex 2 for specific country experiences.

Commodity Quality and Acceptability

The participants complied with the food safety and quality standards requirements in their agreements, which specified that all commodities must meet national standards or Codex Alimentarius standards and also be tested for aflatoxin. Testing laboratories were identified in LRP project countries, and in some cases, particularly for aflatoxin, in neighboring countries to ensure that testing was carried out regularly for procurements. Many country projects could choose between public and private facilities for testing, and some put out tenders for the service. Defaults based on quality issues were very few, and participants had included contract language for no-cost replacement in each case. In one example, some commodities were rejected in East Africa when testing revealed aflatoxin, thought to have been due to warehousing problems on the part of FOs. The participant sent back the commodities and noted that commodity quality improved over time, with capacity building inputs. In most cases, participants reported that the time for testing was not excessive, and medium and large vendors were accustomed to the practice.

During site visit discussions, beneficiaries reported satisfaction with the commodities in the great majority of cases. They are familiar with their appearance, their storage and food preparation needs, and with the resulting taste and texture. Voucher users said they were pleased they could select products from their local markets. A school feeding program in West Africa trained school committee members to select quality pulses from local producers, while one in Asia supported dietary diversity with high nutritional content by using locally procured goods.

Voucher programs present unique circumstances for quality testing. Often, voucher schemes involve many vendors, to ensure that beneficiaries have options and have access to vendors within a reasonable distance. With so many vendors, it can be difficult to subject them all to testing. For example, in one project implemented by Catholic Relief Services (CRS) in Niger, 38 local vendors provided food to 147,000 beneficiaries through the redemption of vouchers. LRP voucher participants took steps to ensure commodity safety. In the International Relief and Development (IRD) project in Cambodia, weekly samples were taken from participating vendors' stocks to establish commodity quality trends independent of voucher

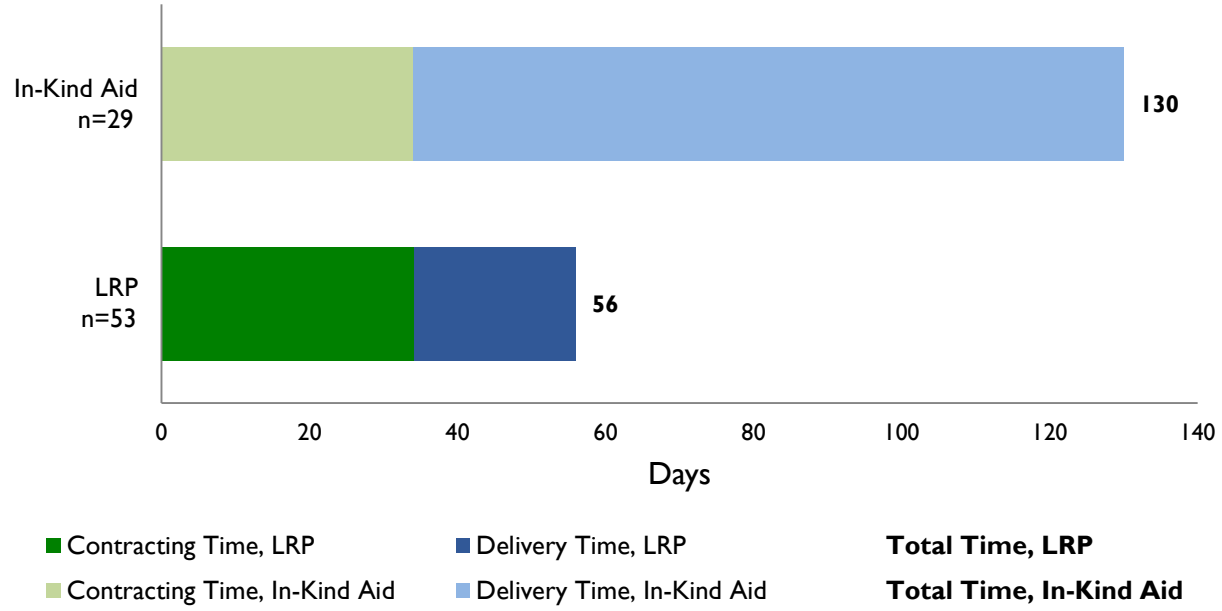
distributions. In Mali, the CRS voucher project carried out inspection and testing of millet, rice and cowpeas at voucher fairs; the local agricultural service reviewed vendors as they registered, and rejected unacceptable commodities on the spot. Participants across the USDA LRP Project report only five participating vendors, from among hundreds involved in LRP programming (less than 1%), that were dropped from projects when the quality of their stocks or redemption practices were deemed unsatisfactory. Fortunately, with dozens of vendors in each LRP program, beneficiaries still had plenty of choices.

Comparisons of LRP and In-Kind Food Aid

Timeliness

Across all LRP and in-kind shipments for emergencies that were examined for purposes of this evaluation, total time for LRP purchases averaged 56 days, while total time for comparable in-kind shipments to the same countries, in the same time frame, took an average of 130 days (Figure C), for a difference of 74 days (2.3 times) longer for in-kind commodities to arrive at the final delivery endpoint than commodities purchased locally or regionally. As data on pre-positioned in-kind stocks were not made available for this evaluation, the analysis of time to deliver the in-kind shipments does not include an analysis of the time to deliver from prepo stocks.

FIGURE C: AVERAGE TOTAL TIME BY FOOD AID MODALITY FOR EMERGENCY PROJECTS, IN DAYS



Viewing these procurement times by contracting and delivery phases,[20] the contracting periods averaged 34 days for both LRP and in-kind purchases. However in the delivery phase, LRP averaged 22 days while in-kind shipments averaged 96 days, 4.4 times longer than the average delivery time for LRP. Much of this difference

[20] Data on the breakdown between times for the contracting and delivery phases of each procurement was provided for most but not all in-kind shipments – the 67 cases for which midpoints were not available are excluded from the analysis. The number of cases ("N=" in the graphs) here and in the remainder of the time-related tables in this chapter represents the number of cases used in the calculation of total time.

can be attributed to the need for transoceanic shipments and customs clearance. In the LRP projects, none of the participants purchased commodities that required ocean freight transportation.

Greater detail is provided in the main body of the report on commodity categories, regions, and other characteristics of the procurements that might have affected timeliness. These analyses provide important lessons for programming to maximize timeliness while meeting the food security needs of vulnerable populations, in both emergency and development programs.

Cost-effectiveness

Average costs per metric ton are used in each comparison. Average costs are calculated by multiplying commodity costs/MT by the tonnage for that procurement. Costs by commodity category are then summed (for example, all unprocessed cereals), and this total is divided by total tonnage for each category.

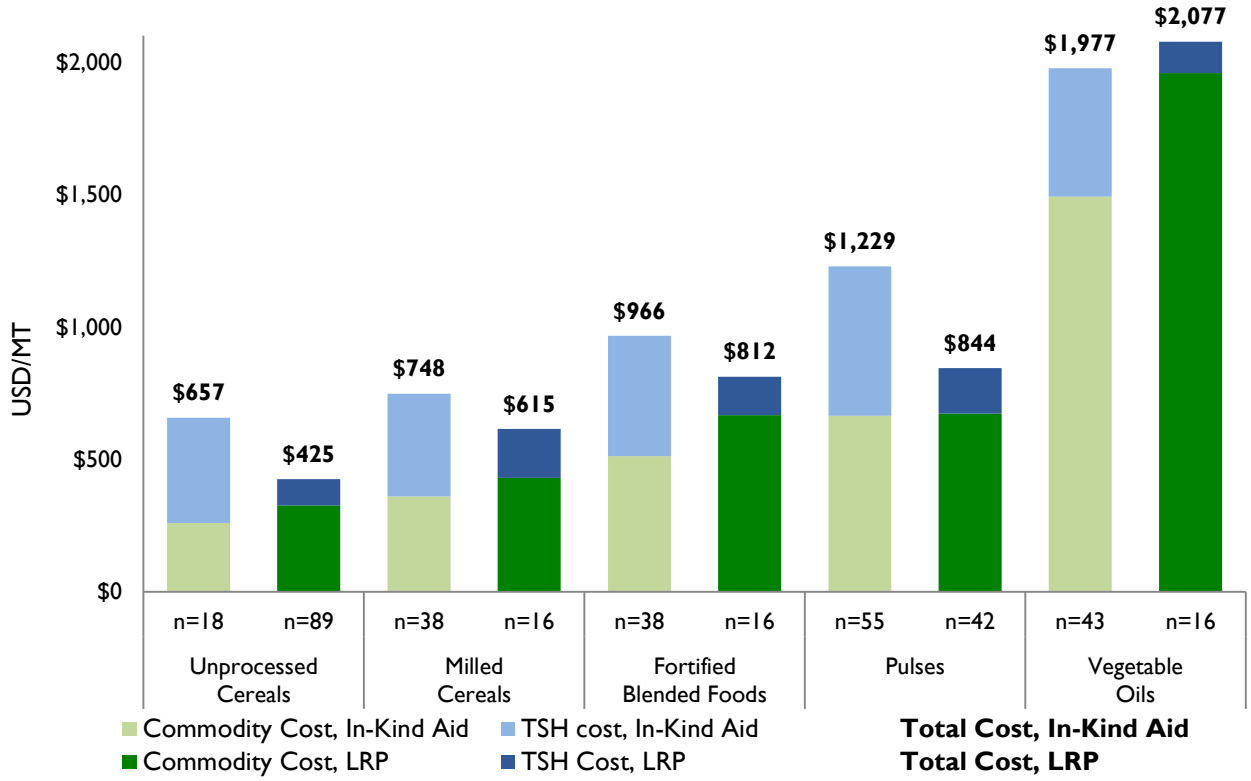
The evaluation compares costs between in-kind and LRP food aid, looking at two types of costs: (a) commodity cost, and (b) transport, storage and handling costs, per metric ton. Transport, storage and handling for the purposes of this report is inclusive of all modes of transport, including ocean freight, inland freight and internal transport, storage and handling so that these costs may be compared between the two food aid modalities.[21]

The first comparison separates the data by commodity category to control for the significant differences in commodity and TSH costs across commodities. Comparing LRP costs to those of in-kind food aid without first separating them by commodity category would average costs across categories and risk masking how other variables might affect procurement costs.

The following figure compares LRP and in-kind food aid by commodity category, and shows the relative importance of commodity and transport costs to the overall cost total (Figure D).

[21] Because different participants use different terminology for these costs in their recordkeeping, the evaluation uses the generic phrase "transport, storage and handling" to describe these costs in this report, and abbreviates that as "TSH". However, this is not an industry term and is used solely for purposes of comparison in this evaluation.

FIGURE D: AVERAGE TOTAL COST BY FOOD AID MODALITY AND COMMODITY CATEGORY, IN USD/MT



**TSH in this table, and throughout the report, includes oceanic, inland and internal transport, storage and handling.*

For all five main commodity categories, in-kind commodity costs were lower than LRP commodity costs when considering commodity costs alone; however, total costs (i.e., including TSH) were lower for LRP for every commodity category with the exception of vegetable oils. Total costs for in-kind shipments were higher for unprocessed cereals, milled cereals, FBFs and pulses. For unprocessed cereals, the largest category of purchases through LRP, LRP commodity costs were 26 percent higher than for in-kind purchases; however, including TSH costs makes total costs for LRP cereals 35 percent cheaper than through in-kind food aid. The pattern is similar for pulses – the other unprocessed commodity category – and for milled cereals, to a lesser degree. For vegetable oils, LRP purchases cost more than did in-kind shipments, though the difference is not large ($100/MT).

The main body of the report includes further comparisons of cost-effectiveness on the basis of development or emergency responses, and project region. These analyses provide important lessons for programming to maximize cost-effectiveness while meeting the food security needs of vulnerable populations.

Overarching conclusions

The USDA LRP Project encouraged responses tailored to conditions on the ground in each of the 20 sites, and no two of the field projects were the same. However, some patterns among the approaches do emerge among the participants and projects. These patterns, described briefly below, do not cover all of the LRP projects from the pilot, nor do they capture all of the issues that may be relevant across multiple LRP projects. They do, however, show some of the range of project types demonstrated in the field and also provide lessons learned for future LRP programming. Three such models are described below.

Fast emergency responses

Procurement costs for emergency projects are generally higher than for development projects, as in Central Africa's regional purchases. Import parity prices in these cases were higher than locally available commodities, but purchasing regionally avoided any possible harm that might have been caused by purchasing in local markets that may have been widely affected by crisis and therefore driving up local prices.

Where surplus markets or surplus commodities exist, these fast emergency responses were not more expensive – as in Pakistan, where WFP's purchase of government surplus wheat in the recipient country was both economical and fast. CRS' project in Guatemala also procured very quickly, though commodity costs in Latin America were typically higher.

Slower projects with capacity building and targeted purchases

A set of development-oriented field projects also tended to incur greater than average procurement costs but pursued development objectives in addition to procurement objectives by aiming to build producer capacity and market participation. Examples of this model are seen in WFP's P4P projects in Mali, Tanzania and Malawi; Land O'Lakes' development of manufacturer capacity in Bangladesh; and FCF in Nicaragua, which improved the nutrition and dietary diversity of school children while supporting small producers and traders in distribution zones. The intent of such activities, in improving capacity of local producers and suppliers, should have an overall and long-term effect of contributing to countries' abilities to minimize food insecurity.

Voucher programming in well-integrated markets

Six of the 20 LRP projects used voucher programs. Although this number is not large and the data are thin, the projects stand out as having particularly short procurement times and low procurement costs. Participants successfully implemented voucher projects in emergencies as in the case of Mercy Corps' and CRS' projects in Niger. In development programming, participants were able to include innovative components tied to local needs such as World Vision's work linking returnees in Uganda to social support networks; IRD's food for work scheme in Cambodia that resulted in the construction of irrigation ponds in a drought-prone province; and CRS' efforts to empower parent-teacher associations to purchase locally in Burkina Faso.

LIMITATIONS

Cost and timeliness data

- Data for timeliness and cost comparisons came from participants and as such are generally good, and represent the vast majority of procurements under the USDA LRP Project. There were some exceptions. Common terminology on procurement process dates and cost categories was clearly defined by USDA, but in some cases participants had varying interpretations; generally the evaluation team was able to clarify the data needed. Data on voucher administrative costs (seeking and training vendors, for example) were challenging for participants to parse. Where data were removed in cases of uncertainty, numbers of removed cases are cited in the text.

- Time and cost comparisons in the report use various categories to describe the projects – commodities purchased, emergency versus development projects, and the like. The limited number of procurements and distributions through vouchers, or regionally-supplied procurements rather than local, mean that the evaluation team has less confidence that the evaluation findings apply

across voucher programs or regional purchases. Most cross-tabulations across variables result in too few cases for statistical significance.

- For emergency projects, particularly rapid onset crises, the speed of contracting and delivery is of the highest importance and will often trump costs during the initial response phase. However, it is also critical that commodities arrive for development projects by the time they are needed. Therefore, for the timeliness comparison, the quantitative analysis of the procurement process in this evaluation is geared toward showing the speed of contracting and delivery. The evaluation uses the times taken for the delivery of the first shipment of a given contract series of deliveries, so as not to inflate delivery times.

Market analysis data

- Limitations in the time series data emerge from data quality issues: frequency of time series data (that is, weekly, biweekly, monthly or greater intervals between price data and the length of time series before and after procurement dates – one week, two weeks, or longer), proximity to target markets, retail versus wholesale pricing, availability of data on the range of commodities used in the project, and the representativeness of markets where prices were accessed.

- The elasticity methodology[22] used by the evaluation team to examine market impacts is justifiable, but other researchers have chosen other methods to estimate impacts as well. With elasticity, and other methods, the level of "noise" around prices (an unknown but estimable percentage of fluctuation) is difficult to determine with precision.

- One limitation identified by some participants was "vendor fatigue" at providing prices regularly and frequently to participant data collectors. The market data collection requirements under this pilot program were especially rigorous, and required weekly visits to markets around the time of purchase. In order to get around the market monitoring fatigue, some participants opted to purchase very small amounts of commodities from vendors, to verify that the market price reporting was accurate with payment considered to be a minor transaction cost for such a rigorous level of reporting.

In-kind shipment data

- For cost and timeliness comparisons between LRP and in-kind aid, the available shipment data on in-kind aid provides for comparisons of parallel, but not identical, commodities. USDA did not restrict participants to purchasing only commodities that were also available through U.S. in-kind food aid programs; to do so would have severely limited participants' ability to find and procure commodities to meet vulnerable populations' needs. In many cases the foods purchased through LRP are not those that are available through in-kind aid. The cereal-to-cereal, pulse-to-pulse method shows parallel contributions to meeting nutritional needs.

- Participants providing data on in-kind shipments did so in good faith, without any requirement upon them to do so. The evaluation team identified approximately 75 additional procurements for which participants did not provide complete data, despite repeated requests. There are also seven to ten shipments that participants identified that were not found in the USDA databases. For these reasons, the in-kind shipment data are less certain to cover the range of procurements as is the case with the LRP data. However, corresponding in-kind shipments were found in all of the LRP countries with

[22] The two analytic approaches used by the evaluation team were, first, reviewing the time series price data where such data were available for the countries, markets, commodities, and time periods around each procurement; and, second, the use of economic models involving prices, market throughput, the sizes of LRP purchases, and assumed values of price elasticity to determine those LRP cases where a discernible price impact might have occurred.

the exception of Mozambique, Nicaragua and Pakistan over the same implementing time frame, which lends significant credibility to the comparison of shipments.

- In-kind timeliness data required not only the solicitation issue and award dates, available from the joint USDA-USAID tracking database, and the contracted delivery end point dates which were collected from participants, but additionally required the collection of freight contract award dates from each participant's freight forwarder for each relevant shipment. Since neither USDA nor the evaluation team had guaranteed access to the freight contract award dates, obtaining these dates from freight forwarders with varying levels long-term record keeping was somewhat challenging. For the most part, however, the evaluation team successfully collected this data from cooperating freight forwarders, for which the team is grateful.

Commodity acceptability data

- With respect to commodity acceptability, a wider survey, preferably with a comparison group of respondents, would provide more reliable data on target populations than the simple purposive sampling carried out in this evaluation. However, the evaluation's survey did allow beneficiaries' experiences to be taken into consideration. Three evaluations were simultaneously undertaken by Cornell University as part of the Learning Alliance, with these evaluation questions addressed rigorously.[23]

[23] Barrett, Christopher B., Samuel D. Bell, Teevrat Garg, Miguel I. Gomez, Aurélie P. Harou, Erin C. Lentz, Simone Passarelli, Joanna B. Upton and William J. Violette. "Final Report: A Multidimensional Analysis of Local and Regional Procurement of US Food Aid," January 2012. Cornell University.

FARM BILL REFERENCE GUIDE

The table below summarizes the analysis requirements of Section 3206 (f) of the Food, Conservation, and Energy Act of 2008 (the Farm Bill) and identifies the chapters and annexes of this evaluation report that address each requirement. Note that Section iii is not presented country-by-country but rather across countries in comparative fashion.

	Farm Bill Requirements	Location of Response in Report	
		Review Across Projects	Country/ Project Details
(B) REQUIRED FACTORS. - The Secretary shall require the independent third party to develop –			
i.	with respect to each relevant market in which an eligible commodity was procured under this section, a description of –		
I	the prevailing and historic supply, demand, and price movements of the market;	Annex 2	
	(including the extent of competition for procurement bids)	p. 67	Annex 2
II	the impact of the procurement of the eligible commodity on producer and consumer prices in the market;	p. 61	Annex 2, 3
III	each government market interference or other activity of the donor country that might have significantly affected the supply or demand of the eligible commodity in the area at which the local or regional procurement occurred;	p. 74	Annex 2
IV	the quantities and types of eligible commodities procured in the market;	p. 27	Annex 2
V	the timeframe for the procurement of each eligible commodity;	p. 32	Annex 2
VI	the total cost of the procurement of each eligible commodity (including storage, handling, transportation, and administrative costs);	p. 27	Annex 2
ii.	an assessment regarding –		
I	whether the requirements of this section have been met;	Annex 2	
II aa	the impact of different methodologies and approaches on - local and regional agricultural producers (including large and small agricultural producers);	p. 63	Annex 2
bb	markets;	p. 55	Annex 2, 3
cc	low-income consumers; and	p. 68	Annex 2
dd	program recipients; and	p. 68	Annex 2
III	the length of the period beginning on the date on which the Secretary initiated the procurement process and ending on the date of delivery of the commodities;	p. 27	Annex 2
iii.	a comparison of different methodologies used to carry out this section, with respect to -		
I	the benefits to local agriculture;	p. 63	
II	the impact on markets and consumers;	p. 55	
III	the period of time required for procurement and delivery;	p. 32	
IV	quality and safety assurances; and	p. 81	
V	implementation costs; and	p. 45	
iv.	to the extent adequate information is available (including the results of the report required under subsection (b) (1) (B))*, a comparison of the different methodologies used by other donor countries to make local and regional procurements.	p. 1	

** Initial study conducted under the USDA LRP Project*

INTRODUCTION TO THE STUDY

Donor countries provide food aid to countries in need either by providing food directly (in-kind aid) or by providing cash with which to buy food. When donors provide cash, it can be used to buy food on international markets for shipment to the recipient country (triangular transactions) or to purchase food in the country or region where it is needed. Many donor countries are shifting largely to LRP to provide food aid. In 2011, over 87 percent of all countries providing food aid used some combination of local and/or regional purchase, almost double the figure from 1988 when WFP began tracking such statistics.[24]

LRP IN THE INTERNATIONAL FOOD ASSISTANCE CONTEXT

A number of factors are driving the shift toward LRP as the preferred food aid modality among many donors. The USDA Office of Capacity Building and Development's 2009 study notes that declining values of food distributions, coupled with an increasing percentage of food aid used for emergency situations, places a premium on buying efficiently and delivering quickly, both documented advantages of LRP over in-kind transfers in most situations.[25] As international food aid has shifted toward emergency response, LRP has become more prevalent in order to take advantage of efficiency gains and improved timeliness of delivery.

Donors also value the potential developmental benefits of LRP to farmers, FOs, markets, and beneficiaries. A set of studies commissioned by the World Food Programme (WFP) concluded that sustained food aid procurement in developing countries can stimulate market development, spur investment in food processing industries, and enhance farmers' productivity.[26] In the long run, sustained procurement in a developing country may raise farm-gate prices, increase farmers' investments in productivity, and improve farm incomes. In addition, LRP often provides foods more suited to beneficiaries' tastes when compared with commodities provided through in-kind food aid.[27]

A 2005 report by the UK Department for International Development (DFID) titled "Policy Implications Arising from the Development Impact of Local and Regional Procurement of Food Aid"[28] notes that LRP has led to increased investment and sound business practices by local traders supplying food aid, but that this investment has not necessarily trickled down to source markets and producers, with only minimal impact on the conduct of agricultural trade in source areas. Additionally, the DFID report concluded that LRP had raised the quality of goods procured through LRP, but that the quality improvement was not evident in grain markets throughout the procurement country as a whole, a situation which, if reversed, could increase export opportunities for the source country. Finally, DFID observed that LRP expanded the market for processed commodities in the source countries studied, positively affecting the livelihoods of local workers in those areas.

In spite of its potential benefits, however, LRP may also pose risks for local markets and vulnerable households. Local suppliers may not have the capacity to deliver large quantities of commodities fit for human consumption in a timely manner, thus compromising the supply chain and risking lives. Also, buying large quantities in thin, poorly integrated, chronically deficit, or lean season markets may increase food prices and price variability for residents of these areas, thus increasing the food insecurity of vulnerable households. It is therefore important to understand when LRP is appropriate and how to best implement LRP to minimize the potential for adverse market impacts.

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[24] International Food Aid Information System (INTERFAIS), 2011.
[25] USDA, Foreign Agricultural Service, Office of Capacity Building and Development (2009), "The Use of Local and Regional Procurement in Meeting the Food Needs of Those Affected by Disasters and Food Crises."
[26] World Food Programme (2006). "Food Procurement in Developing Countries," Presented to the Executive Board First Regular Session, Rome, Italy.
[27] Barrett, Christopher B. and Maxwell, Daniel G., (2005). *Food Aid After Fifty Years: Recasting its Role.* New York: Routledge.
[28] Walker, David J., Jonathan Coulter, and Rick Hodges, Natural Resources Institute, Department for International Development (2005), "Policy Implications Arising from the Development Impact of Local and Regional Procurement of Food Aid," University of Greenwich.

LRP encompasses a variety of implementation approaches. Food aid providers may buy food directly from local or regional markets and distribute it to food aid recipients. Alternatively, they may give cash or vouchers to targeted beneficiaries directly so they can buy food in their local markets. Choices about if and how to implement LRP (i.e., food, or cash[29] or vouchers) may have significant market implications, including the potential for adverse market impacts. If local markets are functioning well and capable of providing additional food with little increase in price, cash or vouchers may be an appropriate approach with little risk of adverse market impacts. Even in relatively well functioning local markets, cash and voucher programs that are managed in a way that cause sharp spikes in purchasing may overwhelm the market's ability to respond and drive up prices in the short run. If local markets are not functioning well, then buying food locally or providing cash or vouchers poses the risk of driving up prices, as markets are unable to respond to the additional demand. In this situation, buying in regional or international markets with sufficient capacity may be a safer approach.

Several researchers have concluded that adequate market intelligence – a rare commodity in developing countries – can reduce the risk of adverse market impacts by helping providers decide when and how to procure in local markets.[30] With adequate information, food aid providers could use a response analysis that considers market supplies and integration to choose the approach, or combination of approaches, that minimizes the potential for adverse market impacts.

DONORS' USE OF LOCAL AND REGIONAL PROCUREMENT

All members of the Food Aid Committee (FAC),[31] except for the U.S. and Japan, have transitioned to LRP as their primary method of providing food aid. Out of the almost four million tons of food aid distributed by FAC countries in 2010, over half was distributed through a combination of local and regional procurements, with in-kind aid amounting to 44 percent of all food aid. This compares to an in-kind share of 92.9 percent in 1988, when WFP began collecting these statistics.[32]

USDA, the Congressional Research Service, DFID, and several other governmental and non-governmental organizations have undertaken studies to better understand the implementation of LRP by non-U.S. donors and the related impacts seen thus far. USDA's report (2009)[33] described how other members of the FAC were using LRP, whereas the DFID policy paper (2005) focused on the experiences of the European Community (EC) and WFP as food aid providers. The Congressional Research Service report[34] finds that all of the European donors have not only transitioned to LRP, but have also moved away from commodity-based procurement for the most part, shifting to the use of cash-based systems. Major donor patterns are described below.

Canada allocates about 65 percent of its food aid budget to natural disasters and humanitarian crises, with procurement "as close to the area of need as possible, regardless of the type of program operation." The remainder of the budget goes to support food aid development initiatives, such as school feeding and safety-net programs. The conduits for these funds are WFP and the Canadian Foodgrains Bank, both of which decide whether to procure locally or regionally on the basis of price and the cultural appropriateness of the commodities. In order to provide its food aid partners with the flexibility to target the most vulnerable populations, Canada does not allocate funding to specific groups. Canada made a G8 commitment to double

[29] USDA's policy for the LRP pilots was not to fund cash transfer programs to avoid problems in tracking the use of cash.
[30] World Food Programme and Management Systems International (2010), "Purchase for Progress Monitoring and Evaluation System Design Considerations: Final Report," pp. 3–4
[31] In December 2009, the FAC was comprised of Argentina, Australia, Canada, the European Union and its member states, Japan, Norway, Switzerland, and the United States; all were parties to the Food Aid Convention.
[32] INTERFAIS, 2010.
[33] USDA, Foreign Agricultural Service, Office of Capacity Building and Development (2009), "The use of local and regional procurement in meeting the food needs of those affected by disasters and food crises," pp. 13-15
[34] Hanrahan, Charles E., "Local and Regional Procurement for U.S. International Emergency Food Aid," Congressional Research Service, January 2010.

its Official Development Assistance to Africa and, as part of this, allocates a relatively large portion of its food aid to that region.

Australia focuses its food aid on responding to disasters and crises, but also uses food aid to support agricultural capacity building in developing economies. One use of aid is to reduce the cost of transport, thus increasing the efficiency of food aid delivery. Australia supports the vulnerable groups identified in WFP Emergency Operations (EMOPs) and Protracted Relief and Recovery Operations (PRROs), and on occasion, development-focused Country Programs that involve school feeding.

Belgium has pioneered LRP within the EC, with a focus on using LRP to enhance small-holder farmers' production and marketing capacities through WFP's Purchase for Progress (P4P) program. In the Democratic Republic of the Congo, Belgium has begun channelling local food purchases from surplus areas to food emergencies elsewhere in the country, while also rehabilitating roads and improving local milling capacity.

The EC disperses large funds for emergency humanitarian aid and aid for refugees and displaced people via WFP and Private Voluntary Organizations (PVOs). This aid includes LRP, partly in the form of cash and vouchers for beneficiary purchases. EC departments responsible for emergency relief aid and for development policy, however, emphasize the transition from food assistance to food security. Improved food security among targeted vulnerable groups is one of the EC's five development-aid priorities. The EC approaches its food security goals mostly through supporting countries' agricultural production and marketing capacities, food security information systems, and safety-net programs. Within this food security framework, LRP plays a non-emergency role in the development of local agriculture and FOs' participation in agricultural policies and food security.

Approximately 80 percent of **France**'s food aid is humanitarian, with 20 percent for development, including school feeding and other nutritional initiatives. France depends on its participating partner organizations to plan food aid procurements and expects its partners to take precautions to avoid negative market impacts. France promotes the "purchase of goods produced locally or in neighboring countries" to create stronger, economically competitive markets in which farmers can sell more food during emergencies and non-emergencies alike.

Ireland largely targets its food assistance toward the nutritional needs of vulnerable children and pregnant and lactating women, using WFP and PVOs as implementing partners. A 2007 sample of Ireland's PVO food assistance programs revealed a strong focus on LRP of Ready-to-Use Therapeutic Foods (RUTF) for use in programs designed to reduce malnutrition in women and children.

DESCRIPTION OF THE USDA LRP PROJECT

The USDA LRP Project is a five-year, $60 million[35] pilot authorized by the 2008 Farm Bill. Under the LRP Project, USDA provided funding for 21[36] field-based projects in 19 countries (a project in Benin ended before procurement and therefore 20 projects are included in the analysis for this evaluation). The USDA LRP Project was designed to evaluate the timeliness, cost, and market impact of LRP as a tool to respond to natural disasters and other food crises in developing countries. The Farm Bill also designates a portion of funding for development assistance projects of one year or more in duration. Figure 1.1 shows the locations of USDA LRP projects. Countries in green indicate development projects and countries in blue denote emergency projects. Table 1.1 shows the participants (i.e., project implementers) responsible for each project.

[35] A total of $60 million was available to USDA for the pilot program, including $5 million in FY 2009, $25 million in FY 2010, $25 million in FY 2011, and $5 million in FY 12.

[36] The field projects have been counted in different ways. For this report, the evaluation team uses the total figure of 21 projects in 19 countries. Two WFP-implemented LRP projects were funded for two fiscal years each, but in each case, the evaluation team treats these as one project. For example, WFP Cameroon is one project with one project report, though USDA funded WFP Cameroon in two fiscal years. A project in Benin ended before procurement and as a result of this count, the net total used in this report is 20 projects in 18 countries.

FIGURE 1.1: USDA LRP PROJECT SITES BY RESPONSE TYPE

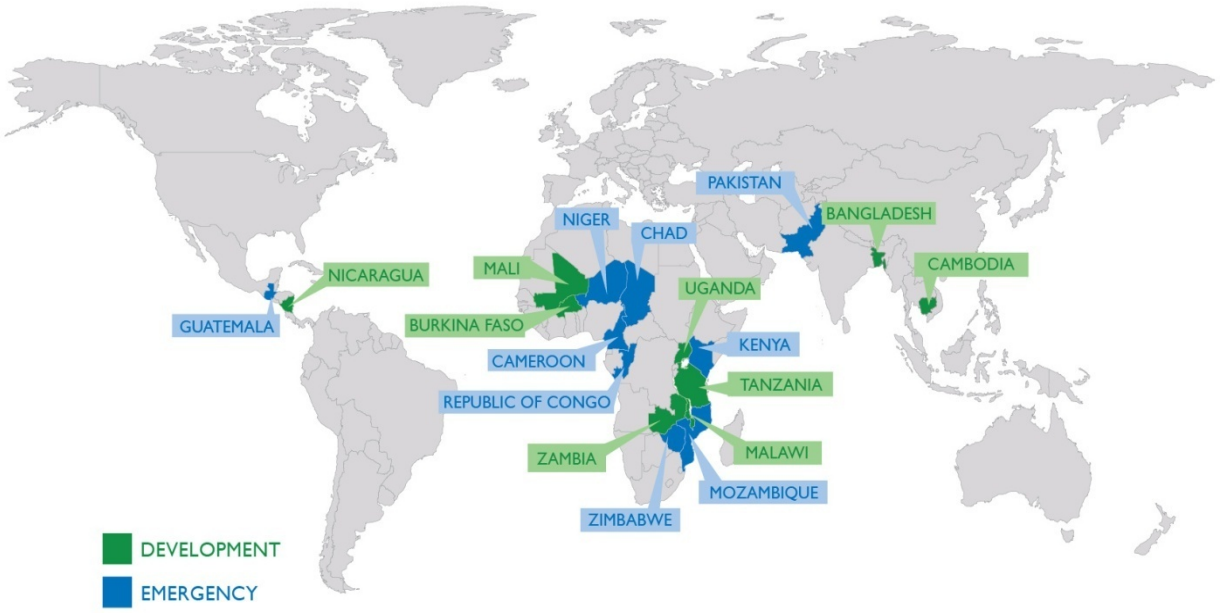


TABLE 1.1: PARTICIPANTS AND THEIR PROJECT COUNTRIES

Response Type	Country (FY)	Participant
Emergency Projects	Guatemala (2010)	Catholic Relief Services (CRS)
	Niger (2011)	
	Niger (2010)	Mercy Corps (MC)
	Zimbabwe (2011)	United Methodist Committee on Relief (UMCOR)
	Cameroon (2010, 2011)	World Food Programme (WFP)
	Chad (2010)	
	Democratic Republic of Congo (2010)	
	Mozambique (2011)	
	Pakistan (2011)	
	Kenya (2011)	World Vision (WV)
Development Projects	Benin (2010)*	Catholic Relief Services (CRS)
	Burkina Faso (2010)	
	Mali (2010)	
	Nicaragua (2010)	Fabretto Children's Foundation (FCF)
	Cambodia (2010)	International Relief and Development (IRD)
	Bangladesh (2010)	Land O'Lakes
	Zambia (2010)	
	Mali (2009, 2010)	World Food Programme (WFP)
	Malawi (2009)	
	Tanzania[37] (2009)	
	Uganda (2011)	World Vision (WV)

**The CRS project in Benin ended before procurement due to in-country difficulties with local partners.*

USDA funded 10 emergency and 10 development assistance projects. Participant awards ranged from $106,098 for a development project to an emergency intervention of $5,719,963; the average project cost was $2,467,967.[38] The Farm Bill prioritized projects in Africa as well as projects addressing emergencies, the latter of which received approximately 62 percent of funding available for projects. Sixteen projects procured locally, three procured regionally, and one procured through both local and regional sources. The USDA LRP Project defined local purchases as those made within the recipient country and regional purchases as those made outside the recipient country, but within the same region and/or on the same continent. Fourteen projects distributed food directly, two projects distributed vouchers, and four projects used both direct distribution and voucher approaches.

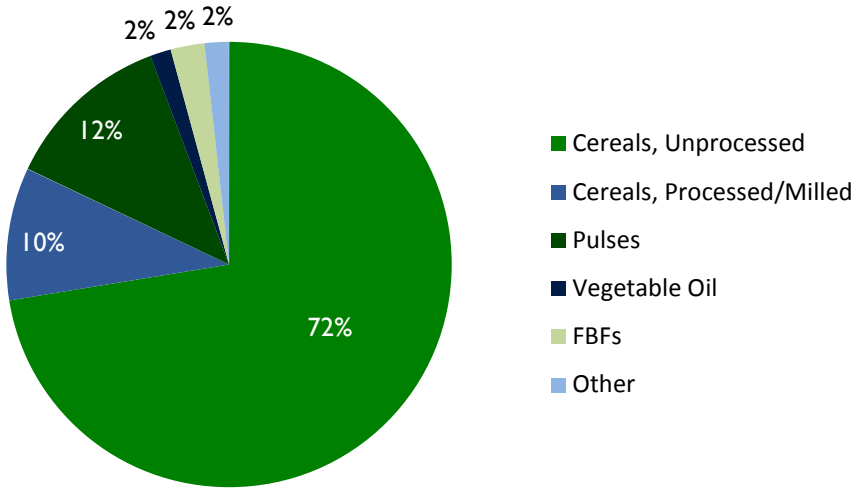
Participants used response analyses of proposed intervention sites to select both the commodities to be purchased by the projects and the appropriate procurement approach(es) (i.e., hard or soft tender, direct

[37] Cameroon and Mali were funded by USDA in subsequent fiscal years but are counted as one project, as reported by WFP. As noted in an earlier footnote, the field projects have been counted in different ways. For this report, The evaluation team uses the total figure of 21 projects in 19 countries. A project in Benin ended before procurement and as a result of this count, the net total used in this report is 20 projects in 18 countries.

[38] USDA restricted individual awards to approximately $5 million in order to ensure that Farm Bill requirements regarding diversity of projects across geographical food-deficit and food-surplus regions were met.

purchase, or vouchers). The analyses identified the commodities available through local and/or regional surplus markets, determined import parity prices, assessed the potential for market price impact, selected the distribution approach (vouchers or direct food distributions), and determined project specifications. The Farm Bill required that all commodities procured under the USDA LRP Project be "produced in and procured from" a developing country. Therefore, the participants had to ensure that the quantities sought could be provided without recourse to markets in developed countries (including the U.S.) The USDA LRP Project guidelines also required any procurements that required ocean freight transport be subject to cargo preference requirements.[39] Figure 1.2 illustrates the shares of purchased commodities, by category; relative to the total quantities (MT) procured through the LRP projects.

FIGURE 1.2: COMMODITIES PROCURED IN USDA LRP PROJECTS BY CATEGORY, BY WEIGHT



Unprocessed cereals make up over 72 percent of the total quantity (MT) of commodities procured under the LRP Project and include maize, millet, sorghum and wheat. Milled cereals such as rice and flours comprise 10 percent of the total tonnage. Pulses make up 12 percent of procurements, and include yellow peas, cowpeas, pigeon peas, and other varieties of locally-available beans.[40] Cooking oils[41] comprise about two percent of the total metric tons of commodities procured, and fortified blended foods (FBFs) make up 2 percent. These FBFs include corn-soy blend (CSB), CSB plus (with sugar), and high-energy protein supplement (HEPS). The remaining 2 percent of procured quantities consists of a variety of commodities, noted here as "other." Commodities listed in the "other" category provided nutritional support and dietary diversity to targeted program recipients. Three projects procured the majority of these "other" commodities for their school feeding programs: IRD's LRP project in Cambodia procured canned fish and IFFS; in Bangladesh, Land O'Lakes' LRP project procured vitamin-fortified cereal bars; and the Fabretto Children's Foundation's (FCF) LRP project in Nicaragua procured 206 MT of eggs, dairy, sugar, pinolillo,[42] fruits, and vegetables.[43] In Niger

[39] No USDA LRP participants selected procurement options that required ocean transportation. As a result, there are no data in the evaluation that include such costs.
[40] This is not an exhaustive list of all pulses, but rather a list of those purchased by LRP projects.
[41] All oils procured under LRP were listed as "vegetable oil" without specifying the type of oil. One in-kind contribution of oil was listed as sunflower oil.
[42] Pinolillo is a traditional drink in Nicaragua, made of ground toasted corn and cacao.
[43] There were 30 "Other" procurements from the Nicaragua Fabretto Children's Foundation (FCF) project. These are included whenever the evaluation report presents descriptive data, but not included in comparative analyses. This is because there are no comparable procurements,

and Kenya, LRP projects also procured salt for their beneficiaries. Table 1.2 shows the average commodity cost per MT of all categories of goods, across purchases through LRP.

TABLE 1.2: AVERAGE COSTS OF LRP COMMODITIES BY COMMODITY CATEGORY IN USD/MT

Commodity Category	Number of Procurements	Average Commodity Cost Per MT[44]
Unprocessed Cereals	89	$325.56
Milled Cereals	16	$429.86
Fortified Blended Foods	16	$667.16
Pulses	42	$672.28
Vegetable Oils	16	$1,957.92
Other	43[45]	$1,951.87

Though the "other" commodities were more costly per MT, when compared to other commodity categories they served to improve the dietary diversity and nutritional value of the rations distributed to project recipients. Annex 2 lists the commodities purchased by each LRP project along with additional details from each as required by Section 3206, Part (f) of the Farm Bill.

THE USDA LRP PROJECT EVALUATION

As a pilot effort, the USDA LRP Project emphasized a set of learning objectives relevant to the array of actors and stakeholders engaged in LRP. The 2008 Farm Bill that authorized the USDA LRP Project laid out a research agenda - including this independent final evaluation - to develop a comprehensive understanding of the risks, benefits, and impacts of LRP activities pursued under the USDA LRP Project.[46] Management Systems International, Inc. (MSI) was chosen to carry out this evaluation. This report presents the evaluation team's findings and conclusions and seeks to address both the management objectives of USDA and the requirements of the Farm Bill. Therefore, as an independent evaluation of the USDA LRP Project, the views expressed in the report are solely those of MSI and do not necessarily reflect the views of the U.S. Government.

The evaluation has gathered quantitative and qualitative data by reviewing LRP project documents and datasets, conducting site visits in eight countries representing a total of nine projects, and carrying out extensive in-depth in person and telephone interviews with participants, researchers, and other food aid experts and project stakeholders. The evaluation does not assess the performance of individual participants

either through LRP or in-kind food aid programs, for these commodities. One additional product – instant noodles – from the IRD Cambodia project is similarly excluded for the lack of any comparator procurements.

[44] Weighted averages across procurements, by commodity category. These averages are weighted by the size of the procurement in metric tons, to control for the generally higher costs of smaller procurements.

[45] Please see footnote above: the procurements of "Other" commodities in Nicaragua and the instant noodles procurements in Cambodia are not comparable to other procurements, and are therefore excluded from the comparison dataset. For this reason, this evaluation report cites the figure of 191 procurements in the dataset – which includes the 12 "Other" category procurements for which some comparators are available.

[46] The Food, Conservation, and Energy Act of 2008, Title III, Section 3206, 122 Stat. 1840 (June 18, 2008).

(PVOs and WFP) per se, but rather highlights characteristics that may affect the timeliness, cost-effectiveness, or market impacts associated with the LRP projects.

The 2008 Farm Bill gave specific parameters for USDA operations with respect to the LRP Project. Table 1.3 summarizes these parameters along with the actions USDA undertook to comply with the requirements.

TABLE 1.3: 2008 FARM BILL STIPULATIONS AND USDA ACTIONS

Legislative Stipulations	USDA Actions
Submit a report to Congress not later than 180 days after the date of enactment on local and regional procurements for food aid programs conducted by other donor countries, PVOs, and WFP.	*The Use of Local and Regional Procurement in Meeting the Food Needs of Those Affected by Disasters and Food Crises*[47] was submitted to the appropriate committees of Congress on January 15, 2009.
Issue guidelines to carry out field-based projects that take into account the results of the study.	USDA fulfilled the second requirement by issuing *Interim Guidelines for the Local and Regional Food Aid Procurement Pilot Project*[48] on September 21, 2009.
Provide grants to, or enter into cooperative agreements with, eligible organizations to carry out field-based projects that consist of local or regional procurements of eligible commodities to respond to food crises and disasters.	USDA funded implementation of 20[49] field-based projects with seven PVOs and WFP to implement emergency response and development food assistance programs in Sub-Saharan Africa, Latin America, and South and Southeast Asia.
Select a diversity of projects, from among: 1) Food surplus regions; 2) Food deficit regions (that are carried out using regional procurement methods); and 3) Multiple geographic regions.	1) LRP projects in Malawi, Uganda, Burkina Faso, Zambia, and Pakistan took place in food surplus regions. 2) LRP projects in Niger, Republic of Congo, and Zimbabwe, among others, took place in food deficit regions though purchases were made outside of food deficit areas. 3) Africa had the most projects, followed by three in Asia and two in Latin America.
Use a portion of the funds for field-based projects that also provide development assistance.	Ten of the 20 projects were designed to provide development assistance; however, 62 percent of project funds went to the 10 emergency projects.
Ensure that the majority of the field-based projects selected be located in Africa and procure eligible commodities produced in Africa.	Sixteen of the projects, and 78 percent of project funding, went to projects in African countries with procurement also occurring in Africa.[50]
Submit to the appropriate committees of Congress a report that contains the analysis and findings of an independent evaluation no later than four years after the date of enactment (June 17, 2012).	Submission of this report to Congress constitutes compliance with this requirement.

Source: Public Law 110-246 – June 18, 2008. 122 STAT. 1840-1844. (The 2008 Farm Bill).

[47] Available online at *http://www.fas.usda.gov/excredits/FoodAid/LRP/USDALRPStudy.pdf*
[48] Available online at *http://www.fas.usda.gov/excredits/FoodAid/LRP/Interim_PPP_Guidelines.pdf*
[49] Please see the first footnote in the Executive Summary for a description of the process used to count the projects.
[50] USDA LOCAL AND REGIONAL FOOD AID PROCUREMENT PILOT PROJECT BUDGET (FY 2009-2011 OBLIGATIONS), an internal document provided to MSI by USDA, July 2011.

Purpose and Context of the Evaluation

The findings and conclusions of this evaluation will help policymakers, other government agencies, and participants determine when, where, how, and under what circumstances LRP is the most appropriate mechanism for delivering U.S. food assistance. The data provided in this report will support evidence-based decision making on the part of food assistance stakeholders at USDA and elsewhere. The primary requirement for the success of this evaluation is the development of valid and reliable datasets that (a) provide evidence of the time and costs required to deliver food assistance, and (b) allow for an assessment and determination of any market impact in areas where these purchases took place or where food aid was distributed.

The report targets several key audiences. First, U.S. congressional committees including the Senate Committee on Agriculture, Nutrition and Forestry, and House of Representatives' Committees on Agriculture and Foreign Affairs will review the results. It is anticipated that USDA offices, including overseas posts, will also use the results of the study, as will Department of State staff and USAID food assistance teams. Many private sector entities, PVOs, and intergovernmental organizations, as well as others concerned with food assistance will be secondary audiences of this evaluation report.

The context of USDA LRP Project activities, and of this evaluation, is complex and variable. Three contextual factors which are important to consider here are as follows:

- **The multi-donor environment in many countries receiving food assistance.**
  Countries with food deficits tend to have multiple international donors operating simultaneously to provide food assistance through a range of activities, including in-kind food donations, some form of LRP for development or emergency purposes, agricultural support programs, food for work, or school feeding activities, among others. Purchases in-country by these non-USDA LRP projects have the potential to affect markets and in turn influence the effectiveness of USDA LRP projects; for this reason non-USDA LRP projects were included as a topic for research supporting this evaluation.

  In site visits and through project reports, the evaluation team learned that USAID and USDA-funded projects tended to coordinate their LRP efforts well. For example, in Pakistan, following devastating floods in July 2010, USAID's Office of Food for Peace Emergency Food Security Program (EFSP) efforts supported flood-affected households by (a) using International Disaster Assistance (IDA) funds in an award to WFP just as the floods began and (b) providing nearly $15 million to two PVOs to provide voucher programs in areas with commodities where vulnerable families could not buy food.[51] The USDA LRP project in Pakistan took place early in 2011, after other major donor purchases were concluded, and focused on sites where there was "still prevailing economic hardship."[52] These were places, for example, where families were struggling to rebuild, plant, and otherwise return to pre-flood circumstances. In Niger, which had suffered a multi-year drought, aid organizations (including USAID and USDA) worked in separate food deficit administrative units to avoid overlap. The level of coordination illustrated by these examples indicates limited negative impacts, and the potential for marked positive effects, associated with multiple food aid programs operating in a single recipient country.

- **USG local and regional procurement programming.**
  Within the multi-donor environment described above, the USG may have more than one food assistance activity operating in a country at a given time. One such program was USAID's Office of Food for Peace EFSP which spent over $476.3 million on food aid since April 2010[53] (compared to

[51] U.S. International Food Assistance Report, 2010. Available online at: *http://www.usaid.gov/our_work/humanitarian_assistance/ffp/fy2010.ifarreport.pdf*, p.7

[52] WFP Pakistan LRP Final Report, 2011. Provided to the evaluation team by USDA, p. 2.

[53] During the latter half of FY 10, USAID funded $244.3 million worth of agreements under the EFSP. (Source: Representative from the Office of Food for Peace at USADI, unnamed, information provided by Erin Means at USDA.) In FY11, USAID spent $232 million under the EFSP in support of 30 programs in 21 countries; 73 percent went to local and regional procurement, 12 percent to cash transfers, 9 percent to food

USDA's expenditures under the LRP Project of $60[54] million over four years). The size and scope of the EFSP program implies significant potential to impact the supply and demand of the commodities procured under USDA's LRP Project.

The USAID EFSP projects did not require the extensive market data collection that USDA's LRP Project specified. This requirement was a significant burden on participants in cost and time, and may have resulted in fewer proposals being submitted to USDA for the LRP Project. In total, USDA received 40 proposals, of which it ultimately accepted 21.

- **The role of host country governments in food assistance.**
  In addition to the potential influence of other donor food aid programs on USDA LRP projects, it is important to recognize the role of host country governments. Host country governments have a stake in food assistance and in the larger agricultural markets in their countries. This evaluation found that government actions can impact markets at national and, at times, sub-national levels. In other cases, however, host country government activities in agricultural markets were not found, or not found to affect markets. Annex 2 contains country-level data on host country government involvement. The market impact analysis chapter of this report also provides an overview of host government involvement in markets.

Evaluation Questions

The evaluation questions included in USDA's scope of work reflect the requirements of the Farm Bill and have guided the design of the research and analysis at the center of this evaluation. The evaluation scope of work also calls for the evaluation to address each of the factors listed in P.L. 110, Section 3206, Part (f) of the Farm Bill. Since an important issue facing the U.S. government is whether and when to use LRP and in-kind transfers from the U.S., respectively, the report includes a separate section comparing the two food aid delivery modalities. The evaluation questions are:

1. **Timeliness.** What amount of time was required by each project, and across LRP projects, to procure and deliver food assistance? What differences were found between different LRP approaches?
2. **Cost-effectiveness**. How much did each procurement cost under the project? Were there differences in cost-effectiveness between different LRP approaches?
3. **Impacts on markets.** To what quantifiable extent have the LRP projects contributed to increased prices or price volatility in the markets in which the procurement took place and, if observed, what conditions contributed to adverse market impacts?
4. **Quality**. To what extent did the commodities purchased under the LRP projects satisfy relevant quality standards? Quality standards include national level standards for food safety in project countries or, lacking such standards, the Codex Alimentarius standards. In addition, the evaluation examines quality from the perspective of beneficiaries: Was the food acceptable to them in terms of food safety and food preferences?
5. **Comparison to in-kind food aid.** In what situations (e.g., market characteristics, procurement location, destinations, or aid objectives) did LRP modalities deliver food assistance in a timeframe more consistent with food aid project requirements than is possible with in-kind transfers from the

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vouchers, and 6 percent to transport costs. Though these projects were not the subject of this evaluation, the evaluation team reviewed relevant open source information on the topic and encountered the projects on site visits. USAID literature reports that the EFSP is "used primarily when U.S.-purchased Title II food aid cannot arrive fast enough to respond to an emergency or when local procurement, [and thus] cash transfers or food voucher programs may be more appropriate than U.S. in-kind food aid due to local market conditions."

[54] USDA was provided with $60 million over four years, but from an operational perspective, USDA only had $55 million available for field projects between FY 2009-2011. The $5 million from FY 2012 could not be used to fund more programs as the Farm Bill required PVOs to submit final project reports by September 30, 2011.

U.S.? How cost-efficient was LRP relative to in-kind transfers, and what factors contribute to the relative cost-effectiveness of the two modalities in providing food assistance?

The research methodology, discussed in the following chapter, aligns instruments, procedures, and analysis with these evaluation objectives.

METHODS

OVERALL ANALYSIS, DEFINITION AND DESIGN FOR EACH OBJECTIVE

The evaluation employed a mixed method design that integrates quantitative and qualitative data streams to make the timeliness and cost-effectiveness comparisons between LRP and in-kind aid, assess the likelihood of market impacts, and evaluate the quality of commodities procured for LRP projects.

From discussions with participants in site visits and by telephone and e-mail, and from their reports to USDA, the evaluation team assembled transactional data on project procurements. These data included the participant's approach to procurement (e.g., hard tender, soft tender, direct purchase, or vouchers), their approach to distribution (e.g., direct distribution of food, and vouchers), milestone dates in the procurement process, costs, procured quantities and other relevant data. The detailed data allowed the team to categorize procurements for analysis by area of origin (e.g., whether commodities were procured within the recipient country or in the same region and/or on the same continent as the recipient country), the response type of the project (e.g., whether the project was for emergency or development purposes), the commodity category (unprocessed cereals, milled cereals, FBFs, pulses, vegetable oils, and other commodities), the commodity quantity in metric tons, whether the commodity is bulk or processed, and by country and region.

Three main sources provided most of the data for the evaluation. First, USDA LRP participants submitted reports of procurements, including data on timeliness and costs. The evaluation team supplemented some report data with in-person, e-mail or telephone conversations with participants. This dataset covers all LRP projects. Second, to access data on in-kind shipments, the team consulted USDA's Web Based Supply Chain Management System (WBSCM) and its predecessor database the Processed Commodity Inventory Management System (PCIMS) for data on shipments of in-kind food aid to the same countries as those hosting USDA LRP projects. To help address the problem of comparability of data, the team selected data on in-kind shipments of the same commodity categories as the purchases through LRP, that had occurred within a six-month window (three months before and after) of the procurement timeframe of the project in that comparator country.[55] Where commodity matches were not possible, because the available commodities in the U.S. differ from those available in recipient countries, commodity category was used: unprocessed cereals to unprocessed cereals, pulses to pulses, milled cereals to milled cereals, and the like.

Third, reporting requirements for Title II in-kind aid, which represent the majority of in-kind shipments, were much less stringent, especially with regard to time and cost data, than reporting requirements of the LRP projects. Therefore, the PCIMS data on in-kind shipments did not contain the detailed data necessary to support the evaluation analysis. To construct comparable datasets, the team had to query purveyors, freight forwarders, shippers, and in-country participant organizations for different pieces of data – commodity and shipment costs (including inland transportation where necessary); timelines for tender, contract and delivery; storage and handling costs; tonnage; and emergency or development project status. The team initiated hundreds of communications via e-mail and telephone to complete the in-kind shipment data. A majority of requests were returned, but often required additional follow-up to ensure accuracy and completeness of data. The evaluation team acknowledges that the level of data collection requested from in-kind participants was detailed and intrusive, but the feedback the team received was positive and contributes in great part to the credibility of evaluation results.

The team clarified contradictory information, such as delivery dates prior to contracting dates or outliers in time or cost, by checking back with participants, freight forwarders, and other stakeholders. One-way analysis

[55] Data on shipments of monetized and prepositioned food aid are not included in the evaluation data.

of variance (ANOVA)[56] comparisons of means for time and cost were then calculated for the comparisons among LRP approaches, and for the comparisons between LRP and in-kind modalities.

Table 2.1 shows the number of emergency and development procurements, referred to as response type, included in the final LRP dataset, by region. The number of procurements from each project is generally too small for layered analyses – that is, comparisons on the basis of more than one variable simultaneously. Most countries with USDA LRP projects had only one project,[57] thus limiting opportunities for comparisons at the country level. Analyzing the data by region allows somewhat greater ability to examine trends across projects. However, there are few projects per region, per response type. When the data are disaggregated to this level, comparisons represent very few projects – even one for some cases – and therefore reflect the particular characteristics of that project rather than a more representative sample.

TABLE 2.1: LOCAL AND REGIONAL PROCUREMENTS, BY RESPONSE TYPE AND IMPLEMENTATION REGION

Region	Emergency	Development	Total
Central Africa	7	0	7
East Africa	9	21	30
Latin America	13	11[58]	24
Southern Africa	7	37	44
Asia	1	15	16
West Africa	16	54	70
Total	53	138	191

Another useful way to look at the data is to aggregate by categories of commodities purchased. The predominance of cereals among the LRP project procurements means that average costs and timelines calculated over all procurements will reflect largely the cost and time for procuring cereals. Similarly, the greater number of procurements for development projects provide more opportunities for comparison between commodity categories for development than for emergency projects. Table 2.2 disaggregates the data by commodity category and response type (emergency or development).

TABLE 2.2: NUMBER OF EMERGENCY AND DEVELOPMENT PROCUREMENTS IN EVALUATION DATA, BY CATEGORY OF COMMODITIES

Commodity Category	Emergency	Development	Total
Unprocessed Cereals	22	67	89
Milled cereals	2	14	16
Fortified Blended Foods	5	11	16
Pulses	15	27	42
Vegetable Oils	6	10	16
Other	3	9	12
Total	53	138	191

[56] In this context, ANOVA is a statistical technique for testing the statistical significance of observed differences in means, e.g. whether the observed average cost of cereals procured through LRP and in-kind approaches is a statistically meaningful difference or merely the result of measurement error.
[57] Mali and Niger are the exceptions, with two projects per country.
[58] Thirteen of these procurements are not used in the comparison dataset, as they are comprised of eggs, dairy, fruits and vegetables and pinolillo; as there are no such in-kind shipments, no close comparison can be made.

In addition to the procurement dataset, quantitative interviews conducted by telephone, e-mail and in person provide additional detail on procurement timelines from the perspectives of participants, vendors, beneficiaries and others involved in the process.

Timeliness

In the context of food aid, a "timely" procurement process delivers food when it is needed or expected. The consequences of untimely food deliveries may be particularly dire in emergency situations where access to food is critical to maintaining life. However, receiving food when it is needed/expected is also important in development projects since untimely deliveries may cause pipeline breaks, disrupt participants' planning and cause real hardship for beneficiaries. The challenge for LRP participants, and one this evaluation addresses, lies in choosing the procurement approach that balances costs and other procurement objectives and constraints against the likelihood of an untimely delivery.

TIMELINESS RELATIVE TO NEED

An assessment of the timeliness of delivery should compare actual delivery dates with some measure of need: did the commodity arrive in time to meet participants' needs? Measuring timeliness in this manner, however, emphasizes the relative predictability of alternative procurement approaches or the effectiveness of participants' planning, neither of which directly address the questions posed in this evaluation. The analysis thus compares the actual time (in days) that different procurement approaches take in different contexts to contract for and deliver food.

If it can be assumed that participants incorporate their knowledge of delivery times into their planning and choose procurement approaches consistent with their pipeline requirements and that suppliers and shippers act in good faith to expedite delivery regardless of the procurement approach, then observed differences in delivery times from the assembled data are accurate measures of the time required to deliver commodities through different procurement approaches.

To evaluate timeliness (i.e., elapsed procurement time), the evaluation team defined functionally equivalent points in the procurement timelines of the various LRP approaches and gathered data from LRP participants for these key dates. These dates are the start point, midpoint and endpoint of the procurement process defined as follows:

- **Start point** – The start point for hard or soft tenders is the date the participant issues the tender. For direct contracts, the start point is the date on which the participant begins discussions with the supplier. For voucher programs, the start point is the date on which the participant begins the search for suppliers/vendors.
- **Midpoint** – The midpoint of any of the procurement approaches that use contracts (i.e., hard or soft tenders and direct contracts) is the date the contract is signed. The midpoint for voucher programs is the date on which the participant certifies a vendor or announces a voucher fair.
- **Endpoint** – The endpoint of the procurement process is the date that commodities arrive at the delivery endpoint for approaches that deliver food. In cases where deliveries are staggered, for programmatic or other reasons, the evaluation team used the date of the first delivery as the endpoint date. For vouchers, the endpoint is the date of the first voucher-based purchases or the date of the voucher fair.

The analysis defines the time between the start point and the midpoint as the "contracting phase" and the time between the midpoint and the endpoint as the "delivery phase" of the procurement process.

Cost-Effectiveness

The comparison of costs between LRP approaches uses the same basic structure as that of the timeliness comparison. It compares average procurement costs across various parameters of the procurements (i.e., response type, procurement approach, distribution approach and implementation region). Cost data are denominated in U.S. dollars (USD) per MT and include the cost of the commodities themselves (commodity

cost) and the aggregated cost of transport, storage and handling (TSH costs), including commodity quality and safety testing. The comparisons do not include activity and administrative costs because they are structured differently across participants and not directly tied to the procurement approach.

Voucher programs do not incur storage or handling costs. They do, however, incur administrative costs that other approaches do not incur. These include printing costs, voucher distribution and monitoring costs, and costs related to "training" vendors and beneficiaries in the voucher process.[59] The analysis includes these costs among TSH costs for voucher programs.

Procurement costs exhibit substantial variation across commodities. Vegetable oils, for instance, are consistently more expensive than unprocessed cereals. To separate the effects of the programmatic factors of interest that affect procurement costs from the effects of commodity prices, the analysis disaggregates cost comparisons by commodity category. Of the procurements on which the team collected data from LRP projects, all have complete data on commodity costs and TSH costs.

The evaluation team also collected qualitative data on the cost effectiveness of LRP approaches through interviews with participants in-country and with their U.S. headquarters staff, as well as with vendors and other stakeholders. These qualitative responses augment the quantitative analysis of cost-effectiveness across LRP approaches.

Market Impact

The analysis of market impacts begins with a search for evidence of detectable price falls due to food aid distribution for each LRP project distribution area. Both qualitative and quantitative data[60] are explored – experiences of vendors, beneficiaries and other sources on the one hand, and inspection of price series data on the other. Evidence of impact due to procurement in source markets would be seen in supply-side price spikes, and the data for procurement areas are included in the analysis where available.

Data used for these analyses come from both primary and secondary sources. Primary data were collected by USDA LRP Project participants as part of their requirements for participation and provided to USDA. Most often, secondary data are weaker sources for these analyses, as they are not often collected with the frequency and geographic granularity utilized by the LRP projects. Data quality is assessed for the following characteristics:

1. Primary data from a given procurement market collected as part of an LRP project, rather than secondary data (unless the secondary data happen, by chance, to be exactly what is needed).
2. Procurement-market data alongside data for control markets (i.e., similar markets subject to the same exogenous forces but beyond the direct impact of food aid disbursements in the immediate catchment area), so that 'with' and 'without' can be directly compared.
3. Price data series sufficiently long to allow analysis from three months before the award of an LRP contract until three months after the last delivery to the PVO or WFP (or three months after beneficiaries redeem vouchers). This period accommodates the possibilities of market actors anticipating purchases after news of the procurement has reached the market and also any lags in market reaction to the impact of extra purchases having taken place in the market.
4. Price series data are complete, rather than patchy.

[59] Other methods of implementing voucher programs that were not employed under these USDA-funded grants include the use of debit-style cards and mobile-banking systems. Vouchers are generally most useful and applicable in cases where markets are still functional, and commodities are available, but food-insecure populations do not have the means to access them. The range of voucher administration types, though not fully explored under the USDA LRP pilots, would result in a range of cost levels as well, since some systems would not include the cost categories experienced by the LRP pilot projects.

[60] Data are more complete for countries visited by the evaluation team; in particular, qualitative interviews with knowledgeable or affected respondents are not available for the countries without site visits. However, market price series, as available for all countries in the study, are included in the analysis.

5. The frequency of price series data is weekly or more frequent, rather than monthly or less frequent.
6. Price data pertain to exactly the commodity procured, not a substitute.
7. Price data have been collected for the market or zone where the procurement took place, rather than elsewhere.

The market impact analysis also accounts for the influence of exogenous variables when possible. These variables include the effects of the agricultural calendar (harvest and lean periods); interannual effects, such as poorly spaced rainfall or a reduction in cumulative rainfall over the rainy season, relative to norms; the timing of other simultaneous significant procurements by government, other donors, or other sources; the timing and scale of changes in government policy such as export bans and civil unrest and security issues. Any of these variables might cause price spikes or troughs quite independently of LRP activities.

The analysis began with visual inspection of time series price data in each market to identify spikes in prices around the times of procurement. However, many of the data sets made available to the evaluation team for this evaluation were not of sufficient length or frequency to support this type of analysis. In such cases the evaluation team used a secondary approach. This approach relied on knowledge of the quantities (MT) of the commodities procured for the LRP projects, the overall throughput of the relevant markets, and the use of the basic equation used in economic studies for analyses of *price elasticity*.

Where the market area's typical sales volume, referred to as throughput, is known or can be estimated, the ratio of the size of USDA LRP project procurements to the market throughputs can be calculated. Using this ratio and an estimated value for price elasticity, the maximum change in the price of the commodity that might be due to the procurement can be estimated. This allows determination of whether the maximum likely price change due to the procurement of the LRP project is economically discernible or meaningful.

For those LRP projects for which no time series price data or market throughput levels were available, the evaluation team analyzed the reports prepared by the USDA LRP Project participant. In those cases where the report presented compelling analytical evidence (including data) of the presence or absence of a price impact due to LRP, the evaluation team concurred with that conclusion. In cases where participants did not support their conclusions about price impacts with data that would have allowed the evaluation team to *independently* confirm the results, the team was unable to perform any meaningful analysis and reach an independent conclusion.

In all cases where the evaluation team could not *independently* confirm that price impacts due to LRP were *unlikely,* the team necessarily concluded that such price impacts were *possible*. This is the conservative conclusion for those projects for which such market price impacts could not definitively be precluded.

Commodity Quality and Acceptability

USDA's agreements with participants required them to ensure the safety of the commodities provided to beneficiaries mandating that all commodities meet national standards or Codex Alimentarius standards and to be tested for aflatoxin. Projects contracted national and private services to test the quality of commodities in accordance with the agreement requirements. The discussion of food quality in this report relies on the results of these tests, which were found in project reports, and site visit meetings with participants and staff of the testing laboratories.

Food quality also deals with the appropriateness of commodities provided through LRP projects to the needs and preferences of beneficiaries. The evaluation team collected data on appropriateness through qualitative interviews with beneficiaries. Data on acceptability come from these interviews with beneficiaries, in the form of a simple survey. The sample size differs by site visit country, owing to the available opportunities for meeting and speaking with beneficiaries in different contexts (including in places where the projects had ended). The sample is thus not representative of the population of beneficiaries but is indicative of the types of responses heard in site visits. The survey instrument is included in Annex 5.

Comparison of Timeliness and Cost-Effectiveness with In-Kind Food Aid

To compare LRP and in-kind approaches in terms of the time required for procurement, the analysis identified functionally equivalent points in the timelines of procurements for both LRP and in-kind food aid and collected data on these key dates. For LRP, these dates are the same as those used in the analysis of timeliness. The corresponding definitions of these dates for in-kind shipments are:

- **Start point** – The start point for in-kind shipments is the date when the USDA Farm Service Agency, Kansas City Commodity Office (FSA/KCCO) issues a solicitation for commodities. The time between when a sales order (formerly referred to as a call forward) is issued and when FSA/KCCO issues a solicitation for commodities and freight was not included in the analysis. Had it been included, it would have increased the average time for the procurement of commodities for in-kind food aid programs by one to two weeks.
- **Midpoint** – The midpoint for in-kind food aid shipments is the date on which a freight contract is awarded or the date the purchase order is awarded to the commodity vendor, whichever comes later.
- **Endpoint** - The end date in a procurement process is the date food arrives at the delivery endpoint. For in-kind food aid, the delivery endpoint is the location, typically a warehouse, near or within a project's distribution zone, from which commodities are dispatched for distribution and the endpoint date is the date the commodities reach this location.

The timeliness analysis compared a dataset of 212 in-kind shipments from the U.S. with 191 local and regional procurements. Of these 212 procurements, in-kind food aid participants (PVOs and WFP in project countries) provided complete data on the dates for procurement for 129 shipments[61].

For cost, the evaluation compares average costs per metric ton, separated into two categories: (a) commodity cost and (b) transport, storage and handling costs. The evaluation team received complete cost data for 194 in-kind shipments from in-kind participants. These data were at times difficult to access from non-LRP participants and freight forwarders,[62] given that they were not obliged as part of the evaluation to cooperate, and cost data can be sensitive. However, many of those contacted provided information generously.

The dataset also contains variables on quantity, commodity category, and region and therefore facilitates viewing the data from different angles in the comparisons.

The analysis compares LRP projects' procurements to comparable in-kind shipments that occurred within a six-month window around the time of the local or regional procurement. Comparable shipments were defined as those which procured from among the same commodity category – unprocessed cereals procurements through LRP are compared to unprocessed cereals procurements through in-kind food aid, LRP pulses to in-kind pulses, and so on through the commodity categories. The reason for this type of comparison (as opposed to commodity specific comparisons (e.g., wheat to wheat, sorghum to sorghum, or lentil to lentil)) is that the specific commodities available in developing countries are not always, or even often, the same as those that are available from the U.S. Agricultural producers base their choices about which varieties to plant and to market on many factors, among them local preferences and agricultural conditions, local laws, nutritional considerations, and availability of inputs. For this reason, the commodities available from the U.S. are usually quite different from those available in the recipient countries. To address these issues, the analysis grouped commodities into the categories of unprocessed cereals, milled cereals, FBFs, pulses, and vegetable oils.

Moreover, restricting the participants to purchasing commodities that were directly comparable to those available through in-kind food aid would have severely limited their ability to meet food needs in their

[61] Please see the Methods section, below, in the Sample Selection description, for greater detail on the number of cases used in analyses.
[62] The participants who provided data on their in-kind food aid purchases were occasionally also LRP project participants. USDA and the evaluation team requested procurement data from participants in the same countries and within the same time frame as the comparator procurements through LRP.

environments, and USDA would likely have seen a reduction in the number of proposals received for the USDA LRP Project. As a result, operational considerations demanded that the choice of commodities be left open to those available in local or regional surplus markets.[63] Fortunately, a comparison based on the main categories of commodities provided (unprocessed cereals, milled cereals, FBFs, pulses, and vegetable oils) serves the purpose of this analysis because the relative impact on food security for affected populations is similar.

DATA COLLECTION INSTRUMENTS AND TYPES OF DATA COLLECTED

The evaluation team developed a number of data collection instruments to guide semi structured interviews with PVOs, beneficiaries and non-beneficiaries, wholesale vendors and retail vendors. This section briefly describes each of these instruments. Annex 5 contains the interview guides in their entirety.

PVO interview. This interview guide included an exhaustive array of questions on the project's logistics and administration, decision-making processes, market conditions and potential market distortions during implementation, market price data collection, beneficiaries, approaches to using vouchers, sufficiency and appropriateness of the intervention, in-country capacity building, the larger donor environment, procurement delays and challenges, and food quality measures. The team conducted interviews with both U.S. headquarters offices and field staff with some questions answered only by U.S.-based staff or only by field teams, while other questions elicited responses from both groups to triangulate results and to better understand processes.

Beneficiary and non-beneficiary interviews. The local and international evaluation team members conducted these short surveys in local languages in the field. The interviews asked about market prices and shocks during the time period of the LRP project, food availability, socioeconomic issues such as work and coping mechanisms, any re-selling of food aid and, for beneficiaries, the experience of receiving food assistance (specifying either food distributions or vouchers, as applicable.)

Wholesale vendor interview. This interview yielded information about business size and scope, previous work with food assistance programs, the tendering process, logistics and transport, commodity specifications and testing, packaging and branding, fortified commodities, constraints and challenges, market conditions and price shocks and benefits, if any, from participating in the LRP project.

Retail vendor interview. The teams interviewed local vendors about market conditions and price shocks, commodity availability, supply chain characteristics, product quality and, for those involved in voucher programs (or those who opted not to participate), the process and outcomes of their participation in the voucher program.

In addition to these tools, the team collected primary and secondary datasets, including the files used for data capture in LRP projects visited. Table 2.3 documents additional in-country interviews and reviews used in the evaluation.

[63] Always taking into consideration the rules on developing country origin and other stipulations of the Farm Bill.

TABLE 2.3: ADDITIONAL SOURCES FROM SITE VISITS AND THE TYPES OF DATA COLLECTED

Source	Data
Subcontractors	Primary market price data, price data collection and analysis processes, data collection challenges
Project warehouse managers	Storage conditions and challenges, food quality testing and safety
Voucher project participant organizations	Review of materials for outreach to vendors, vendor training, methods of verification and reimbursement
International participant organizations and donors (USAID, WFP, CRS, CARE, ACDI/VOCA, UNHCR, Caritas, MDA, AARREC, CEMIR, FEWSNET, FAO)	Food security context information, secondary market data, supplier lists and ratings, in-kind projects and shipments, conflict and crisis conditions and their effects on migration and food security, the prevalence of LRP or in-kind food aid, and the reasons for using in-kind food aid or LRP
Traders	Market prices and shocks, supply chain characteristics, vendor and supply availability, government intervention
Commodity exchange representatives	Market prices and shocks, government intervention
Local participant organizations (AECP, WV)	Logistics, food insecurity conditions
Government sources (Ministries of Agriculture, Commerce, Customs, testing laboratories)	Secondary market price data, government actions affecting agriculture or prices, other shocks, food safety testing process, data limitations, donor environment
Private laboratory testing firms	Food safety testing, timelines and delays, quality outcomes, food safety issues in the country and region
Transportation, storage and handling firms	Customs clearance process, biotechnology or Genetically Modified Organism (GMO) clearance process, transport times and processes
Agriculture research organizations	Market price data quality, secondary market price data, sectoral trends, donor environment, food insecurity zones
Wholesale and retail markets	Voucher distribution, range of sellers, opportunities for market price data collection and for voucher beneficiaries to check other sellers' prices

MIXED METHODS

The evaluation combines rigorous quantitative measures with qualitative methods that elicit respondents' experiences with, and perceptions of, LRP food assistance. The qualitative data are used to understand the meaning behind simple numbers and provide insights into the how and why of an intervention's successes and challenges. It is important to understand how the evaluation team used these different data streams to triangulate findings and to support or refute the hypotheses underpinning the research.

Triangulation involves using more than one source of data on the same variable. One example in this research is the use of interview data (from beneficiaries, retail vendors and wholesale vendors) on market price fluctuations on the one hand, and quantitative market price series from secondary sources on the other. Congruent evidence from two or more sources reinforce one another, while contradictory evidence will need to be weighed or further cross-checked[64] for validity: is the interview data more likely to be correct because of the source's direct experience with the effects of price increases, or are the quantitative data more

[64] Rolfing, I. 2009. "Day 7 Slides for Methods of Case Study Analysis Course." European Consortium for Political Research Summer School in Methods and Techniques, Ljubljana, Slovenia.

representative because of reliable methods used to collect them? Where there is variant evidence of market price spikes in this evaluation, these issues are addressed in the text.

SAMPLE SELECTION

The evaluation team's goal was to assemble cost and time data on the complete set of procurements – that is, from all procurements carried out under every project in the pilot. The evaluation gathered and refined these data through participants' end-of-project reports, responses to USDA's questions on those reports, and direct queries to the participants. When time and cost information was anomalous, the evaluation team followed up with participants to correct the data. Most, but not all, participants shared data without delay; for others, there were difficulties in accessing responses. Anomalies fell into four categories:

1. Out-of-order time data (e.g., delivery dates prior to contract dates)
2. Time outliers – duration of contracting or delivery periods more than three standard deviations from the mean
3. Cost outliers – commodity or transport costs more than three standard deviations from the mean
4. Unclear cost data – where it was not clear how to disaggregate commodity and transport costs that were reported together or the team had reason to believe that TSH costs were not complete

The evaluation team was able to collect and verify time and cost data for 191 LRP project procurements in the dataset used for comparison. Procurements from the LRP projects with incomplete or anomalous time or cost data were clarified with participants by the time of this writing.

For the data on in-kind shipments, several cases from the dataset are missing complete data. The dataset is summarized in Table 2.4 below.

TABLE 2.4: CHARACTERISTICS OF THE COMPARISON DATASET

	Number of In-Kind Shipments	Number of Local and Regional Procurements
Total Number of Cases	212	191
Number of Cases with Complete Time Data	129	191
Number of Cases with Complete Cost Data	194	191
Number of Cases Specified by Emergency or Development	176	191

Complete data on shipment timelines allows for comparison with the LRP projects on the contracting phase, delivery phase, and total time necessary for procurement. Of the cases for which participants did not provide complete data, most did provide start and end dates, allowing for comparisons of total time (though not of contracting and delivery phases independently). Moreover, in-kind participants did not provide the classification of response type (emergency versus development) for 36 procurements. Because of the primacy of the response type to the timeliness comparisons, these cases are excluded from analyses based on response type.

For the in-kind cost data, participants were unable to provide TSH costs for 15 cases or commodity costs for three cases. These are also excluded from comparison analyses, leaving a net total of 194 shipments. Two cases were for "Other" commodity category shipments, but are included in the dataset for one instance where their comparison is used (please see the Food Aid Modality Time and Cost Comparison Chapter).

For the qualitative site visits, the evaluation team visited eight countries representing nine LRP projects. This relatively large sample of projects (39 percent of the LRP projects) permitted a review of the performance of a diverse mix of projects spanning different geographic regions, market environments, participants, objectives, and procured quantities. Given the relatively small number of projects overall, a substantial sample was necessary to collect a broad base of information covering as wide a range of project types and environments as was practical in the three-month window allocated for field work.

The value of site visits in this evaluation rests in the richness of data collection from partners, beneficiaries, vendors and other stakeholders, as described in Figure 2.3, above. For development projects, the developmental goals often involve community mobilization, vendor and producer capacity building, and other time- and cost-intensive tasks. Importantly, speaking with the stakeholders in such activities allows for more nuanced analysis of how context and program goals affect cost-effectiveness and timeliness. In most site visits, evaluation team members were able to interview both beneficiary and non-beneficiary market consumers to determine if economic and quantitative cost analyses matched respondents' perceived purchasing power. In some visits, wholesale sellers who had not won bids were asked to rate the tendering process, and retail vendors who opted not to participate in voucher programs were interviewed about their rationale. Describing the "why" behind the numbers in this report is only possible because of the site visits to LRP projects. Those whose livelihoods are tied up with the price of food will know what has happened and often the reasons for it.

In consultation with USDA representatives, the evaluation team selected a sample of sites for field visits with the following characteristics.

- A mix of emergency and development projects—The sample was weighted toward emergency projects (six of the nine projects visited) because the USDA LRP Project emphasized emergency procurements. However, the sample was sufficient to investigate the efficacy of LRP in both situations.
- Variation in market environments—The level of market integration may be a key determinant of the potential for adverse market consequences of LRP. Sites were selected with variation in market environments.
- Variation in project size—The quantity demanded in each procurement relative to market surpluses may also be a key determinant of the potential for adverse market impacts. Sites were selected for variation in procurement levels in relevant markets and other local conditions (e.g., government purchases.)
- Different types of participants—Even though the evaluation does not assess the performance of individual participants, a range of PVO and WFP projects provides information on how different types of participants implement LRP.

Table 2.5 summarizes characteristics of the sample of sites selected for field visits.

TABLE 2.5: PROJECTS SITE VISITS FOR LRP PROJECT EVALUATION

Year	Country	Participant	Project Characteristics
Emergency projects			
2011	Mozambique	WFP	In Mozambique, WFP used hard tenders to buy maize and cowpeas for distribution in three provinces that had experienced crop losses and other damage due to flooding.
2011	Niger	CRS	CRS provided vouchers for millet, sorghum, beans, vegetable oil, rice, manioc flour, and maize in two regions in Niger that were affected by food production deficits in 2010.
2011	Zimbabwe	UMCOR	UMCOR used hard tenders to purchase maize, peas, and vegetable oil through WFP-approved vendors in South Africa to offset financial and weather shocks in a high-population, food deficit district.
2010	Republic of Congo	WFP	The WFP project in the Republic of Congo used hard tenders to buy rice in neighboring Democratic Republic of Congo to provide food to refugees.
2010	Guatemala	CRS	CRS purchased maize, beans, and fortified flour through hard tenders with Guatemalan suppliers. The project distributed the commodities through a food-for-work program in districts affected by drought, a volcano eruption and a hurricane.
2010	Niger	Mercy Corps	Mercy Corps procured maize and cowpeas through hard tenders and also provided vouchers for salt and vegetable oil to alleviate food insecurity in drought-affected areas.
Year	Country	Participant	Project Characteristics
Development projects			
2011	Uganda	World Vision	World Vision distributed vouchers for beneficiaries to purchase a variety of commodities, including maize, beans and cooking oil. The project supported refugees and the resettlement process of Internally Displaced Persons (IDPs) by providing short-term food assistance to the most vulnerable of the recently resettled households.
2010	Cambodia	IRD	IRD used direct purchases of iron-fortified fish sauce and hard tenders for rice, canned fish and vegetable oil to supply a school feeding program. It also used vouchers for food-for-work participants. All procurements were targeted to the same drought-prone province.
2010	Zambia	Land O'Lakes	Land O' Lakes purchased fortified maize meal, maize grain, beans, vegetable oil and HEPS through hard tenders on the Zambian Agricultural Commodities Exchange (ZAMACE) and direct purchase (for some HEPS purchases) for distribution to HIV/AIDS-affected vulnerable households in three districts.

In each country, the team visited sites involved with the USDA LRP Project. These included participant offices and warehouses; government and donor offices and warehouses; government and private laboratories; government ministry and researcher offices; beneficiary villages, schools, food-for-work sites; and markets. The evaluation teams requested maps and directions to project areas from LRP participants to assist with selection of the beneficiary sites. The evaluation teams also rented vehicles in most sites to avoid traveling in vehicles recognizable to beneficiaries as coming from the LRP project. It was important to gather as unbiased a set of impressions as possible and being seen as representing the project would likely have biased responses.

The value of site visits in this evaluation rests in the richness of data collected from partners, beneficiaries, vendors and other stakeholders, as described in Figure 2.3. For development projects, the developmental goals often involved community mobilization, vendor and producer capacity building and other time- and cost-intensive tasks. Speaking with the stakeholders in such activities allowed for more nuanced analysis of how context and program goals affect cost-effectiveness and timeliness. In most site visits, evaluation team members were able to interview both beneficiary and non-beneficiary market consumers to determine if the evaluation's economic and quantitative cost analyses corresponded with respondents' perceptions of their purchasing power. In some visits, the evaluation team interviewed wholesale sellers that had bid on the LRP tenders but not won them, to ask them to rate the tendering process. The team also interviewed retail vendors in local or regional markets who opted not to participate in voucher programs, to ask about their rationale for doing so. The rich data resulting from site visits allows for more nuanced understanding of contexts, processes and decision-making among stakeholders. Using these data to support, explain or refute the quantitative findings has allowed to evaluation team to present a richer and more reliable evaluation report.

EVALUATION TEAM

MSI's core evaluation team consisted of Andy Cook (Team Leader) and John Spilsbury and Eric Weiss (Technical Specialists.) These three Key Personnel bore the primary responsibility for designing the evaluation, collecting data, conducting analyses, and reporting. A Technical Review Board consisting of Drs. David Tschirley and Cynthia Donovan from Michigan State University, and Dr. Enrique Hennings of FLO International have played a limited, but important, role in the evaluation, providing guidance and perspective on research design, data collection, market analysis, and interpretation of results at critical junctures in the evaluation. Senior Evaluator and Technical Director Keri Culver and her colleagues Thibaut Muzart and Melissa Bender supported the Key Personnel throughout the evaluation, enhancing the team's overall capacity in research, data collection, analysis, writing, and evaluation.

Each Key Personnel team member led an independent field team with the division of labor dictated by language skills and regional expertise. The teams made two-week visits to the projects selected for site visits. MSI evaluators provided continuity between the teams, ensuring the consistency of procedures and methods in data collection across the evaluation. In six of the eight countries visited, the teams hired local agricultural economists or other related specialists to assist with local research and data collection and provide valuable local perspective. The local specialists generally began research in each country a week prior to the arrival of the rest of the team to begin to assemble secondary data, compile market profiles, and arrange the interviews and site visits.

The evaluation team relied for much of its work on the welcome extended by USDA LRP Project participants, evaluation stakeholders who provided substantial insight on the cost and time implications, market analysis, quality, and other aspects of their programming. Since each LRP project is unique in process and objectives, each site visit required that the evaluators learn the scope and landscape of the project very quickly. The evaluation teams in the field therefore invited participation from these stakeholders in directing important visits to government, donor, and other relevant offices. In addition to strengthening validity, stakeholder participation supports ownership of evaluation results.

LIMITATIONS

Cost and timeliness data

The evaluation team gathered data for timeliness and cost comparisons from participants' reports and through follow-up questioning. USDA required all LRP Project participants to provide these data. Some participants also provided copies of procurement contracts and solicitations. These sources generally provided good quality data, with some exceptions. USDA clearly defined common terminology but in some cases the evaluation team found that participants interpreted terminology differently than expected. The

evaluation team was able to clarify the data issues (dates of defined steps in the procurement timeline, and costs for commodities and TSH) in consultation with the participants. Participants had more difficulty parsing administrative costs for voucher programs (seeking for and training vendors, for example.) In some development projects, participants confounded times for contracting and delivery because they used different terminology about the contracting process.

The examination of costs made use of various groupings and categories to capture the realities of the data to the extent possible without losing precision. However, the limited number of procurements and distributions through vouchers, or procurements through regional suppliers rather than local, mean that the evaluation team has less confidence that the results for voucher programs or regional purchases can be generalized to experience beyond the USDA LRP Project.

Market analysis data

Limitations in the time series data for market analysis arise from issues of data completeness and quality: frequency of time series data (that is, weekly, biweekly, monthly or greater intervals between price data points), length of time series before and after procurement dates (one week, two weeks or longer), proximity to target markets, retail versus wholesale pricing, availability of data on the range of commodities used in the project, and the representativeness of markets where price data were collected. System shocks affecting markets, such as government purchases or interannual weather effects, for example, can be controlled for in the data if time series are long enough. In many cases the evaluation team had to work with datasets that were insufficient in one or more of these categories. The text notes the conclusions affected by these limitations.

The elasticity methodology[65] used by the evaluation team to examine market impacts is justifiable, but other researchers have chosen alternative methods to estimate impacts. With elasticity, and with other methods, the level of "noise" around prices (an unknown but estimable percentage of fluctuation) is difficult to determine with precision. LRP's impacts on a given market, if they exist, must be large enough to be detectable through this noise. While the evaluation team is confident in the findings and analyses, there are unknowns within markets (such as exact throughput amounts) that, if known, would increase the strength of the results.

One limitation identified by some PVO respondents was the presence of "vendor fatigue" at providing prices on a regular and frequent basis to PVO data collection teams. The market data collection requirements under this pilot were especially rigorous and required weekly visits to markets around the time of purchases. Some respondents said that vendors became suspicious of the data collection as well, fearing that the data might be used against them by their competitors in other markets. One participant chose to send price data collectors to the field with funds to purchase small quantities of the commodities for which prices were necessary. This approach avoided suspicion and fatigue on the part of vendors.

In-kind shipment data

For cost and timeliness comparisons between LRP and in-kind aid, the available shipment data on in-kind aid provides for comparisons of parallel, but not identical, commodities. USDA did not restrict participants to purchasing only commodities that were also available through U.S. in-kind food aid programs. To do so would have severely limited participants' ability to find and procure commodities to meet vulnerable populations' needs. Therefore the comparison is not ideal, but in many cases the foods purchased through LRP are not those that are available through in-kind aid, as discussed above. The evaluation dealt with this by grouping commodities by broad type (e.g. unprocessed cereals, pulses, etc.). The approach provided close comparators with similar contributions to diet diversity and meeting vulnerable groups' nutritional needs.

[65] The two analytic approaches used by the evaluation team were, first, reviewing the time series price data where such data were available for the countries, markets, commodities, and time periods around each procurement; and, second, the use of economic models involving prices, market throughput, the sizes of LRP purchases, and assumed values of price elasticity to determine those LRP cases where a discernible price impact might have occurred.

Participants providing data on in-kind shipments did so in good faith, without any requirement upon them to do so. These include participants at country level and headquarters sites in the U.S. From USDA's WBSCM and its predecessor database, PCIMS, the evaluation team identified approximately 75 additional procurements for which data were not made available by in-kind participants, freight forwarders, or others. These procurements are therefore not included in the comparison database. For these reasons, the in-kind shipment data are less certain to be complete than the LRP data. For those data received, however, the close collaboration between the evaluation team, in-kind participants and freight forwarders has yielded a substantial set of data on shipments.

Qualitative interview data

Qualitative interview data adds depth to the numeric data and can act to confirm or refute quantitative findings. The evaluation team asked respondents – beneficiaries, vendors, traders, and others –about commodity prices, food quality and preferability, coping mechanisms and other themes. These data are generally weaker the further in the past a respondent has to recall the information. Data from older projects will be more prone to this limitation than data from more recent projects.

Commodity acceptability data

With respect to commodity acceptability, a wider survey, preferably with a comparison group of respondents, would have provided more reliable data on target populations than the simple purposive sampling employed in this evaluation. However, the simple survey did capture the words and experiences of beneficiaries and give them a voice in the report. Moreover, as part of the Learning Alliance, Cornell University conducted three impact evaluations of LRP projects using comparison groups that rigorously addressed these evaluation questions,[66] and those data support the findings from the evaluation team's simple survey.

Overall

The procurements examined here occurred under a pilot project and a number of the participants came to these projects with little previous experience with local and regional procurement. Start-up times and costs are likely greater for a less experienced participant than for one that already has procurement staff and procedures in place. While it is not possible to quantify this effect, readers should understand that most participants in the projects faced this learning curve (with the notable exception of WFP, which carried out 8 of the 20 LRP projects). Two participants reported that their organizations have carried out local and regional procurement in other sites in the past, but with different teams in different countries.

The data in this report provide a comprehensive description of the evaluation team's observations on the ground in the LRP projects, directly and through secondary sources. The relatively small number of projects, and the limited range of contexts in which they were observed, mean that the evaluation results do not necessarily represent LRP experience beyond the observed data. However, the number of procurements and range of projects were large and diverse enough to provide reasonably reliable insights into the cost and timeliness implications of choices among procurement approaches.

[66] Barrett, Christopher B., Samuel D. Bell, Teevrat Garg, Miguel I. Gomez, Aurélie P. Harou, Erin C. Lentz, Simone Passarelli, Joanna B. Upton and William J. Violette. "Final Report: A Multidimensional Analysis of Local and Regional Procurement of US Food Aid," January 2012. Cornell University.

FINDINGS

The following chapters represent the evaluation findings. First displayed is a reference table of procurements by LRP project. This table shows the number of procurements from each project, the participant, whether the project was emergency or development, whether the commodities were sourced locally or regionally, procurement and distribution approaches (tendering, vouchers, direct distribution, etc.), the metric tonnage and types of commodities procured, the dollar value per metric ton for commodity and transport costs, and total commodity costs.[67]

[67] Data from some participants is incomplete, and has not been included in the dataset.

TABLE 3.1: PROCUREMENT SUMMARY TABLE

Country *(FY)*	Participant *(Project Type)*	Local	Regional	Procurement Approach	Distribution Approach	Metric Tons Procured	Commodities Purchased (# of Procurements)	Average Commodity Cost/MT (US$)	Average TSH Costs/MT (US$)[1]	Total Costs[2] (US$)
Bangladesh *(FY10)*	Land O'Lakes *(development)*	X		Soft	Direct	687.0	Cereal bars (4)	1,992.76	143.39	1,468,471
Burkina Faso *(FY10)*	Catholic Relief Services *(development)*	X		Soft	Direct	628.1	Millet (1)	339.27	80.78	263,833
				Hard	Direct	72.2	Vegetable oil (1)	2,065.00	47.04	152,574
				Voucher	Voucher	157.1	Cowpeas	512.12	20.02	83,599
Cambodia *(FY10)*	International Relief and Development *(development)*	X		Hard	Direct	114.0	Rice (2)	381.99	37.00	47,765
						36.1	Canned fish (2)	2,004.47	37.00	73,697
						11.8	Vegetable oil (2)	1,421.77	37.00	17,170
				Direct	Direct	4.0	IFFS (2)	1,761.52	37.00	7,104
				Voucher	Voucher	225.1	Rice	460.99	15.05	107,161
						7.5	Noodles	1,636.67	15.05	12,332
						4.4	Vegetable oil	1,670.84	15.05	7,384
						3.8	Canned fish	2,527.69	15.05	9,571
Cameroon *(FY10, FY11)*	World Food Programme *(emergency)*	X		Hard	Direct	329.0	Sorghum (1)	334.54	309.05	211,741
						1,790.0	Maize (1)	408.48	309.05	1,284,379
						543.0	Beans (1)	1,328.54	309.05	889,211
Chad *(FY10)*	World Food Programme *(emergency)*		X	Hard	Direct	1,512.0	Maize (2)	356.60	455.16	1,227,381
						1,111.0	Beans (2)	566.30	455.16	1,134,842
Republic of Congo *(FY10)*	World Food Programme *(emergency)*		X	Hard	Direct	1,458.0	Rice (2)	800.58	403.77	1,755,943
Guatemala *(FY10)*	Catholic Relief Services *(emergency)*	X		Hard	Direct	1,224.5	Maize (6)	494.94	49.49	666,642
						159.5	Incaparina (3)	1,731.09	173.10	303,662
						146.9	Beans (4)	999.08	99.91	161,485

Country *(FY)*	Participant *(Project Type)*	Local	Regional	Procurement Approach	Distribution Approach	Metric Tons Procured	Commodities Purchased (# of Procurements)	Average Commodity Cost/MT (US$)	Average TSH Costs/MT (US$)[1]	Total Costs[2] (US$)
Kenya *(FY11)*	World Vision *(emergency)*	X		Hard	Direct	1,144.0	Maize (2)	313.00	125.00	501,072
						245.0	CSB (2)	674.00	125.00	195,755
						10.0	Salt (1)	230.00	125.00	3,550
						204.0	Beans (2)	570.00	125.00	141,780
						82.0	Vegetable oil (2)	1,593.00	125.00	140,876
Malawi *(FY09)*	World Food Programme *(development)*	X		Hard	Direct	10.0	White maize (1)	212.20	131.31	3,435
						480.0	Cowpeas (3)	449.66	131.31	278,867
						815.0	CSB plus (5)	436.19	131.31	462,513
						100.0	Pigeon peas (1)	464.19	131.31	59,550
				Direct	Direct	863.2	White maize (10)	230.43	131.31	312,256
				Soft	Direct	76.0	Cowpeas (1)	471.13	131.31	45,785
Mali *(FY10)*	Catholic Relief Services *(development)*	X		Hard	Direct	1.0	Cowpeas (1)	742.86	221.42	964
						4.9	Rice (1)	578.02	221.42	3,896
				Voucher	Voucher	31.4	Millet	332.15	95.30	13,422
						6.7	Cowpeas	577.60	95.30	4,502
						2.1	Rice	638.95	95.30	1,571
Mali *(FY09 and FY10)*	World Food Programme *(development)*	X		Direct	Direct	504.1	Sorghum (6)	270.81	55.13	164,303
						2,251.5	Millet (34)	279.89	53.54	750,694
						48.7	Cowpeas (6)	671.37	52.60	35,258
Mozambique *(FY11)*	World Food Programme *(emergency)*	X[3]	X	Hard	Direct	4,178.6	Maize (2)	197.12	61.39	1,080,201
						486.0	Cowpeas (2)	477.25	142.71	301,300
Nicaragua *(FY10)*	Fabretto Children's Foundation *(development)*	X		Hard	Direct	53.5	Red beans (3)	1,297.86	220.00	81,242
						41.8	Maize meal (4)	1,090.17	220.00	54,791
						14.4	Vegetable oil (1)	2,062.41	220.00	32,915

Country *(FY)*	Participant *(Project Type)*	Local	Regional	Procurement Approach	Distribution Approach	Metric Tons Procured	Commodities Purchased (# of Procurements)	Average Commodity Cost/MT (US$)	Average TSH Costs/MT (US$)[1]	Total Costs[2] (US$)
(continued from previous page)	*(continued from previous page)*					6.8	Pinolillo (5)	1,681.81	220.00	12,939
						14.1	Sugar (2)	840.65	220.00	14,913
Nicaragua *(FY10)*	Fabretto Children's Foundation *(development)*			Direct[4]	Direct	12.7	Cream (2)	2,997.90	220.00	40,964
						0.4	Butter (2)	7,058.32	220.00	3,130
						1.7	Red beans (1)	1,301.68	220.00	2,556
						1.2	Maize meal (1)	815.85	220.00	1,264
						0.1	Vegetable oil (1)	1,568.50	220.00	238
						12.1	Carrots (2)	966.42	220.00	14,296
						17.9	Cheese (2)	3,258.58	220.00	62,162
						9.9	Eggs (1)	1,442.43	220.00	16,475
						5.2	Green peppers (2)	2,300.55	220.00	13,208
						13.7	Onions (2)	663.46	220.00	11,980
						0.4	Pinolillo (1)	2,442.71	220.00	932
						44.8	Plantains (2)	613.08	220.00	37,305
						33.0	Potatoes (2)	865.72	220.00	35,532
						40.3	Ripe bananas (2)	354.38	220.00	23,153
						2.0	Sugar (1)	633.31	220.00	1,732
						25.2	Tomatoes (2)	1,279.32	220.00	37,813
Niger *(FY11)*	Catholic Relief Services *(emergency)*	X		Voucher	Voucher	4,760.5	Cereals	503.56	13.40	2,460,988
						792.9	Cowpeas	465.52	13.40	379,726
						58.4	Vegetable oil	2,579.60	13.40	151,302

Country *(FY)*	Participant *(Project Type)*	Local	Regional	Procurement Approach	Distribution Approach	Metric Tons Procured	Commodities Purchased (# of Procurements)	Average Commodity Cost/MT (US$)	Average TSH Costs/MT (US$)[1]	Total Costs[2] (US$)
Niger *(FY10)*	Mercy Corps *(emergency)*	X		Hard	Direct	4,699.0	Maize (3)	386.23	109.47	2,329,302
						471.5	Cowpeas (3)	543.55	121.18	313,420
						580.0	Millet (3)	419.96	0.00	243,579
				Voucher	Voucher	147.7	Vegetable oil (2)	2,610.60	20.61	388,577
						9.8	Salt (2)	508.80	20.61	5,211
Pakistan *(FY11)*	World Food Programme *(emergency)*	X		Direct	Direct	10,062.0	Wheat (1)	276.00	80.42	3,586,298
Tanzania *(FY09)*	World Food Programme *(development)*	X		Hard	Direct	225.0	Beans (3)	566.77	104.00	150,923
						1,395.7	Maize (9)	243.99	33.63	387,461
				Direct	Direct	199.0	Beans (2)	610.93	143.44	150,121
						1,079.4	Maize (3)	276.14	46.46	348,218
Uganda *(FY11)*	World Vision *(development)*	X		Voucher	Voucher	1356.8	Unprocessed Cereals	246.66	1.91	337,255
						714.0	Milled cereals	517.74	1.91	371,035
						874.9	Beans	741.11	1.91	650,053
						179.7	Vegetable oil	1,575.00	1.91	283,418
Zambia *(FY10)*	Land O'Lakes *(development)*	X		Hard	Direct	500.5	Beans (3)	1,075.61	235.25	656,061
						50.2	HEPS (3)	895.10	194.40	54,633
						2,745.0	Maize meal (3)	198.87	135.92	918,990
						124.4	Maize (1)	226.00	242.37	58,265
						173.8	Vegetable oil (3)	1,682.26	368.11	356,476
				Direct	Direct	87.9	HEPS (3)	729.38	246.77	85,808
Zimbabwe *(FY11)*	United Methodist Council on Relief *(emergency)*		X	Hard	Direct	1,291.0	Maize (1)	285.00	152.85	565,264
						233.0	Yellow peas (1)	508.00	120.22	146,375
						89.0	Vegetable oil (1)	2,097.00	151.23	200,092

Note: Two WFP-implemented projects (Cameroon and Mali) were funded for two fiscal years, but are reported by WFP as single projects. As a result, this evaluation counts them as single projects. One project in Benin was ended before procurement, and is therefore not listed here. The net total is 20 projects in 18 countries.

[1] By procurement. These include inland freight, internal transport, storage and handling and, for voucher programs, some administrative costs.
[2] Total costs may differ slightly due to rounding, from figures in participant reports.
[3] For WFP Malawi, commodity costs for one of these shipments was not provided by the participant; from the other parallel procurements, a weighted average was taken and is used as a proxy for that one shipment (of 44.45 MT white maize).
[4] For 8 of the 34 direct purchases of millet through WFP Mali, estimates for TSH costs were made based on a weighted average of TSH costs for parallel procurements.
[5] Mozambique issued four regional tenders; one of these was won by a local provider, while the remainder was won by regional providers. Also, WFP provided estimates of TSH costs which were then subtracted from commodity costs for the totals shown in this table and used in the evaluation's comparison dataset.
[6] Nicaragua's LRP model included many small purchases from local producers for dairy, eggs, fruits and vegetables, sugar, and pinolillo, a cornmeal- and cacao-based traditional drink. These products, however, are not included in the comparison dataset, as there are no equivalent products among the remainder of LRP projects or in-kind shipments.
[7] Three purchases of millet through Mercy Corps Niger were used to restock community grain banks and no TSH costs were incurred. Any TSH costs that might be incurred after procurement were to be borne by the communities.
[8] For 5 of 12 maize procurements through WFP Tanzania, TSH costs were folded into commodity costs. WFP Tanzania responded to the evaluation team's request to estimate the TSH so that those costs and commodity costs could be shown more accurately. The TSH costs provided are indicative, from the WFP current transport rates, as the actual paid by the vendor is not known. There is however, a general feeling that vendors are able to negotiate lower rates with transporters than the WFP rates. The rates provided were then subtracted from commodity costs for the total shown in this table and used in the evaluation's comparison dataset.

INTRA-LRP TIME COMPARISON

Evaluation question—What amount of time was required by each project, and across LRP projects, to procure and deliver food assistance? What differences are found between LRP approaches?

DEFINITIONS AND METHODOLOGY

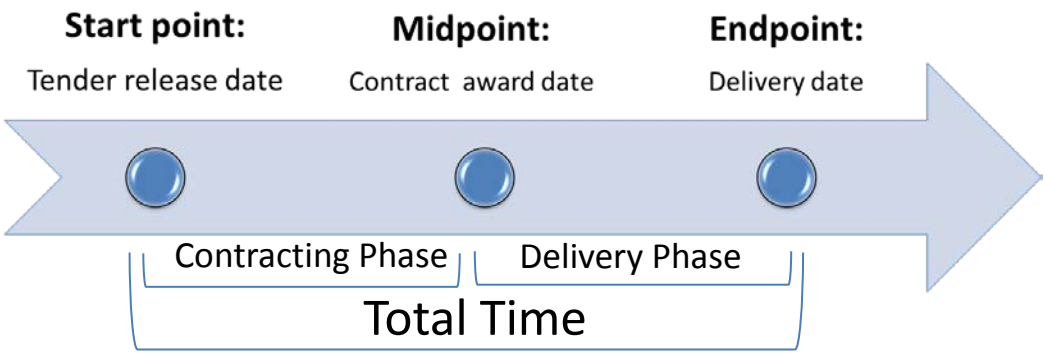
In the context of food aid, a "timely" procurement process delivers food when it is needed or expected. The consequences of untimely food deliveries may be particularly dire in emergency situations where access to food is critical to maintaining life. However, receiving food when it is needed/expected is also important in development projects since untimely deliveries may cause pipeline breaks, disrupt participants' planning and cause real hardship for beneficiaries. The challenge for LRP participants, and one this evaluation addresses, was in choosing the procurement approach that balances costs and other procurement objectives and constraints against the likelihood of an untimely delivery.

The preceding discussion suggests that an assessment of the timeliness of delivery should compare actual delivery dates with some measure of need: did the commodity arrive in time to meet participants' needs? Measuring timeliness in this manner, however, emphasizes the relative predictability of alternative procurement approaches or the effectiveness of participants' planning, neither of which directly address the questions posed in this evaluation. The analysis thus compares the actual time (in days) that different procurement approaches take in different contexts to contract for and deliver food.

If it can be assumed that participants incorporate their knowledge of delivery times into their planning and choose procurement approaches consistent with their pipeline requirements and that suppliers and shippers act in good faith to expedite delivery regardless of the procurement approach, then observed differences in delivery times from the assembled data are accurate measures of the time required to deliver commodities through different procurement approaches.

In order to understand the timeline of local or regional food aid procurements, it is necessary to define the start and endpoints of the procurement process. This evaluation defines two phases of the procurement process: contracting and delivery (Figure 4.1).

FIGURE 4.1: FOOD AID PROCUREMENT TIMELINE



To evaluate timeliness (i.e., elapsed procurement time), the evaluation team defined functionally equivalent points in the procurement timelines of the various LRP approaches and gathered data from USDA LRP Project participants for these key dates. These dates are the start point, midpoint and endpoint of the procurement process defined as follows:

- **Start point** – The start point for hard or soft tenders is the date the participant issues the tender. For direct contracts, the start point is the date on which the participant begins discussions with the supplier. For voucher programs, the start point is the date on which the participant begins the search for suppliers/vendors.
- **Midpoint** – The midpoint of any of the procurement approaches that use contracts (i.e. hard or soft tenders and direct contracts) is the date the contract is signed. The midpoint for voucher programs is the date on which the participant certifies a vendor or announces a voucher fair.
- **Endpoint** – The endpoint of the procurement process is the date that commodities arrive at the delivery endpoint for direct distribution approaches. In cases where deliveries are staggered, for programmatic or other reasons, the evaluation team used the date of the first delivery as the endpoint date. For vouchers, the endpoint is the date of the first voucher-based purchases or the date of the voucher fair.

The analysis defines the time between the start point and the midpoint as the "contracting phase" and the time between the midpoint and the endpoint as the "delivery phase" of the procurement process. The total time of the procurement process is therefore equal to the sum of the time required for the contracting and delivery phases.

The contracting phase begins when participants announce their intention to purchase a commodity by issuing a tender, opening discussions with a supplier for a direct purchase, or starting the search for a supplier or vendor for a voucher project. The contracting phase ends when the participant awards the contract to a supplier or, in voucher projects, certifies a vendor or announces a voucher fair. The delivery phase begins immediately after the contracting phase concludes and ends when commodities are delivered to the final endpoint. For most LRP projects, suppliers delivered either to a central warehouse or to another final endpoint prior to distribution. Regardless of who completes the delivery process, using the date of delivery to the final endpoint allows for a congruent comparison of timelines across projects.

Procurement Approach

The procurement approach used to obtain commodities affects how these dates are determined. The four procurement approaches participants used are defined below.

1. **Hard tenders** are competitive bids, usually advertised through the local media and open to all qualified bidders.
2. **Soft tenders** are issued to pre-selected bidders, and/or are adapted to the business characteristics of a particular type of supplier; for example, soft tenders may be issued to local FOs with some capacity to aggregate and coordinate their commodities for food aid delivery. Soft tenders allow small FOs a chance to build capacity and compete for business opportunities.
3. **Direct purchases** are non-competitive, sole-source purchases and are made, as the term indicates, directly from a supplier without going through a tender. As with soft tenders, this approach is generally targeted toward small-holder FOs or small scale traders to support capacity building.[68]
4. **Voucher purchases** are those in which beneficiaries are given vouchers redeemable for food through identified local vendors. These vouchers may be denominated in currency or in a particular ration of

[68] In some cases, direct purchases may be made when there is only one supplier for a given type of commodity in a given location; for example, procuring fortified blended foods or other processed commodities for targeted nutritional interventions.

commodities, such as a 50 kg bag of maize grain. Note that this procurement approach is also a distribution approach since the beneficiaries obtain the commodities directly.

Table 4.1 below shows how the start point, midpoint, and endpoints are determined for each of these procurement approaches.

TABLE 4.1: DEFINITIONS OF DATES IN THE PROCUREMENT TIMELINE BY PROCUREMENT APPROACH

Procurement Approach	Start point	Midpoint	Endpoint
Hard or Soft Tenders	Date of issuance of hard or soft tender by participant	Contract signature	Commodities arrive at delivery endpoint. Inland transport, where applicable, is included
Direct Purchases	Date of initial discussion with supplier		
Vouchers	First date of search for suppliers/ vendors by participant	Vendor certification or announcement of voucher fair	Voucher fair date or date of first voucher-based purchases

Two variations of voucher projects (vouchers and voucher fairs) have slightly different definitions of the midpoint and endpoint dates. The midpoint for a standard voucher project is when the participant selects and certifies vendors and the endpoint is the date of the first voucher-based purchase. Two LRP projects used voucher fairs, in which suppliers and beneficiaries met at a predetermined site to exchange vouchers for commodities.[69] In these cases, the midpoint was the date the participant announced the voucher fair and endpoint is the date of the voucher fair.

Distribution Approach

LRP projects used two approaches to distribute commodities to beneficiaries during the delivery phase:

1. **Direct distributions** are deliveries of commodities in individual or family-size rations to targeted beneficiaries.
2. **Voucher distributions** provide vouchers which targeted beneficiaries redeem in exchange for commodities from pre-selected vendors. These vouchers may be denominated in currency or in a particular ration of commodities, such as a 50 kg bag of maize grain.

One additional characteristic of delivery dates must be noted; some contracts specify a staggered schedule for delivery dates to coordinate delivery with expected need. This was particularly common among development LRP projects, both for standard and forward contracts.[70] Using the date of final delivery as the endpoint in the timeline would distort the calculation of the time necessary for delivery. For hard and soft tenders and direct purchase contracts, this evaluation used the first actual delivery date of a commodity under the contract as the endpoint.

[69] CRS Mali held voucher fairs for millet, cowpeas, and rice. In addition, the project procured twice using hard tenders. World Vision Uganda held voucher fairs for farm tools and seeds; these voucher procurements are not part of the evaluation analyses because they are unique and not comparable to procurements in other projects. World Vision Uganda also provided beneficiaries with vouchers for food commodities, which were redeemed in established markets and are included in the evaluation analyses.

[70] In a forward contract, the price, quantity, and time of a commodity delivery are determined in advance. Such an approach can be used for competitive tenders in food aid, as well as non-competitively to encourage FOs' participation in markets to hedge any future price variations.

One participant chose to utilize forward contracts to build the capacity of FOs. These procurements are some of the longest in duration in the evaluation data. The evaluation team discussed the process steps in detail with this participant to understand the timeline relative to the needs of the beneficiaries and the time taken with producers to build capacity. Deliveries were timely for these contracts and fully in line with project planning. The total procurement time was longer because it included extended discussions with producers to support them during cultivation and to prepare them for contracting and commodity quality requirements.

These two types of deliveries—staggered delivery schedules and forward contracts used to support development goals with suppliers—also point to the issue of timeliness relative to need. Procurement for emergency LRP projects was faster, as shown in the findings below, because these projects are designed to meet immediate needs. Among development LRP projects, delivery schedules generally represented timely responses to projected needs, even though procurement durations were longer.

COMPARISONS

The evaluation team assembled timeliness data from all 20[71] LRP projects, representing 18 countries, from USDA LRP Project reports and discussions with participants. This process resulted in a total of 191 procurements. The 10 development projects had more procurements per project (averaging 13.8 procurements per project) compared to procurements in the 10 emergency projects (averaging 5.3 per project). Table 4.2 summarizes other key characteristics of the data.

TABLE 4.2: MAIN CHARACTERISTICS OF THE LRP PROJECT DATASET

	Number of Procurements
Response Type: Emergency or Development	
Emergency	53
Development	138
Procurement Approach Used	
Hard Tender	97
Soft Tender	6
Direct Purchase	70
Voucher	18
Distribution Approach Used	
Direct Distribution	173
Voucher Distribution	18
Local or Regional Procurement	
Local	181
Regional	10

The evaluation compared projects on the basis of the average number of days for the contracting and delivery phases of procurements and total duration (contracting plus delivery). The total time to procure is disaggregated by

[71] A 21st LRP project in Benin is not included in this total, because it ended before any purchases were made.

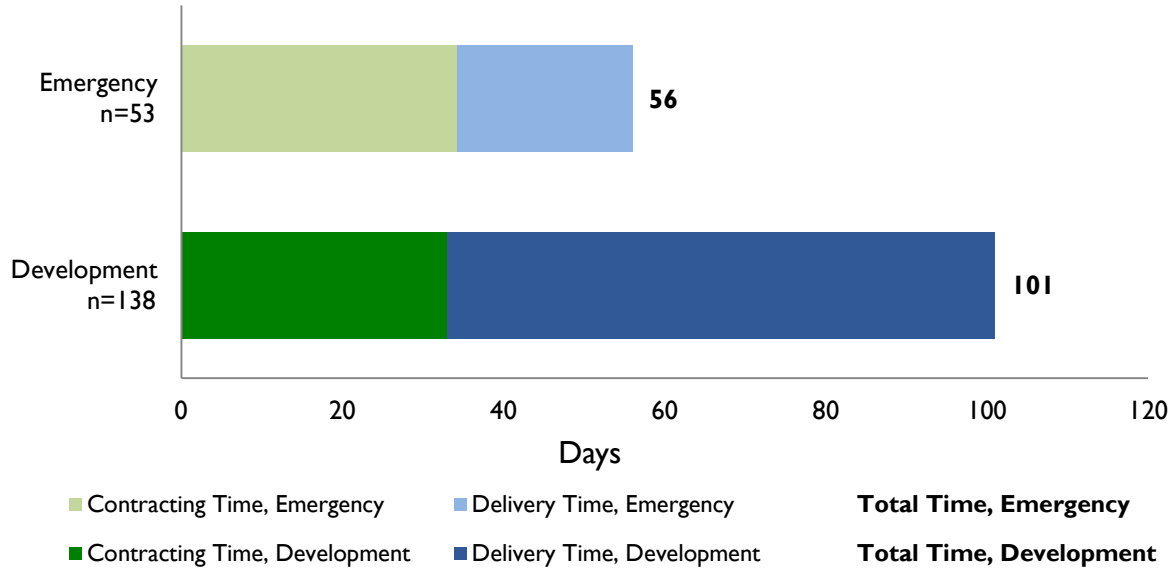
project response type—emergency or development—because the former prioritizes shorter durations, while in development programs, development goals may mean that speed is not the top priority provided that commodities are delivered when they are needed.

Within emergency and development procurements, additional comparisons are made between the participants' approach to distribution (direct distribution and vouchers) and procurement (hard tender, soft tender, direct purchase, or vouchers). Lastly, comparisons are made by region and also by commodity type within the emergency and development subsamples.

Relative Time by Response Type – Emergency or Development

Among procurements through the LRP projects, timeliness is most important in emergency projects. In these projects, timeliness in reaching vulnerable populations with critical food insecurity is often considered more important than cost by donors. The evaluation finds that the full procurement process for emergency LRP projects was 45 days faster,[72] on average, than the full procurement process for development LRP projects (Figure 4.2). Emergency projects were 45 percent faster (56 days) than were development projects (101 days).

FIGURE 4.2: RELATIVE TIME BY RESPONSE TYPE, IN DAYS



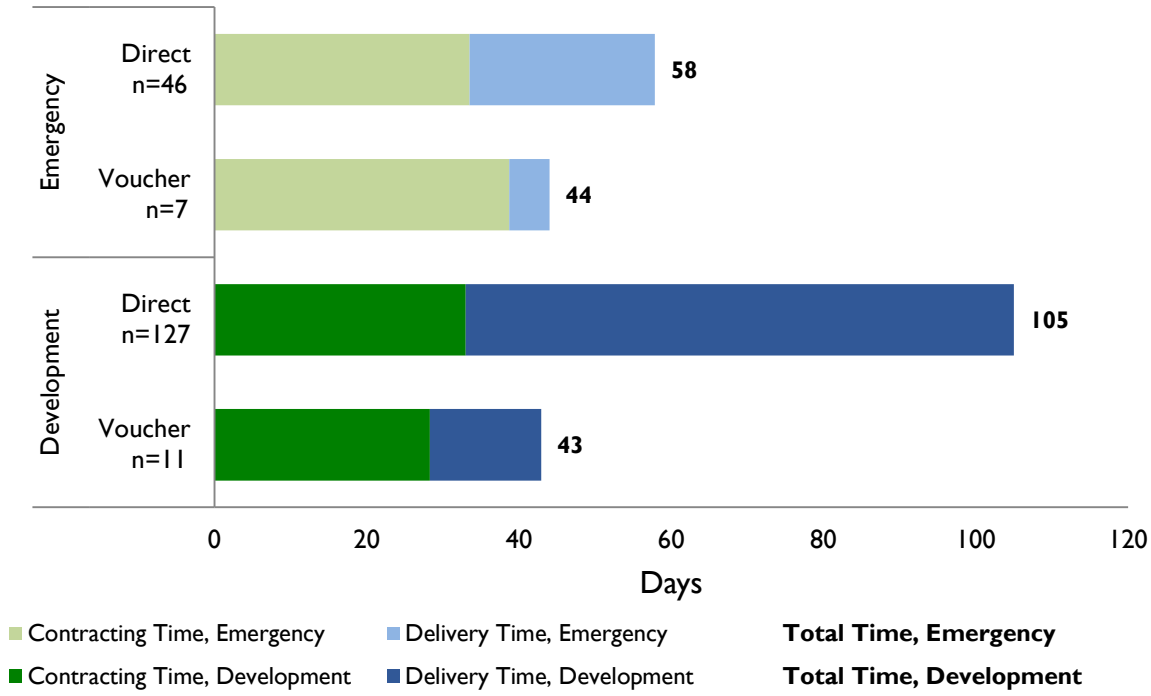
The contracting phase took about one day longer on average for emergency projects than for development projects (34 days and 33 days, respectively).[73] Delivery time for emergency project procurements (22 days) was less than one-third of the delivery time for development project procurements (68 days).

[72] This difference was statistically significant at the 1% confidence level.
[73] The difference was not statistically significant at the 5% confidence level.

Relative Time by Response Type and Distribution Approach

Another variable important in the consideration of timeliness was the use of different approaches for distribution––direct distribution of commodities, or voucher distributions. LRP voucher distribution projects had shorter durations overall for both emergency and development projects. The evaluation found that emergency projects using vouchers averaged a total procurement time of 44 days, compared with 58 days for emergency projects utilizing direct distribution, a difference of 14 days.[74] Figure 4.3 illustrates these differences graphically.

FIGURE 4.3: RELATIVE TIME BY RESPONSE TYPE AND DISTRIBUTION APPROACH, IN DAYS



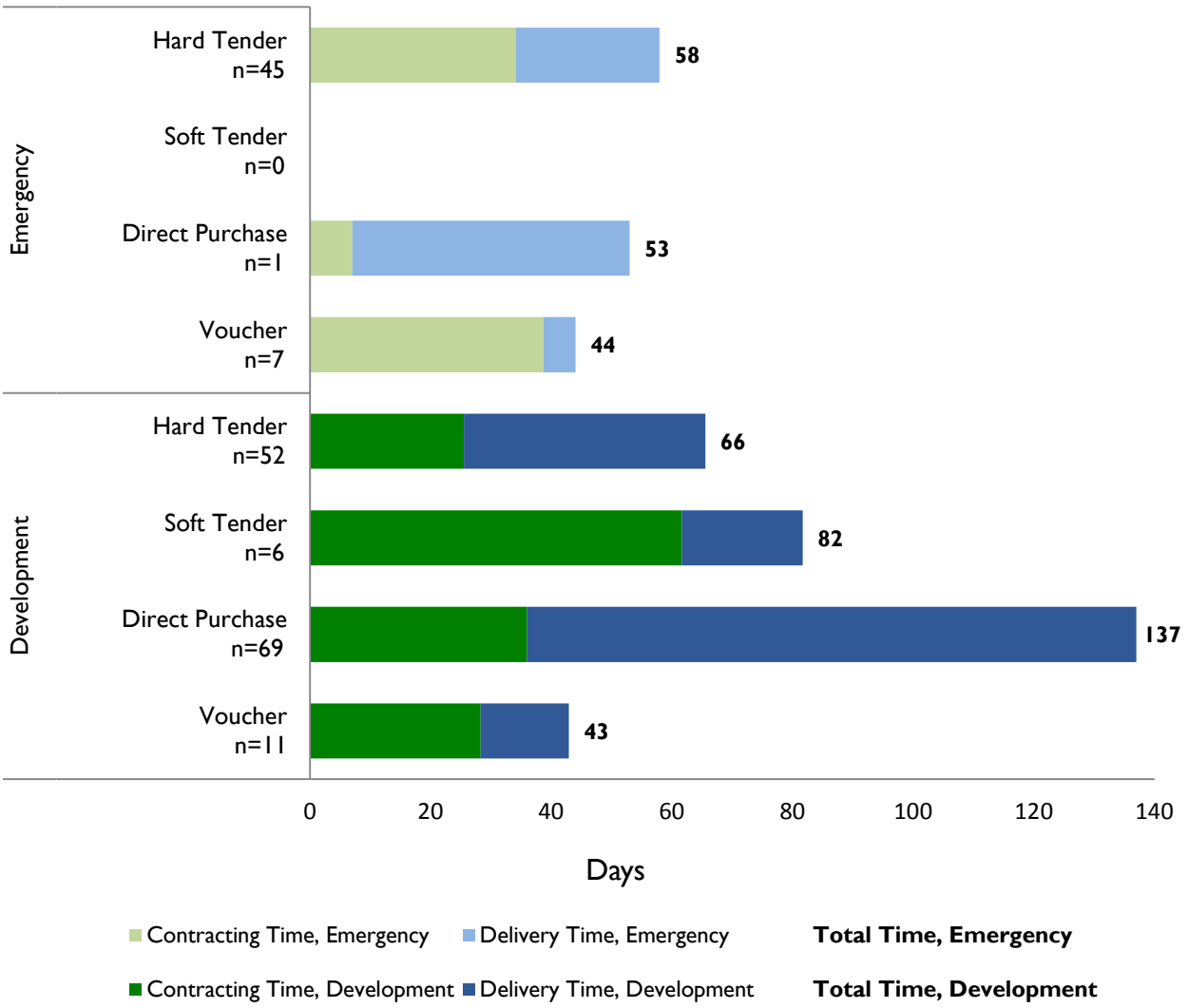
Development LRP projects that used vouchers to distribute commodities averaged 43 days for the full procurement process, while the procurement process for development projects using direct distribution took 105 days—a difference of 62 days.[75] More than half of these longer procurements represent projects in which development goals are also pursued, in addition to the provision of food aid. These development goals include capacity building with FOs and manufacturers and food for work schemes to construct infrastructure projects as part of food distribution activities.

[74] The difference was not statistically significant at the 5% level. With only seven procurements, the number of emergency voucher programs provides too few cases to report robust findings.
[75] Statistically significant difference at the 5% level.

Relative Time by Response Type and Procurement Approach

Procurement times for LRP projects also varied by the procurement approach taken: hard tenders, soft tenders, direct purchases, and voucher programs. Among these procurement approaches, vouchers were the fastest approach. Figure 4.4 shows how emergency and development projects performed using each procurement approach.

FIGURE 4.4: RELATIVE TIME BY RESPONSE TYPE AND PROCUREMENT APPROACH, IN DAYS



For emergency projects, hard tenders were the most frequent procurement approach, used in 45 out of 53 procurements. These hard tender purchases averaged 34 days to contract and 24 days to deliver, for 58 days in overall duration. Hard tenders were used over one-third of the time in development projects (52 of 138 procurements), and averaged 26 days to contract and 40 to deliver, for an overall total time of 66 days. Soft tenders, used just six times and only in development LRP projects, averaged 82 days for procurement. The

contracting phase was the longer portion of this procurement approach, owing to the capacity building component of working with targeted suppliers. It should be noted that four of these six were from one project with a unique model of capacity building that involved working with cereal bar manufacturers in Bangladesh.

Direct purchases, used 69 times in development LRP projects, took the most time, with an average of 137 days, reflecting the period of capacity building with FOs that often accompanied direct purchases (61 of the 69 cases). In these projects, participants worked with FOs early in the planting season so that the organizations would be able to amass sufficient quantities by harvest time. The longer delivery phase (averaging 101 days) includes that growing and harvest cycle. Only one emergency LRP project used a direct purchase approach and as such, it is not possible to present a robust comparison between development and emergency projects that used direct purchase as a procurement approach. For both emergency and development projects, vouchers were the fastest procurement approach with an overall total procurement time of 44 days for emergency and 43 days for development projects.

Relative Time by Response Type and Procurement Origin (Local versus Regional)

There were only 10 regional purchases, all under emergency LRP projects that procured in neighboring countries. The average total time for regional procurements was 76 days compared with 51 days for local procurements.[76] As is discussed in more detail in the market analysis chapter of this report, participants chose local over regional procurements in most cases because well-integrated surplus markets did exist within most recipient countries. This is often true even during food emergencies and is an indication that food insecurity is frequently caused by problems of food access rather than food availability.[77] Further, participants collected and submitted import parity prices (IPP) for the commodity procurements they made, and in the vast majority of cases, the IPP was higher than local prices. Local procurement also reduces delivery times and can therefore be used to meet project timelines and development goals, when applicable.

Relative Time by Response Type and Geographic Region

The analysis also grouped LRP projects into regions to examine any differences due to geographic or logistical considerations. Table 4.3 defines the regions used in the analysis.

TABLE 4.3: IMPLEMENTATION REGION GROUPINGS

Region	Countries With Emergency Projects	Countries With Development Projects
Asia	Pakistan	Bangladesh, Cambodia
Central Africa	Cameroon, Chad, Republic of Congo	
East Africa	Kenya	Tanzania, Uganda
Latin America	Guatemala	Nicaragua
Southern Africa	Mozambique, Zimbabwe	Malawi, Zambia
West Africa	Niger (2 projects)	Burkina Faso, Mali (2 projects)

[76] As there were no regional procurements among development programs, this average is a comparison of the ten regional procurements in emergency projects against the 43 local procurements in emergency projects.
[77] An example of a food availability problem would be a drought that has affected local farmers' ability to produce sufficient commodities for the market in a given location. On the other hand, a food access problem may be beneficiaries' inability to purchase commodities that are available in the market due to price spikes.

Among the 10 emergency projects,[78] the time to contract and deliver commodities varied by region. Latin America's emergency procurements were the quickest at 41 days, but are represented by a single CRS project in Guatemala. Emergency LRP projects in West and East Africa, as well as Asia, averaged about 50 days to contract and deliver commodities. There was only one emergency LRP project in Asia, carried out by WFP in Pakistan, with a procurement that required 53 days in total. In Southern Africa, where WFP in Mozambique and UMCOR in Zimbabwe had three regional purchases each, the average was 60 days. In Central Africa, with regional purchases through WFP's projects in Chad, Cameroon and the Republic of Congo, the average time to procure was highest at 101 days. On average, as noted above, these regional procurements for emergency projects took 25 days or 50 percent longer than did emergency projects that procured locally. For two projects that procured regionally (WFP Chad and WFP Republic of Congo), delays included export processing and constraints with contracting, according to participant reports and site visit interviews. Rice deliveries for WFP's project in the Republic of Congo were also hampered by the low levels of the river used for commodity transport.

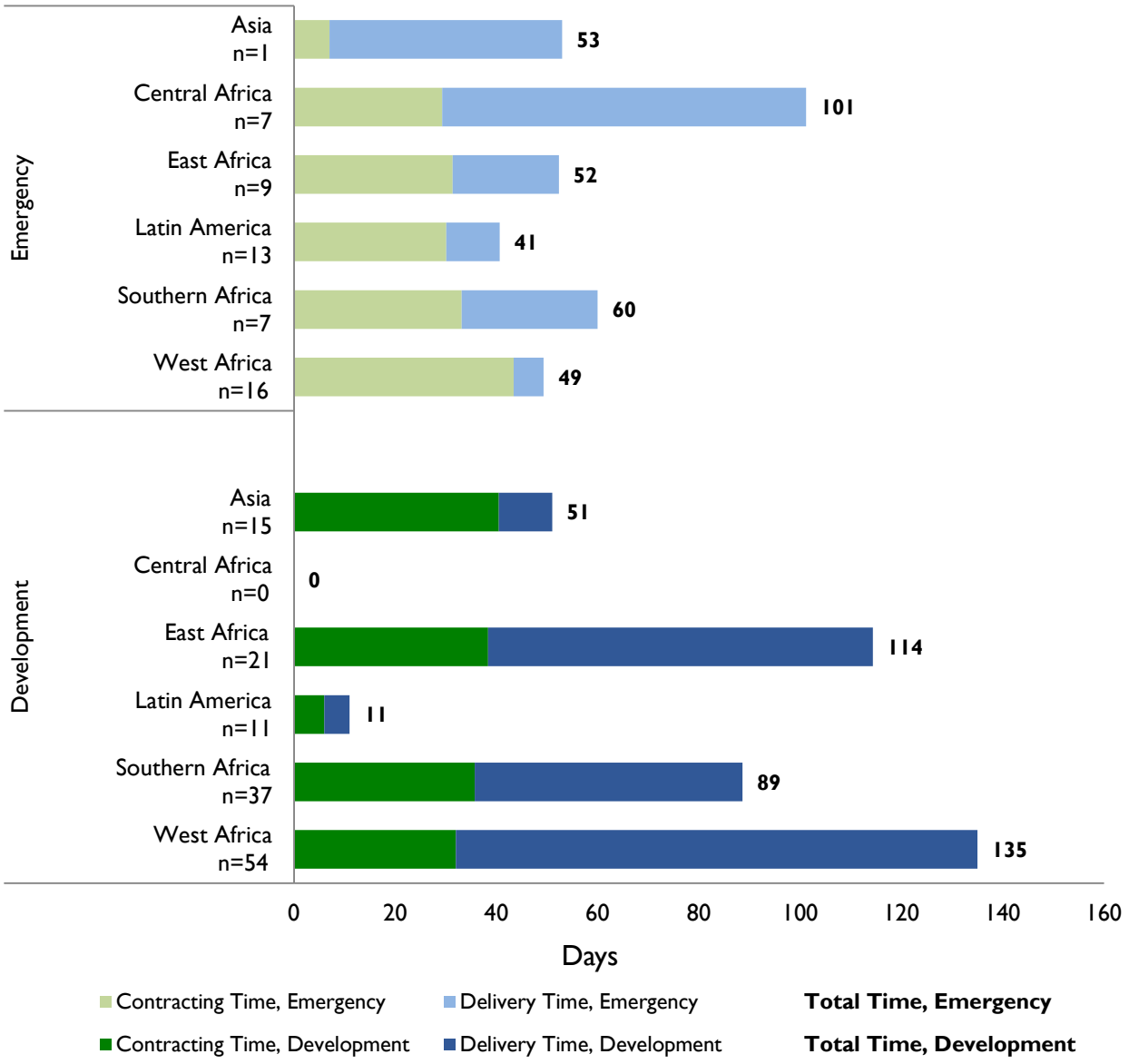
Among the 10 development projects, procurements in East and West Africa took the longest (135 days in West Africa and 114 days in East Africa), reflecting the fact that over 81 percent of procurements in these regions included capacity building with FOs as a significant component of the project. One example is WFP's P4P project in Tanzania, which trained potential suppliers from Savings and Credit Cooperatives (SACCOs). SACCO members received training in contract terms, obligations, quality requirements, and invoicing to prepare them for market participation and contract compliance.

Procurements for development projects in Asia (IRD in Cambodia and Land O'Lakes in Bangladesh) averaged 51 days and in Southern Africa (WFP in Malawi and Land O'Lakes in Zambia), the figure was 89 days. The single Latin American development project (FCF's project in Nicaragua) averaged just eleven days total procurement time. However, that project developed an approach to procurement that favored small, repeated deliveries from smaller but established vendors in the distribution zones. This approach allowed for more frequent deliveries of perishable commodities to improve the nutrition and support the dietary diversity of the schoolchildren who were the targeted beneficiaries. This procurement approach may not be applicable to other types of LRP projects in different contexts.

Figure 4.5 shows procurement times by region for emergency and development project procurements.

[78] As the data are divided by region and development versus emergency projects, some of the categories in Figure 4.5 represent only a few cases and therefore, limited statistical significance of any relationship(s). Another consequence of the small number of projects in a given region is that projects with many procurements, such as WFP Tanzania (described below), can obscure the results of a project with fewer procurements in the same region, such as World Vision Uganda's voucher project. In short, these pilot projects provide too few projects per region for robust regional comparisons.

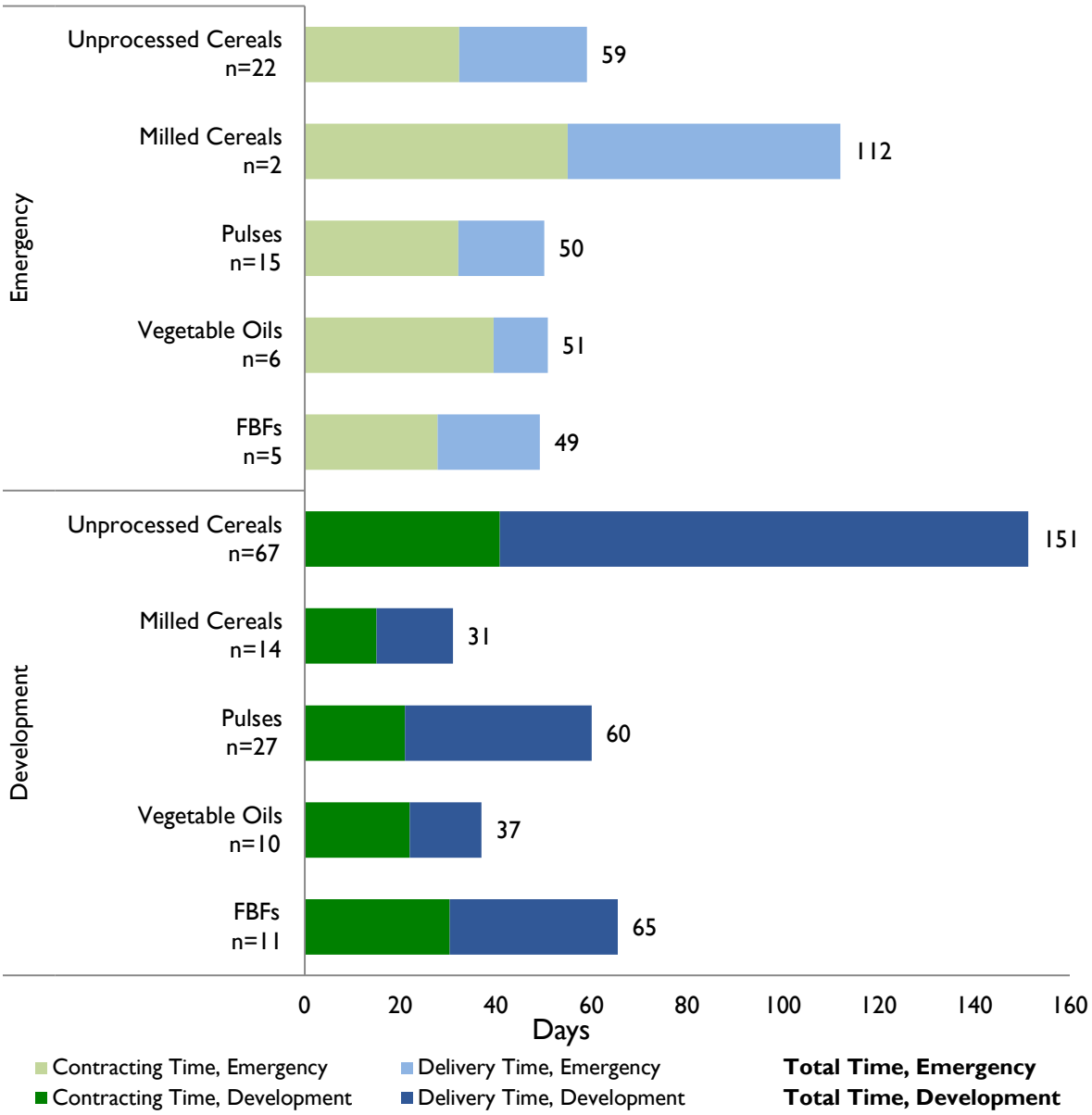
FIGURE 4.5: RELATIVE TIME BY IMPLEMENTATION REGION AND RESPONSE TYPE, IN DAYS



Relative Time by Response Type and Commodity Category

Timeliness in terms of commodity category varies less for emergency projects than for development projects (Figure 4.6). Development and emergency projects' timeliness outcomes are compared on the basis of the commodity category below.

FIGURE 4.6: RELATIVE TIME BY COMMODITY CATEGORY AND RESPONSE TYPE, IN DAYS



The total time to procure cereals was 59 days for emergency projects and 151 days for development projects; the significantly longer procurement time for development projects is due to the prevalence of capacity building activities – 61 of the 67 procurements of cereals by development LRP projects included capacity building activities. The longer period was generally the delivery phase; in some of these capacity building projects, FOs were most often invited to participate at or near the beginning of the planting season to ensure that they would be prepared to deliver contracted amounts some months later at harvest. For development projects, cereals procurements took 86 days longer than FBFs, the next longest total procurement time. The bulk of the development project capacity building took place with cereals producers, explaining much of this difference.

For emergency procurements, cereals took somewhat longer to procure at 59 days, compared to about 50 days for pulses, FBFs and vegetable oils. Two emergency procurements of milled cereals took longest, however, at 112 days. However, these two procurements represent just one project, in the Republic of Congo. This project

experienced a significant delay when the river barge delivering the rice was unable to ply the river due to unexpectedly low water levels. Leaving this case aside, emergency procurements were all between 49 and 59 days.

Development projects, by contrast, showed greater variability in durations for the various commodities. Unprocessed cereals, as noted above, took longest, owing to the capacity building activities with FOs for that category. For the other commodities, total procurement times ranged from 31 days for milled cereals to 65 days for FBFs. Of the latter, the longer procurement time is related to a few direct purchases of FBFs that involved capacity building for a supplier in Zambia. The shorter time for milled cereals (31 days) reflects the faster, smaller purchases of corn flour in FCF's Nicaragua project and fast voucher procurements for the Mali, Uganda and Cambodia programs. The limited number of procurements in these categories limits the degree to which these findings indicate a definitive pattern that can be generalized beyond the direct experience of the USDA LRP Project.

ADDITIONAL CONSIDERATIONS

Infrastructure, climate, and regulations in procurement locations and distribution zones had an impact on timeliness in several cases, as shown by the evaluation team's site visit findings. For example, in the Republic of Congo, procurement staff had to take rainfall into account for transportation, since most deliveries were made through transport on the River Congo, the level of which rises and falls in accord with rainfall. Zimbabwe's requirement that commodities be non-GMO required time for additional testing at a remote site. National laws in Niger prohibit transport in non-Nigerien trucks, requiring extra time at borders to offload from incoming vehicles and re-load onto Nigerian transport. Voucher programs, due to the proximity of the vendors to the beneficiaries, are generally less vulnerable to these factors than projects that transport commodities over large distances. A good example of this was found in Uganda where strong supply markets existed in close proximity to distribution markets.

The characteristics of the suppliers or vendors available for contracting may also affect the time performance of procurements. Projects working with FOs or other smaller suppliers had to ensure that the organizations' production capacity would meet the needs of the project and that the commodities would satisfy contract conditions. For some of these organizations and other smaller suppliers, the contract quantities and qualities were new requirements. While UMCOR's project in Zimbabwe worked with large-scale traders, the project in Zimbabwe required packaging in individual rather than family-size rations, which were unfamiliar to the trader. As the trader had bid based on larger packaging, the contract negotiations for this project took longer and added to the overall contracting phase of the project. When these suppliers are targeted to build local agricultural capacity, capacity building needs have to be taken into account when designing an LRP program. These factors imply the potential for longer procurement timelines.

The participants' length of experience with LRP can affect the time taken to contract and deliver food aid. Observations are limited to those projects visited by the evaluation team, but the responses were consistent with this finding. Of the nine projects visited by the evaluation team, the two projects run by WFP had highly experienced staff and systems, and processes in place for LRP. Two PVO participants reported that there was a steep "learning curve" for their staff in-country, as procurement in-country or in regional markets was a new experience. Other participants, such as World Vision in Uganda, were able to leverage their lengthy food assistance experience in-country to implement the LRP project efficiently. In a group interview with team leaders, it was reported that vouchers required new systems but the organization's experience with food assistance and the target population made innovations possible.

CONCLUSIONS

1) LRP projects designed to meet emergency needs did so with fewer average days from tender to delivery than did development projects.

2) The use of vouchers, both for emergency and development projects, was faster than other methods of procuring and distributing commodities. While it may require examining more voucher projects to determine the conditions under which vouchers are faster than other procurement approaches, it seems reasonable from the perspective of time efficiency to recommend that more of these programs be encouraged in the future. Emergency response projects may benefit particularly from voucher programs' faster total procurement time, given the need for quick response times in emergencies.[79]

3) Purchasing in local markets allowed for speedier delivery because purchases were made close to targeted beneficiaries. Participants collected and submitted the IPP for each of the commodity procurements they made, and in the vast majority of cases, the IPP was much higher than the local price. Thus justified, local procurements also reduced delivery times and supported producers in the project country, and can therefore be used to meet project timelines and development goals, when applicable.

4) The choices made by participants in how to procure and distribute clearly reflect project goals such as capacity building and infrastructure development for development programs and the urgent need to react to food security crises in emergency programs. Hard tendering was by far the most common procurement choice for emergency projects, benefiting from the efficiency of established and experienced suppliers. The longest procurements were carried out in development programs by direct purchases. The length of time reflects the capacity building process in those project designs, rather than any inefficiency of those procurements. The secondary goals of these projects included encouraging participation from less experienced suppliers, those without tendering experience, or those who need support in meeting commodity quality standards. Voucher projects were successfully carried out where market conditions were favorable.

5) It may be intuitive to think that local and regional procurements are fast because of proximity to the beneficiaries, but climate, infrastructure, and regulatory concerns can and do influence food aid procurements—in-kind food aid deliveries, as well as those through LRP—and have to be considered on a case by case basis. These external factors affect timeliness and need to be taken into account during response analysis and in ongoing project decisions.

[79] As discussed in more detail in the market impact analysis chapter of this report, caution must be exercised in response analyses to ensure that voucher programs are used only where markets are capable of efficiently supplying food on the scale required without pushing prices to unacceptable levels.

INTRA-LRP COST COMPARISON

Evaluation question - How much did each procurement cost under the pilot? Were there differences in cost-effectiveness between different LRP approaches?

DEFINITIONS AND METHODOLOGY

This analysis separates costs into two categories: (a) commodity costs, and (b) transportation, storage, and handling (defined in this report as TSH costs although this is not a standard industry term). Commodity costs include the cost of the purchased commodities only. For this section, TSH includes inland freight and road, train, boat and other internal transport, handling costs such as import charges and loading fees, and storage costs such as warehouse rental, fumigation and security. Activity and administrative costs, which are structured differently across participants and are not directly tied to the approach used, are not included in the comparison.

The comparisons presented below examine costs separately for each commodity category – unprocessed cereals, milled cereals, FBFs, pulses and vegetable oils. Both commodity and TSH costs are presented in average USD costs per metric ton across the observed procurements. The averages are weighted by the size of the procurement; in this way, the comparisons account for the difference in cost between smaller procurements (generally more expensive per metric ton) and larger procurements (generally less expensive per metric ton). To answer the evaluation question on costs, the analysis compares costs across commodity categories by response type (emergency or development), procurement approach, distribution approach, and project implementation region.

Voucher programs do not incur storage or handling costs. However, voucher approaches involve other costs that are not associated with direct distribution approaches. These costs include voucher printing, distribution and monitoring costs, as well as costs related to training vendors and beneficiaries in the voucher process. The analysis includes these costs in TSH.

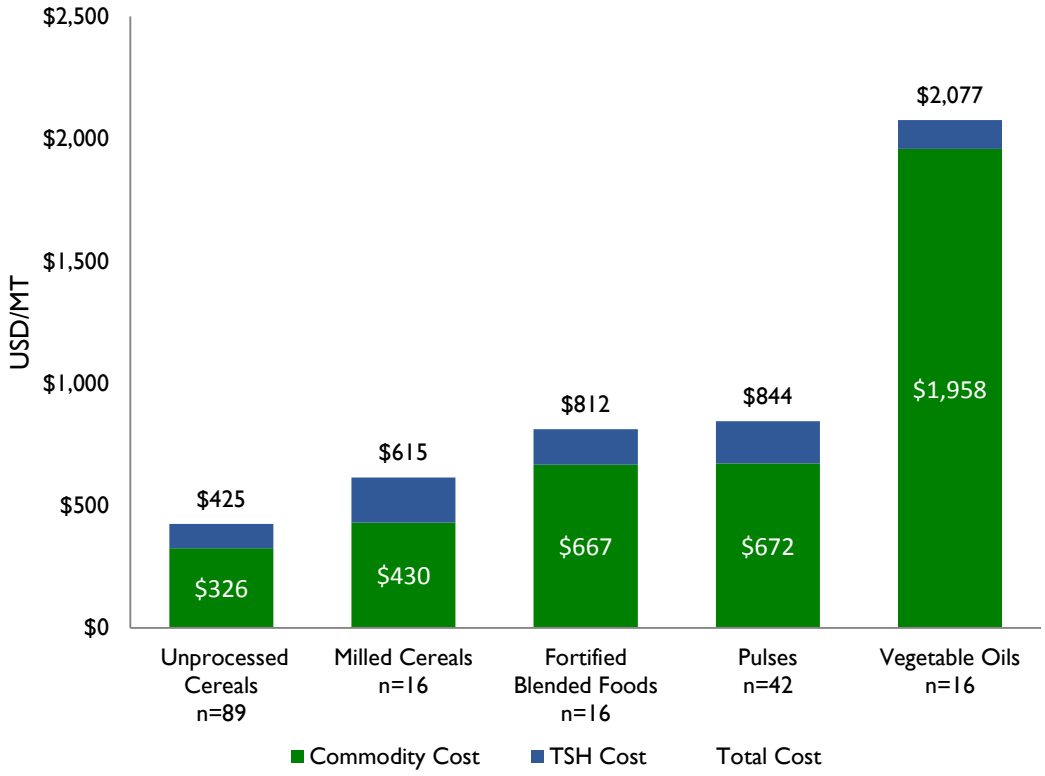
COMPARISONS

For each set of comparisons, the procurements are first disaggregated by commodity category, since cost varies considerably by these categories. Then, weighted costs by category are compared across response types (emergency or development), procurement approaches, distribution approaches, local and regional procurements, and geographic regions. Disaggregating procurements by these characteristics results in a very small number of observations for milled cereals, FBFs, and vegetable oils, as there were only 16 cases of each. When those three commodities are disaggregated by a variable with many values, such as region or procurement approach, the number of cases becomes very small. At such small numbers, this becomes a comparison of one project to another, which limits utility of the comparison in terms of identifying any broader or meaningful trends or patterns. Observed differences when the number of observations is small are less likely to be statistically significant than are observed differences among unprocessed cereals and pulses which represent a greater number of observations.

Relative Costs by Commodity Category

Figure 5.1 shows weighted average commodity and TSH costs broken down by the five commodity categories – unprocessed cereals, milled cereals, FBFs, pulses and vegetable oils. Unprocessed cereals (wheat, maize, millet and sorghum) were the least expensive of all commodities purchased in the LRP projects, and vegetable oils the most expensive.

FIGURE 5.1: AVERAGE COMMODITY, TSH AND TOTAL COSTS, BY COMMODITY CATEGORY, IN USD/MT



Four commodities (vitamin-fortified cereal bars, canned fish, iron-fortified fish sauce and salt) procured by the LRP projects did not fit into any of the five commodity categories. Three of these four commodities were among the more expensive, with weighted average costs of $1,993/MT for vitamin-fortified cereal bars, $2,054/MT for canned fish and $1,762/MT for iron-fortified fish sauce. These commodities were procured very infrequently and are very different from the other commodities. Additionally, dairy and produce were procured only by FCF in the Nicaragua LRP project, and were purchased in extremely small quantities relative to other projects' purchases. Therefore, these commodities are not included in this comparative cost analysis of LRP project purchases.

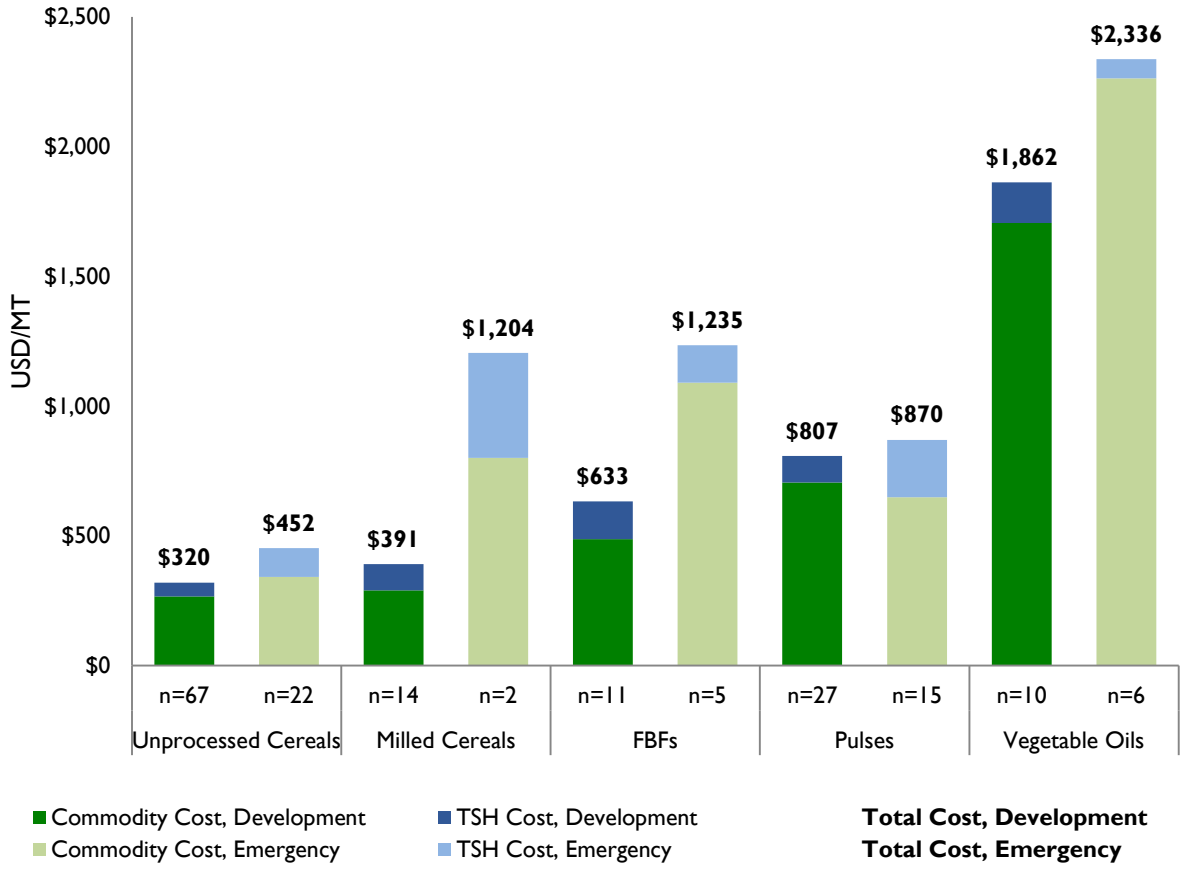
The unprocessed cereals category, which constitutes 72 percent of LRP purchases by weight, includes both the cheapest and the most prevalent type of commodity procured. The low commodity cost of unprocessed cereals means that they constitute only 55 percent by value of all procurements under the LRP Project; this compares with 11 percent for milled cereals, 4 percent for FBFs, 19 percent for pulses, 6 percent for oils, and 6 percent for the "other" commodity category.

TSH costs were also lowest for unprocessed cereals, at $100/MT. The average TSH costs for milled cereals ($185/MT), FBFs ($170/MT), and pulses ($172/MT) were significantly higher. In part, the differences in TSH costs by commodity category may be attributed to the greater average quantity of unprocessed cereals that were purchased with each procurement – 447 MT on average, which would allow for economies of scale compared to averages of 197 MT for milled cereals, 85 MT for FBFs and 134 MT for pulses. Very low TSH cost for voucher programs, where cereals were the predominant purchase, also help to bring down the overall TSH average for that commodity category.

Relative Costs by Response Type

Emergency projects almost always incurred higher commodity costs than development projects, and always incurred higher overall costs. For example unprocessed cereals cost an average of $75 more per metric ton in emergency response than in development projects. TSH costs for these commodities followed the same pattern – generally more expensive in emergency projects than in development. Figure 5.2 illustrates commodity and TSH costs by commodity category and response type.

FIGURE 5.2: AVERAGE COMMODITY AND TSH COSTS, BY RESPONSE TYPE, IN USD/MT[80]



Higher TSH costs in emergency projects result from the immediacy of need and use of regional purchases (with more costly transport) to reach some remote distribution areas. The additional cost for purchases for emergencies may also result from (1) security premiums that may have to be paid for delivery to conflict zones, (2) logistical constraints due to damage to critical infrastructure as a result of a natural or man-made disaster, (3) competition among emergency responders and the commercial sector for transport vehicles, (4) insufficient availability of transport vehicles, or (5) premiums that have to be paid to ensure the rapid delivery of a large quantity of commodities in a short timeframe in order to provide a life-saving response. However, it is perhaps less intuitive that the commodities themselves would also be more expensive in emergency projects. Emergency projects

[80] As noted above, this graph and those that follow do not include the "Other" category of commodities in the comparisons. For this reason, the figures for "n" in this chart total 179, rather than 191 ("Other" category = 12 cases).

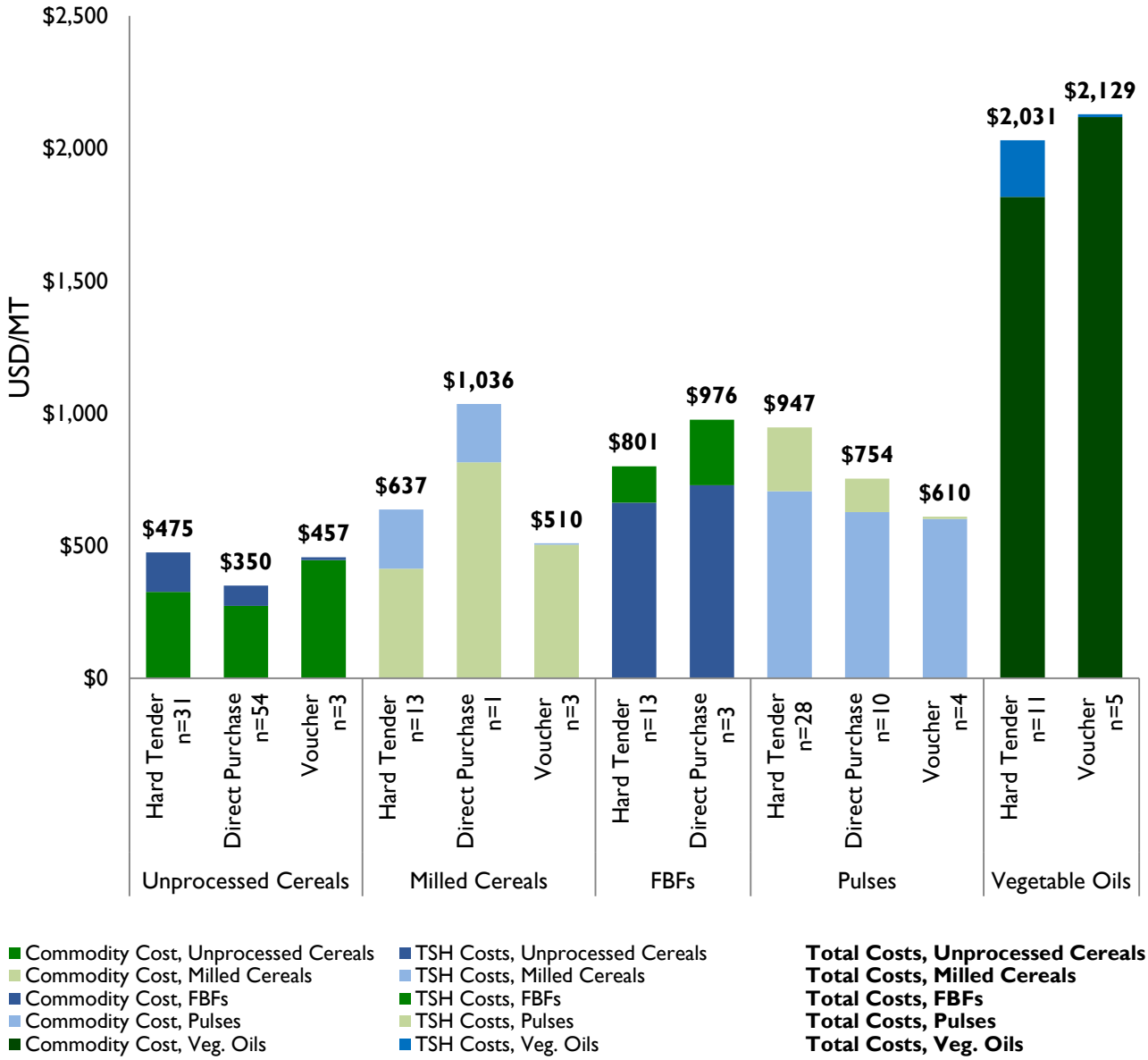
procured more than ten times the amount of unprocessed cereals by weight, on average (1,435 MT), than did development projects (123 MT). It would thus be reasonable to expect that economies of scale would have resulted in lower per-MT commodity costs in emergencies. However, looking at the procurements individually, the emergency cereals purchases were in regions (Latin America and Central and West Africa) with generally more expensive cereals (see Table 5.2, in the section on regional comparisons below). The urgency of emergency supply needs can and does trump cost considerations, making greater cost acceptable under emergency conditions.

Commodity costs for pulses did not vary greatly between emergency and development projects. Milled cereals and FBFs cost a great deal more in emergency procurements than in development projects; however, the small number of emergency procurements in these two categories limits the utility of the comparison for identifying any broader or meaningful trends or patterns. Average TSH costs also did not vary greatly between emergency and development projects, except for two very expensive rice procurements for refugees in the Republic of Congo. In these cases, two procurements of rice were transported by river at high cost, to be supplied to beneficiaries in refugee camps located in remote and difficult to access regions. The high emergency TSH costs shown for milled cereals in Figure 5.2 represent these two unusual cases and thus do not necessarily represent a typical procurement of milled cereals for emergency projects.

Relative Costs by Procurement Approach

Total costs vary considerably across procurement approaches used by the LRP field projects (Figure 5.3). Where there were no procurements of a given commodity by a particular approach, that approach is left out of this table. Soft tenders were excluded, as there were only two such procurements, and as such gave no basis for comparison.

FIGURE 5.3: AVERAGE COMMODITY AND TSH COSTS, BY PROCUREMENT APPROACH, IN USD/MT



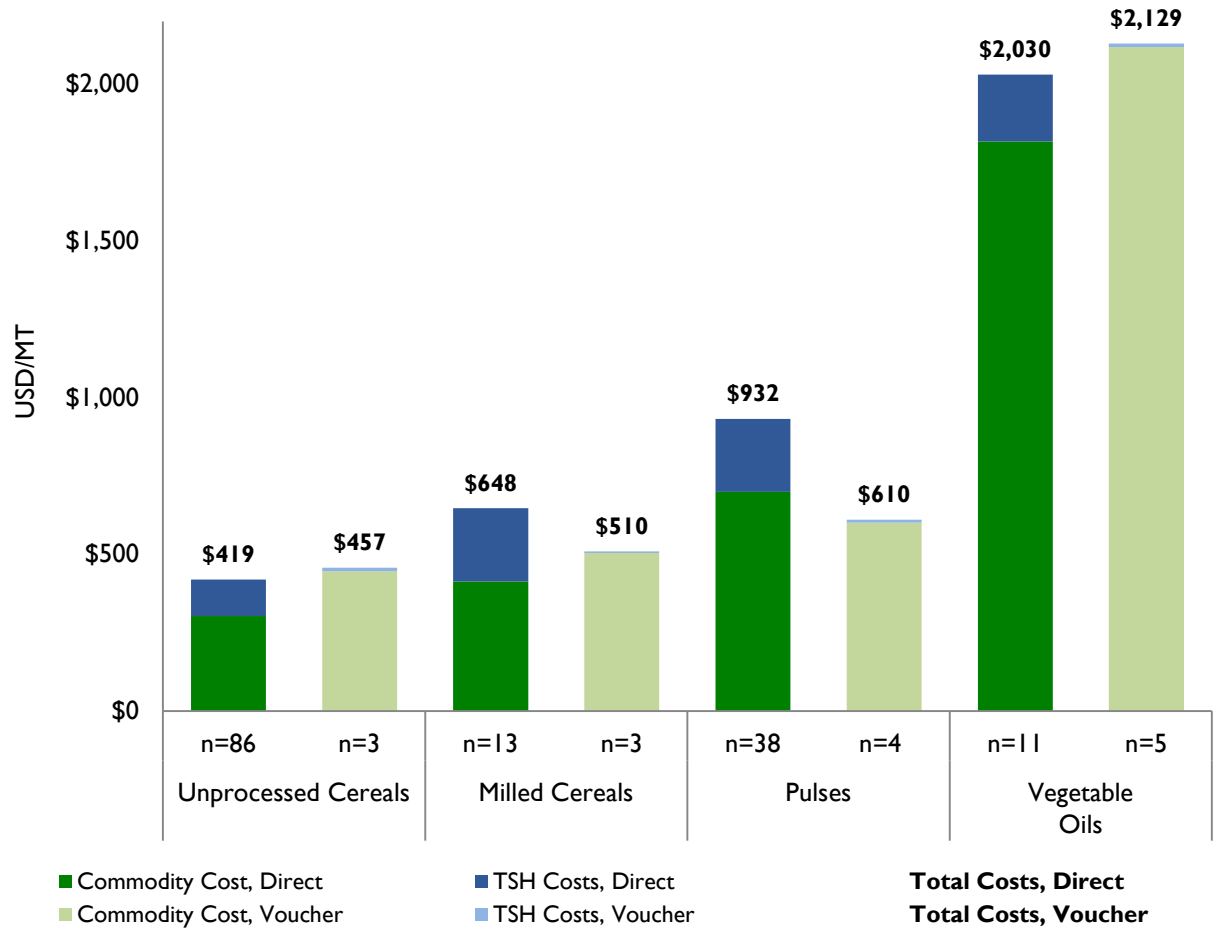
Hard tenders were the most costly approach for unprocessed cereals and pulses, while direct purchases were the least costly approach for those commodities. In contrast, for FBFs, direct purchases were more expensive and hard tenders less expensive, though there are few direct purchases against which to compare. Voucher projects have low overall costs (with the exception of vegetable oils) but commodity costs are often a higher percentage of total cost, because voucher purchases are generally at retail rather than wholesale prices. However, with only six LRP projects using vouchers, more cases are needed to show statistically significant relationships between this approach and the costs paid.

The small number of LRP activities using soft tenders makes it difficult to generalize from the observed results. More study will be required to determine the cost-effectiveness of soft tenders in a variety of situations.

Relative Costs by Distribution Approach

LRP projects distributed commodities directly (145 procurements or 89%) and through voucher programs (18 procurements or 11%) (Figure 5.4).

FIGURE 5.4: AVERAGE COMMODITY AND TSH COSTS, BY DISTRIBUTION APPROACH, IN USD/MT[81]



With just 18 voucher procurements, statistically significant relationships are difficult to establish. However, the limited voucher procurement data do show that LRP projects distributing through vouchers for milled cereals and pulses had lower total costs than did procurements distributing these commodities directly. Average TSH costs for vouchers ($10/MT) were a fraction of those incurred by direct distribution LRP projects ($140/MT). TSH costs for vouchers were defined to capture costs for voucher printing, seeking and training vendors, voucher

[81] This graph does not include the "Other" category of commodities in the comparisons. Also, FBFs are not included, as there were no FBFs used in voucher programs in the USDA LRP Project (and thus nothing against which to compare direct distribution). For these reasons, the figures for "n" in this chart total 163, rather than 191 ("Other" category = 12 cases, FBFs = 16 cases).

distribution, and voucher redemption, but even with these costs included, voucher costs were significantly and consistently lower.

Relative Costs by Procurement Origin (Local versus Regional)

Only ten procurements were sourced regionally: four procurements of unprocessed cereals, two of milled cereals, three of pulses and one of vegetable oil. With only 10 cases of regional purchase, comparisons against the 181 procurements sourced locally show no statistically significant relationship. However, TSH costs for the ten regional procurements averaged more than double that of locally purchased commodities: $230/MT for regional procurements compared to $93/MT for local procurements.

Commodity costs for locally purchased unprocessed cereals averaged $342/MT, compared to those purchased regionally at $248/MT (Table 5.1). Regional procurements of cereals were also several times larger in tonnage than those procured locally; it stands to reason that such large procurements from the larger regional traders would have lower per-ton commodity costs. When total costs are compared, however, the greater TSH costs for regional procurements add up to very similar total costs per MT for local and regional purchases of unprocessed cereals.

For pulses, the overall average costs favor local purchases, by $56/MT, again as a result of much higher TSH costs. However, for both of these comparisons (unprocessed cereals and pulses), there were very few regional purchases. More cases are needed to show statistically significant relationships between procurement origin and costs paid.

TABLE 5.1: AVERAGE COMMODITY AND TSH COSTS FOR UNPROCESSED CEREALS AND PULSES, BY LOCAL VERSUS REGIONAL PROCUREMENTS, IN USD/MT

	Area of Origin	Average Commodity Cost	Average TSH Cost	Average Total Cost	Average Quantity
Unprocessed Cereals	Local (*n=85*)	$342	$86	$428	386 MT
	Regional (*n=4*)	$248	$164	$412	1,745 MT
Pulses	Local (*n=39*)	$720	$110	$830	129 MT
	Regional (*n=3*)	$530	$356	$886	565 MT

Relative Costs by Region of Procurement

An examination of the costs of unprocessed cereals by region (Table 5.2) reveals that the average commodity cost per MT was highest in Latin America and lowest in Southern Africa; the costs of milled cereals followed the same pattern. Average commodity costs for pulses by region were lowest in West Africa, where cowpeas were procured for emergency and development projects. In Latin America, commodity costs for LRP projects' red beans were highest. TSH costs are high for Central Africa, and two projects from this region did purchase regionally, contributing to these higher TSH costs. For example, TSH costs for the LRP project in the Republic of Congo were among the highest of all procurements, because river transport to remote refugee camps became particularly costly when the level of the river fell and transport barges had trouble passing.

TABLE 5.2: AVERAGE COMMODITY AND TSH COSTS FOR UNPROCESSED CEREALS AND PULSES, BY REGION, IN USD/MT

Region	Unprocessed Cereals			Pulses		
	Commodity Cost USD/MT	TSH Cost USD/MT	Total Cost USD/MT	Commodity Cost USD/MT	TSH Cost USD/MT	Total Cost USD/MT
Asia	$276	$80	$356	*	--	--
Central Africa	$380	$370	$750	$817	$407	$1,224
East Africa	$268	$49	$316	$675	$53	$727
Latin America	$495	$49	$544	$1,081	$133	$1,213
Southern Africa	$220	$93	$312	$633	$161	$793
West Africa	$405	$67	$472	$503	$50	$553

** There were no pulse purchases in Asia from among the LRP pilot projects.*

Commodity costs for FBFs show an overall average of $667/MT, but looking at the individual projects shows how different projects with different goals and commodities incurred the range of costs in the category. Costs for CSB in Kenya ($674, East Africa, emergency project) and for CSB plus in Malawi ($441/MT, Southern Africa, development project) were lower than the overall average, while costs of FBFs in Guatemala ($1,593, Latin America, emergency project) and for HEPS in Zambia ($812, Southern Africa, development project) were higher than the overall average. With few procurements on which to base the comparison, project conditions and regional cost differences are masked in the average cost for FBFs.

The average total costs per MT for unprocessed cereals varied less than other commodities across regions. Least expensive were the mostly maize grain procurements in Southern Africa at $220/MT. The most expensive were those in Latin America, where maize grain costs averaged $495/MT. These costs are consistent with regional variances in INTERFAIS data. However, the latest data available from INTERFAIS were from 2009, and the project costs were incurred in 2010 and 2011.

Average TSH costs for unprocessed cereals were highest in Central Africa at $370/MT, which had two emergency projects procuring regionally, while East Africa and Latin America had very low average TSH costs for unprocessed cereals of under $50/MT each, and among procurements in these regions there were no regional purchases.

ADDITIONAL CONSIDERATIONS

Competitive tenders should support lower costs as vendors offer their best prices to win the tenders. A majority of procurements through LRP were sourced competitively – just over half (51%) of all procurements were hard tenders; another three percent were soft tenders. Voucher projects were nine percent of all procurements, since beneficiaries could choose from among competing, approved vendors. The remaining 37 percent of procurements were direct purchases, generally for development projects such as buying from FOs.

Participants' level of experience affected the cost required to procure. In World Vision's Uganda project, the participant had a strong presence on the ground, knowledge of the context and experience with food assistance and cash transfer programming. Though this was the project's first food voucher program, it set up a strong monitoring and redemption system that included tight audit controls and allowed for smooth operations once the project was in motion. Despite fuel cost spikes, speculation during political campaigns, and competition from an

influx of buyers into Eastern Uganda to purchase goods, World Vision's average costs for voucher procurements (such as cereals at $247/MT) are at the low end of the range ($446/MT for voucher-purchased cereals overall) in the evaluation data. Similarly, IRD Cambodia's long experience in the province where the LRP project worked allowed the project to take advantage of procurements at the provincial level, at lower cost per MT than in the capital for both commodities and transport.

Host government market involvement also affected costs in some cases. In Zambia, the Food Reserve Agency (FRA) purchased unprocessed maize grain from farmers at a subsidized price that was higher than what farmers could get in regional market centers. During the election season, this practice was so widespread that milled maize prices – from processing companies supplying the LRP project – were lower per MT than the subsidized price of unprocessed maize grain. The evaluation team attempted to access data on the extent of purchases and sales by the FRA through various sources but was not successful.

CONCLUSIONS

1) In emergency projects, the need to get food to beneficiaries in a timely manner may give participants less flexibility in choosing the most cost effective procurement options (e.g., procurement approach, regional or local procurement, etc.). Consequently, procurements for emergency projects generally experienced higher commodity and TSH costs than development procurements. For procurement expediency, emergency projects most often use hard tenders.

2) Participants considered cost in their selection of commodities and sources. Reviewing import parity pricing is one approach to assess the cost of purchase options, with the aim of conserving project funds and purchasing under the best competitive conditions. Another way participants could reduce costs was to determine which types of available commodities were in surplus and which were not, and then to select substitute commodities. Mercy Corps' Niger project procured maize from outside the project distribution zone, rather than millet from the distribution zone, to avoid pushing up local prices. Without practical substitutes or when purchasing sufficient supply on the local or regional market would unduly affect costs for low-income consumers, in-kind aid may be a more appropriate response.

3) Local procurement was deemed the best alternative in the great majority of LRP projects, providing foods beneficiaries knew well while maintaining low costs. On average, locally purchased commodities cost slightly more than their regionally sourced equivalents, but with TSH costs included, the local procurements were less costly on average. When IPP costs were favorable to costs in recipient countries, and local purchases were not possible or could have had negative effects on markets, participants used regional purchases. Purchasing regionally in well-integrated, surplus markets and from larger-scale, more established suppliers can be the most economical option that also "does no harm." Additional factors may make regional commodities cheaper: bulk purchases from formal, large-scale regional suppliers are generally cheaper; and areas with successful regional supply businesses are likely to have good roads serving that zone (to evacuate the zone's annual surplus), helping to ensure transport at reasonable costs.

4) The choice of procurement approach has implications for costs in LRP projects. The limited experience of six voucher projects in the USDA LRP Project indicates that vouchers have been a relatively low-cost option for procurement; vouchers also give beneficiaries the ability to choose between foods in a way that best meets their households' needs and to personally select the quality of food they want. These sales take place at the retail level and may therefore have higher commodity costs at times, but that was not true across all of the LRP voucher projects. LRP participants chose to use a voucher program in areas with greater market integration, such as the northern areas of Uganda where food availability is less an issue than is access. In such areas, retail prices are subject to greater price competition, resulting in lower costs

for some commodities – such as unprocessed cereals and milled cereals – through the voucher programs. Very low TSH costs for vouchers also keep the overall costs for this approach low.

5) Hard tenders can often take advantage of low commodity costs by purchasing from larger, established suppliers competitively; though this was not always so in the LRP projects. Across a range of commodities and conditions, hard tenders remained an important and economical approach in many circumstances. Soft tenders and direct purchases can foster market participation among FOs or other targeted groups.

6) Transport, storage and handling costs varied with procurement approach, though voucher projects had lower TSH costs than projects using any other type of procurement approach. Voucher programs had low operational costs related to vouchers (printing of the vouchers, etc.), compared to those incurred under non-voucher procurement approaches. They also had low explicit TSH costs because the approved vendors and their wholesale suppliers take care of these before the beneficiary buys the food.

MARKET IMPACTS

Evaluation question: *To what quantifiable extent have the LRP projects contributed to increased prices or price volatility in the markets in which the procurement took place and, if observed, what conditions contributed to adverse market impacts?*

INTRODUCTION

Local or regional procurement has the potential to cause three types of market impact: price change, price volatility, and change in the structure, conduct or performance of markets. Increased demand in procurement markets might generate price spikes; procurements might create uncertainty about the likelihood and timing of further procurements, disturbing patterns of buying and selling that lead to greater price variability; sustained procurement could create the basis for new or bigger companies or favor particular companies that grow faster than their competitors and enjoy economies of scale. The evaluation team's analysis largely restricts itself to the first of these impacts, mentioning findings pertaining to the other two when they arise.[82]

The assessment focuses on impact in the markets where commodities are procured, as opposed to the markets where they are distributed, because this is what distinguishes LRP from in-kind food aid purchases. Analysis of procurement markets is more complex, because of the generally wider market catchment areas and the possibility of multi-country contributions to supply, and impacts are therefore more diffuse and more difficult to detect. In contrast, distribution market impact is bounded and localized (and therefore more easily detectable) and takes place where project staff are present for other reasons (and can hope to collect more and better quality data).

Price changes are rarely unambiguously good: producers see higher prices in a different light than consumers. The goal of this analysis is to identify price change, not to comment on its merits, either generally or in a given case.

The null hypotheses are that LRP does not noticeably raise prices but that, if it does, the impact is ephemeral. The first hypothesis suggests that any impacts may not be discernible above the price volatility of developing country agricultural markets caused by the seasonality of supply, weather variations beyond standard seasonality, government policy and interference in markets, demographics and rising incomes, to name just a few. The second hypothesis is easiest to propound for small, isolated procurements and more difficult to defend as procurements become multiple, frequent and large: overlapping, large and persistent procurements are more likely to create complex price variation and present different measurement challenges.

In addition to its central task of evaluating the extent to which data collected provides evidence of price changes attributable to LRP, this assessment will also consider the roles of regional vs. local procurement and the effects of different procurement approaches, and competitiveness in procurement, as factors that may alter price changes detected, as well as the impact on beneficiaries and low-income consumers. Beyond the appraisal of the impacts encountered, the assessment considers the projects' approaches to collection of price data, calculation of import parity price, and choosing control markets and data sources; as well as the extent of government interference in food markets. It concludes with lessons learned from the pilot on conducting market impact assessments.

[82] A single procurement (or distribution) from an LRP project may cause a price spike or drop unless countered by compensating mechanisms. By definition, the spike or drop increases price volatility. Beyond this simple case, volatility should increase with successive LRP market interventions, perhaps in a non-linear fashion depending on synergies between them. Disentangling volatility due to a given combination of LRP interventions requires econometric analysis with a relatively long time series of market prices, which the evaluation team did not have the resources to do. Therefore this market-impact assessment does not generally addresses this issue. Separately, in practice, most changes to the structure and/or conduct of markets, and thus their performance, require more than a few months of food aid to establish, so the working hypothesis is that the LRP pilot project did not have the power to cause such change. The only possible example encountered of this phenomenon was in the WFP project in Malawi where farmers declared that they would change their production system to meet WFP's procurement regime but this is attributed more to WFP paying higher than market prices than to the project procurement changing market conduct. If WFP's project changes the market structure it will be through its multi-year commitment to this model.

METHODOLOGICAL APPROACHES

Ideally, an econometric analysis of long time series of price data for affected commodities in their procurement and nearby markets would form the basis for market price impact assessment. Cornell University used this approach on behalf of the Learning Alliance supported by USDA, primarily applying multiple linear regression to data from a subset of the LRP countries and projects. Cornell University staff and graduate students collaborated with project participants to ensure adequate data collection for these countries and projects.[83] To fully specify the econometric models, data collected covered not only prices but also exogenous variables such as rainfall, inflation and economic growth indicators. Not all LRP participants were members of the Learning Alliance; and so some did not use the market impact methodology and data collection tools developed by Cornell University. The evaluation team's assessment did not have the means to replicate the Cornell University approach and did not want to reinvent the wheel, but USDA ensured that the evaluation team had access to the results of these econometric analyses.

This pilot project embraced different institutional settings, tasks and approaches. Each individual project was different in terms of countries, markets and commodities; several were *sui generis*. Despite USDA's efforts to standardize reporting, shoehorning projects' market impact results into a common framework posed challenges. The raw material for the evaluation team's assessment varied significantly from project to project and comprised various combinations of: Learning Alliance results, other dedicated market impact reports with their individual approaches, sets of limited market price data around purchase dates, diverse secondary data sets, and the elasticity approach outlined below. In light of quantitative evidence that was sometimes vague, limited or ambiguous, the evaluation team also considered evidence brought forth by key informants and analytical arguments propounded by the participants, where these existed.

The sections that follow first describe the visual analysis of price data used by the evaluation team, followed by a description of the approach using the short-term price elasticity of supply. The evaluation team assumes that the explanation of the price elasticity of supply will be least familiar to readers and so is explained in some detail though it is not used in the analysis of each project's market impact.

Visual Analysis

The evaluation team looked at graphs of time series price data and tables of procurement timing for price deviations that LRP might have caused. Price rises (for procurement) or drops (for distribution) were sought that synchronized with purchases (or distributions), perhaps with a lag. The analysis ideally sought at least three months of price data before and after the purchases in order to provide a broad context for assessing any LRP-induced price change. The null hypothesis of no market impact implied that any LRP-induced market impact would probably take place well within three months, but a longer time series provided context – mostly showing seasonal trends – in order to interpret any observed deviations. The longer time series also allowed any sustained food procurement impacts to show up, presumably with decreasing magnitude over time following the purchase. In keeping with the null hypothesis, the evaluation team flagged only price changes that stood out above the background price fluctuations. In practice, this meant that any price spike visibly coinciding with the procurement date or immediately following it was considered as a possible market impact candidate. Available information on normal seasonal price trends was taken into account where available in an attempt to avoid attributing to LRP what was, in fact, a predictable seasonal phenomenon.

The Price Elasticity of Supply

This second, complementary methodology asks the question: how much would the price of a given commodity in a given (procurement) market be expected to change in response to additional demand due to LRP? If the

[83] Barrett, C. B., Lentz, C.E, *et al*, (2012). "Final Report: A Multidimensional Analysis of Local and Regional Procurement of US Food Aid." Cornell University: Ithaca, New York.

expected change in price is greater than the normal variability in prices observed in the price data then it is reasonable to assume that the procurement from the LRP project affected prices.

In the short run, before the market can adjust structurally, the quantity that the existing market can supply at a given price (i.e., the supply curve) will entirely determine the extent of a price change corresponding to an increase in demand. The price elasticity of supply (equation 1) for a given market describes this relationship.

$$\eta s = (\Delta Q/Q) / (\Delta P/P) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

where ηs is the price elasticity of supply, **ΔQ** is the change in supply to the market (in this case the extra quantity suppliers make available to satisfy project procurement demand), **Q** is the (pre-LRP) market throughput, **P** is the (pre-LRP) measured price level, and **ΔP** is the change in price attributable to LRP. The price elasticity is thus a measure of the percentage change in supply in response to a percentage change in price. **ΔQ** is the size of the procurement through LRP and known from reports of the LRP project, **P** is the pre-LRP price from primary or secondary price reports, and estimates of ηs for different markets are readily available in the economics literature. Sometimes **Q** can be measured directly but more frequently it is derived from estimates of marketed agricultural surpluses and market connectedness, though this process faces problems of seasonal variation and of definition of the market catchment area. Thus the equation (1) can be solved for **ΔP**, the expected impact of LRP on prices. The estimated procurement-driven price increase (**ΔP**) must rise prominently above the normal variation in prices observed in the price reports to be detectable and distinguishable as phenomena that matter economically. For instance, if a procurement increases market throughput of a commodity by 1 percent and the price elasticity of supply is 0.50 then equation (1) predicts a price increase of 1 percent/0.50 = 2 percent.

In the long run, markets can adjust structurally (e.g. farmers can change production patterns) and the quantity of a commodity the market can supply in response to a price change increases. However, the average lifetime of USDA's LRP projects was less than one year which, in terms of structural adjustment in agricultural markets, represents the short run. Therefore, over the course of the LRP projects, market structure remains essentially fixed and short-run price elasticities of supply are applicable. Table 6.1 provides a range of short-run price elasticities for commodities of interest to LRP and applicable to developing countries.

Inspection of Table 6.1 reveals no substantial differences across continents in the values of ηs. The analysis therefore uses the median values from those available to operationalize equation (1), unless – as in the case of Zambian maize – a specific value for the country and crop in question are available. Thus the analysis adopts: +0.16 for sorghum, +0.23 for maize, +0.26 for rice, +0.33 for wheat, and +0.40 for cooking oil. Values for beans or peas are not available, so the team chose an average value of +0.25.[84] Values for salt, sugar or vegetables or for processed foods, such as dairy, canned fish, or corn soy blend are likewise not available and therefore the evaluation did not apply this methodology to them but these collectively account for less than 10 percent of the amount of food procured under the USDA LRP Project.

[84] Extrapolating from the results of a literature search, Xinshen, D. et al. (2008: 34-35) choose to make a model they built coherent by using in an agricultural supply function with an own-price elasticity of +0.40 for pulses but, more pertinently, they also quote a 17-country average of +0.20 for the own-price elasticity of pulses. It would seem that the latter value is closer to the empirical reality. See: Xinshen, D. et al. 2008. *Accelerating Africa's food production in response to rising food prices: impacts and requisite actions.* IFPRI, discussion paper 00825, November. Further, considering theoretical determinants of supply elasticity, such as factor substitution possibilities, available spare production capacity, and available stocks) there is little to distinguish cowpeas from maize or rice, with median short-term elasticities of supply of +0.23 and +0.26, so an intermediate figure of +0.25 is adopted.

TABLE 6.1: SHORT-TERM OWN-PRICE ELASTICITIES OF SUPPLY USED FOR FIVE COMMODITIES, BY COUNTRY OR CONTINENT[85]

Sorghum	Nigeria	0.16
	Ethiopia	0.16
	Pakistan	0.20
Maize	Africa	0.07
	Latin America	0.10
	China	0.23
	Pakistan	0.27
	Zambia	0.51
Rice	Africa	0.03
	Nigeria	0.10
	Cambodia	0.24
	China	0.26
	Pakistan	0.31
	Asia	0.28
	Côte d'Ivoire	0.57
Wheat	Pakistan	0.23
	China	0.33
	Ethiopia	0.52
Cooking oil	"Africa or developing country"	0.40

These values of **ηs** are derived from data specific to market conditions for a given commodity, place and time. Many depend on time series of prices that go back to the mid-20th century. In particular, they depend on the degree to which the markets in which researchers collected price data were linked to other markets. Market integration is an important issue in this elasticity approach. Consider two extremes. If equation (1) is applied to an autarkic market, unconnected to others, the **(ΔQ/Q)** due to an additional imposed demand, **ΔQ**, is limited by the **Q** that the market's catchment area can bring forth in response to **ΔP**. In contrast, if it is known that the market is embedded in a market network where market information travels freely, trucking is flexible and roads are good, and trade in foodstuffs takes place competitively, then arbitrage will increase **Q** as traders quickly bring food from further afield in response to the higher price. The values of **ηs** in table 6.1 come from analysis of a variety of markets intermediate between these extremes and integrated to a range of degrees, though they are dated: they depend on time series of market prices spanning several decades.

Market integration has improved over the last few decades in the countries in which LRP projects took place. Although civil strife and flooding may significantly reduce market integration in specific cases, in most areas road transport has improved markedly and the mobile phone has enhanced the availability of market information. It is less certain whether market competitiveness (i.e., the absence of oligopoly) has improved over time, though in none of the LRP countries does the team have reason to believe that it has deteriorated. Overall, therefore market responsiveness to the LRP-induced **ΔQ** will be stronger in the sense that market traders will bring more food from further afield than they would in the past, boosting market throughput, **Q**, in equation (1). The higher **Q**, the lower **ΔP**, so it is certain that increased market integration over time leads to lower price responses to LRP. Thus the

[85]Food and Agricultural Policy Research Institute, Iowa State University, Ames, Iowa, http://www.fapri.iastate.edu/; Yu, B and S. Fan 2009.*Rice production responses in Cambodia*. IFPRI, discussion paper 00939, December; Morgan, L. 1989. *Pakistan wheat policy* issues, special EAD project briefing paper, Islamabad, August 23 (citing Mubarik A. 1988. *Supply response of major crops in Pakistan: a simultaneous equation approach*. EAN project special report no. 11, Islamabad); Zhuang, R & P Abbot 2005, *Price elasticities of key agricultural commodities in China*, July; Dorosh, P et al. (2007). *Regional trade and food security: recent evidence from Zambia* monograph, September; Benin, S & R Walusimbi 2004. *Impact of the BIDCO oil palm project on the existing oilseed production and processing sector*, IFPRI, June; Abrar, S. c2003, *Estimating supply response in the presence of technical inefficiency using the profit function: an application to Ethiopian agriculture*, Leicester, monograph.

evaluation team may take as a maximum the value of **ΔP** calculated when solving equation (1). In other words, the market impact due to LRP will be less than equation (1) suggests.

Econometric techniques, particularly co-integration analysis, allow quantified estimates of market integration but the current study did not benefit from the resources to gather data to perform such modeling. However, the team could study how prices for given foods vary in different markets across a zone or country, looking for price rises and falls that take place in synch across these markets. Such patterns provide evidence of spatial market integration. And the team could gather information about market structure and conduct: low barriers to entry, many market operators, low transaction costs and good market information suggest a competitive market system. Where the evidence points to high levels of market integration, the team can be confident that, on average, equation (1) overstates the value of **ηs**, the size of the price elasticity. which in turn will result in an overly large estimated LRP market impact. Where, in addition, the evaluation team may have evidence that market integration has improved over, say, the last decade, the team can be even more confident that LRP impacts are less than equation (1) suggests.

In a totally integrated market, additional supply will immediately flow into the marketplace in question and continue to do so until it brings the price back into line with other markets in the reticulated system. In this case, **ΔP** = 0. In practice, the rise in **Q** may not be immediate and will be limited by transactional costs but, for many of the LRP projects, it is realistic to suppose fast market inflows to redress the supply-and-demand balance and these inflows can be particularly large if traders anticipate that **ΔP** will persist.

At a minimum, for LRP, the evaluation team can often estimate **Q** from the population of the immediate catchment area around a given market and consumption norms for a given foodstuff. With this estimate of **Q**, knowledge of **ΔQ** from LRP project reports and of **P** from primary or secondary sources, and values of **ηs** from table 6.1 the team could generate a maximum value of **ΔP** that can then be lowered to the extent that the team knows that markets are integrated enough to bring forth greater supplies from further afield.

A limiting factor in the evaluation team's analysis was the availability of prices series to which to compare the estimated **ΔP**. The team sometimes lacked three months of price data before and after the purchase and therefore could not compare the estimate of LRP-induced **ΔP** to the trend and variation due to other factors.

The use of the price elasticity of demand complements the visual inspection approach. Given the procurement date and the estimated size of the procurement-induced price rise (calculated using the equation for the price elasticity of supply), the evaluation team judged if a price rise of that magnitude would be noticed in the context of price changes before and afterwards (using visual inspection).

Evaluation Methodology

As noted above, the evidence for market impact varied between LRP projects, making a uniform methodology impossible. Almost all projects had some price data for at least one commodity. The evaluation team worked with various lengths of data series of variable frequency, sometimes just three price points (one week before and after procurement, as well as on the procurement date itself). For some of these markets there existed comparable prices for control markets that should have experienced no LRP effect. Data availability sometimes varied by foodstuff within the same project, usually because of a dependence on secondary data sources. For other projects, the team benefited from the detailed Learning Alliance econometric studies. Finally, the team balanced the market impact thus implied or revealed against testimony from local informants (market operators, beneficiaries, etc.) and from implementing partners, where such testimony existed.

The balance between differing criteria introduced a subjective element into the assessment: it became clear that the evaluation team could not justify using a common weighting system across all projects. Consequently, the specific analytic approach taken for any particular LRP country, market, or procurement depended critically on the specific data available for that particular project. In some cases, compelling evidence would come from one source alone; more often the picture was more nuanced, with various pieces of evidence combining or competing to explain the

likely impact level. Information from interviews with participant staff, traders, beneficiaries, and other market stakeholders, gleaned during the team's field trips to LRP projects, informed the analysis.

The net result was a heterogeneous evaluation where it was not possible to "compare apples to apples" but rather to evaluate the potential market impact of each project (and foodstuff) on the balance of the evidence. The evaluation team classified each outcome as "confirmed," "probable," "possible," or "unlikely." At one extreme, "confirmed" corresponded to a clear pattern of market impact demonstrated by empirical criteria; at the other, "unlikely" represented the opposite: a complete absence of market impact. Between these extremes, market impact was "probable" if at least one source of evidence suggested it and no others contradicted this; it was "possible" if at least one source of evidence suggested it, even if others contradicted this. For some projects, data availability limited analysis to certain commodities. For many projects, the market impact finding was the same across commodities, though not always.

OTHER METHODOLOGICAL CONSIDERATIONS

Establishing Procurement Origins: Who Benefits?

Evaluation of the market impact of procurements through LRP (and thus who benefits and who is harmed by any change in price) presupposes knowledge of the identity of the upstream markets where the agricultural commodities entered the supply chain. This is not always the case. Sometimes market chains cross national boundaries. Even where they do not, substantial research may be required to establish the principal sources of the foodstuffs. This is often true of LRP voucher projects because the participant is not directly involved in the procurement logistics while the participating small traders may have a limited perspective on a long, multi-branched supply chain. They rarely keep records and they have little incentive to invest in product traceability.

Winners and losers from price changes are also not easy to identify. In most African countries, many small farmers supply staples to the market. Whether they are net sellers or net buyers, the impact on farmers of any LRP-induced price increase will depend on the timing of the price increase relative to when the farmer is buying or selling. Higher prices in the harvest season, when most farmers are selling, are more likely to benefit farmers than price increases during the lean season, when farmers are more likely to be buying. In fact, LRP-induced price increases in the lean season are likely to benefit only those with the capacity to have held or accumulated stocks. Establishing which farmers are net sellers – and are therefore likely to benefit from any price rise attributable to LRP – should go hand in hand with an assessment of those who are net buyers – and who thus lose when prices rise. Further, those farmers who sell their surpluses to the market generally do so during limited post-harvest sales seasons when prices are low and some may end up buying food back from the market at a later date when prices will probably be higher. If LRP creates a price rise during seasons other than the harvest season the winners may be almost entirely the traders who bought farmers' staples and the losers will be households who have to buy food in the market.

The net impact is the sum of the changes in welfare due to price rises attributable to LRP on the part of (a) traders along the supply chains involved, (b) the farmers supplying the traders and (c) the consumers facing higher prices of food, each weighted by the price rise occurring at their part of the supply chain. Practical analysis cannot easily integrate all these elements but establishing where a price rise attributable to LRP is detectably different from the background noise of market price fluctuations, as well as the magnitude of that price rise, at least indicates the extent and size of the impact.

Establishing the Purchase Date

Procurement is a process that results in purchase. Money changes hands as part of purchases, making the purchase the economically meaningful event that might provoke discernible market impact. So when an LRP participant contracts with a supplier to deliver a quantity of food, the procurement impact takes place when the supplier buys that food, not when he delivers it to the participant. However, if an LRP participant's supplier buys the food from

a variety of sources, perhaps in another country, before delivering it, tracking each purchase date may be impractical; the same is true for an LRP voucher scheme that depends on many small traders redeeming beneficiaries' vouchers, even if each trader buys from a single source in the same country. Thus identifying the purchase date can be problematic.

Moreover, USDA did not require LRP participants to document their suppliers' purchase dates. USDA did require them to note dates for various other procurement events – tender launching, contract signing and delivery of food – but these do not, in themselves, directly provoke market impact (though they may provoke such impact via anticipatory or lagged effects).

This raises the question of how to determine impact by comparing the timing of LRP purchases to price trends revealed by primary or secondary time series price data. The analysis requires a proxy for the purchase date. In the absence of knowledge of the purchase date(s), options are the signature date, the delivery date or some point in between. The signature date would be appropriate if suppliers purchase at some earlier time, particularly just after the harvest, and then meet LRP demand largely from stocks. Traders who manage same-day deliveries are almost certainly selling from a stock position rather than buying only when they have a contract in hand. On the other hand, the delivery date would be a better proxy if traders meeting LRP demand do so largely without stocks and act in the belief that they can buy enough in the market to meet the order. Such traders would have every incentive to deliver the commodity as soon as they bought it, to avoid storage charges and minimize payment delays. If an even mix of the two approaches characterizes the LRP suppliers, the midpoint between the signature date and the delivery date would provide a better estimate. The evaluation team chose the signature date as its standardized measure of time of purchase knowing that, in many cases, traders sold existing stocks.[86] However, this was not always true and may be a source of error in some cases. Compared to the other approaches, using the signature date was computationally simple, particularly when the trader made deliveries on several dates to fulfill contractual terms. In a few cases, the evaluation team's analysis uses shipping dates, where these are available and they seem a better estimate of the purchase date.

However, focusing on obtaining accurate purchase dates may be misplaced if the frequency, accuracy and completeness of the price data to which to compare them are insufficient. As USDA protocols recorded signature dates, the evaluation team had access to these for all projects, but the range of price data available varied considerably in period, frequency, commodity coverage and market chain level.

FINDINGS

Analysis of 20 projects' market interventions could neither confirm nor find probable that any of them caused market impact in procurement markets.[87] For all commodities procured for which there existed enough information to evaluate market impact, the analysis concluded that 15 projects were "unlikely" to have caused any impact and that 3 had "possibly" caused an impact. A further two projects fell into the "unlikely" category for two commodities and into the "possibly" category for another.[88] Among the vendors interviewed during site visits, six reported that their purchases did not affect the overall market and that if prices fluctuated; it was because of seasonality, transportation costs, and the supply and demand cycle after a harvest.[89] Table 6.2, below, summarizes these findings; Annex 3 contains the appraisal for each project.

[86] Table 6.3 indicates that 45 percent of projects procured through big traders, who generally sell from existing stocks.
[87] A reminder of the evaluation criteria (from "Evaluation methodology adopted" above): We classified each outcome as "confirmed", "probable", "possible" or "unlikely". At one extreme, "confirmed" corresponded to a clear pattern of market impact demonstrated by empirical criteria; at the other, "unlikely" represented the opposite: a complete absence of market impact. Between these extremes, market impact was "probable" if at least one source of evidence suggested it and no others contradicted this; it was "possible" if at least one source of evidence suggested it, even if others contradicted this.
[88] The assessment covered all procurements of major staples, where possible. The assessment did not deal with commodities from the "Other" category. Where there was not enough data to form a judgment the evaluation team omitted it from its project ratings for market assessment.
[89] Site interview data from Cambodia, Uganda, Guatemala, Mozambique and Zimbabwe

Table 6.2 also includes measures of data availability (in terms of the number of data points in available time series and of the presence of market throughput data that facilitated operationalizing elasticity analyses) and analyzability (a subjective judgment of the quality of the available data). Cases with "below average" analyzability were the most difficult to classify. Note that cases categorized as of "below average" analyzability are not necessarily classified as "unlikely" to have caused market impacts but the error associated with this categorization is higher than for others.

The only discernible pattern to explain what separates the "possible" from the "unlikely" cases is year of project funding. All five projects with at least one "possible" case were 2010 projects and none were projects from 2009 or 2011. This association was moderately statistically significant ($p = 0.06$) but probably spurious as there seems no plausible mechanism that would create this pattern. More non-African projects had at least one "possible" rating but not significantly so ($p = 0.60$). More non-WFP projects had at least one "possible" rating but again the statistical significance was low ($p = 0.29$). Both variables can be discounted as explanatory factors determining market impact.

TABLE 6.2: SUMMARY OF MARKET IMPACT FINDINGS

	Data availability		Analyzability (related to data quality)			LRP impact on market prices for any purchased commodity			
Project	Applicable data points	Market throughput	Above average	Average	Below average	Con-firmed	Probable	Possible	Unlikely
Bangladesh Land O'Lakes	3			X					X
Burkina Faso CRS	3			X				X	
Cambodia IRD	3	X			X			X[1]	
Cameroon WFP-2	6-9	X		X				X	
Chad WFP	7, 6				X				X
Congo, Rep. WFP	3, 12	X	X						X
Guatemala CRS	12, 615				X			X[2]	X[2]
Kenya WV	12, 3			X					X
Malawi WFP	0			X					X
Mali CRS	6,4	X	X						X
Mali WFP-2	3	X		X					X
Mozambique WFP	25, 10, 8			X					X
Nicaragua FCF	0				X[3]				X
Niger MC	0		X						X
Niger CRS	0			X					X
Pakistan WFP	0				X[4]				X
Tanzania WFP	12				X				X
Uganda WV	8				X				X
Zambia Land O'Lakes	17, 18	X	X					X[5]	X[5]
Zimbabwe UMCOR	26, 16, 3	X		X					X

Notes:

1. Cambodia: price impact possible for canned fish only.
2. Guatemala: The evaluation team's assessment for black beans is "possible" but is "unlikely" for maize and Incaparina.

3. Although FCF provided an extensive data file with Nicaragua price data, internal inconsistencies in the data precluded meaningful analysis.
4. Purchase from Pakistan government. Impact on prices assessed without data or independent analysis.
5. Zambia: "possible" for beans; "unlikely" for maize and cooking oil.

Nor did size of budget significantly distinguish projects by "market impact" ranking. The five projects with at least a "possible" rating for at least one commodity had average budgets of $2.0 million, about two-thirds of the average budget of $3.1 million of the "unlikely" projects but a logistic regression analysis found no statistical significance to the relationship ($p = 0.23$). Indeed it would be odd if this relationship were significant because one would expect projects with larger budgets, procuring larger amounts of food, to have a higher probability of provoking market impact. The majority of vendors interviewed in site visits (67%) stated that the purchases made for their LRP contracts represented very small percentages of the total supply available, indicating that the LRP projects were small enough that any effect would be extremely small.[90]

Impacts on Producers and Suppliers

Projects utilized a variety of types of producers and suppliers, as summarized in Table 6.3.[91] Through various contractual mechanisms, discussed in the next sub-section, projects bought food from FOs, small-scale traders, large-scale traders and governments. Furthermore, some of the large-scale traders supplied through commodity exchanges.

FOs may not currently be the most efficient suppliers of food to the market but it is important to foster a commercial orientation among farmers that encourages them to pool their resources, achieve economies of scale, and collectively increase the value-added they draw from their labors. Their supply is often a learning process in which it is worth investing, rather than the best organized of the options available. In contrast, for cost-effective procurement, it is often appropriate to use large, formal-sector traders, often with a regional reach, who enjoy logistical proficiency and may have their own fleets of trucks to ensure timely deliveries. Large traders disproportionately make use of commodity exchanges that allow transparent bidding on various scales. These are an increasing feature of procurement in Eastern and Southern Africa where regional tenders can use a network of exchanges. Voucher schemes are of little interest to large-scale traders because they do not generally want to spend time dealing in retail quantities to individual households, but small-scale traders generally have an incentive to fill this niche.

[90] Site visits in Zambia, Guatemala, Uganda, Mozambique and Uganda. Twelve vendors responded to this question.
[91] Please note that the projects are categorized here by the supplier type used most in each project, by expense. Several projects did purchase from different types of suppliers. WFP Tanzania procured the bulk of commodities from farmers' organizations, but did make one procurement from government reserve stocks. Although FCF Nicaragua bought fruits, vegetables and dairy products from FOs, it also bought small quantities of other foods via the Nicaraguan commodity exchange. Land O' Lakes Zambia bought a small quantity of high-energy protein supplement directly from a small, community-based organization to support the development of their processing capacity. CRS Burkina Faso bought its vegetable oil from large processors, though its major purchases took place through FOs. Other instances in which projects procured from multiple supplier types are discussed below.

TABLE 6.3: PRIMARY SUPPLIER TYPES USED BY LRP PROJECTS

Supplier Type	Projects Procuring Primarily from These Supplier Types		Approximate Amount Spent by Supplier Type, in Millions of USD	Percentage of Total LRP Field Funding by Supplier Type
Farmers' Organizations	CRS Burkina Faso CRS Mali WFP Mali	FCF Nicaragua WFP Tanzania	5.9	12%
Small-scale Traders	IRD Cambodia WV Uganda	CRS Niger	9.1	18%
Large-scale Traders	Land O'Lakes Bangladesh WFP Cameroon CRS Guatemala MC Niger	WFP Chad WFP Rep. of Congo World Vision Kenya UMCOR Zimbabwe	21.1	42%
Commodity Exchanges	Land O'Lakes Zambia WFP Mozambique	WFP Malawi	8.8	17%
Government	WFP Pakistan		5.7	11%
TOTAL			50.6	100

Note: Figures are approximate, and are based on project totals for the majority of purchases.

Various findings emerged for each of these different categories of supplier:

Large-scale traders:

- Forty-five percent of the projects relied on large-scale traders to supply their needs. In the case of Land O'Lakes' project in Bangladesh, the contractors were manufacturers, rather than traders, producing manufactured cereal bars for school feeding. As described in Annex 2, the cereal bar was a new product with attractive packaging; its production clearly honed manufacturing skills.
- Large traders, for instance those supplying contracts to UMCOR in Zimbabwe, noted greater profits over the period of the projects.
- In Kenya, World Vision encountered hard bargaining from one of its two large suppliers which, in the context of fast-rising prices, forced an upward revision of previously agreed contractual prices, but it is not clear that smaller traders would have behaved any differently.
- Although, in Guatemala, CRS had started trying to use FOs, these organizations could not provide enough food of adequate quality, so the project switched to a larger-scale trader, which could supply its needs.

Commodity exchanges:

- Land O'Lakes Zambia used a large trading company that won its tender by a bid through a commodity exchange: the Zambian Agricultural Commodity Exchange (ZAMACE). The impact on ZAMACE appeared to be purely short term: LRP did increase exchange turnover, but this increase appeared to be short-lived. Only three of a total of sixteen procurements received more than two bids.
- WFP's project in Mozambique procured from large-scale traders through the Agricultural Commodity Exchange (ACE) in Lilongwe, Malawi. This approach was used for one of its four procurements, for maize, and accounted for over 75 percent of the total quantity of all commodities procured. WFP in Malawi also used this commodity exchange.

- In Nicaragua, FCF purchased some food through the Bolsa Agropecuaria, S.A. (Nicaragua's commodity exchange, known by its initials in Spanish as BAGSA), but traders were not interested in supplying the small quantities it sought.

Small-scale traders:

- Three projects (15%) procured through small-scale traders via voucher schemes.
- Traders supplying the CRS project in Niger were unambiguously enthusiastic about their participation. Their sales had increased significantly and they had hired staff to deal with the extra sales. Some had opened bank accounts that they would not have done without the project.
- In Uganda, small-scale traders reported increased profitability over the course of the LRP project. However, the Ugandan traders also noted a longer-term impact: they had reinvested some of their LRP profits in working capital and increased stocks and had also improved their record-keeping systems and banking activity. Smaller-scale seed companies in Uganda also benefited from increased exposure to the returnees assisted by the World Vision program.
- Land O'Lakes conducted a survey in Zambia and found that its distributions of maize meal had a negative impact on local hammermillers. As a result, the project modified its procurement and distribution plans, switching from maize meal to maize grain and also distributing vouchers for milling services.

Farmers' organizations:

- WFP and CRS used local procurement as a developmental tool to build the capacity of African FOs to supply the market in Burkina Faso, Mali and Tanzania. This approach provides multi-year opportunities for technical and managerial development of FOs, to which LRP contributed over the course of one or two years.
- In Latin America, FCF also procured via FOs in Nicaragua.
- Projects using FOs as suppliers experienced a higher default rate than other types of projects, as explained in the *Commodity defaults* sub-section below. There is a trade-off between long-term institutional development and short-term supply of food to LRP projects.

Government:

- In Pakistan, WFP bought wheat from the Pakistani government's grain reserve. The purchase took place at a subsidized rate that was internationally competitive at the time, via a direct purchase arrangement.
- WFP bought maize in Tanzania from the National Food Reserve Agency (NFRA) when two FOs could not assemble the contracted quantities promised. Given immediate program needs, WFP was able to make the purchase for 802 MT without a pipeline break. Moreover, one of P4P's core activities is purchasing commodities from smallholder farmers, and the NFRA was able to show that the grain WFP purchased was also supplied by smallholder farmers or FOs.

Table 6.3 gives a sense of the distribution of procurements by type of supplier, but it is somewhat oversimplified. Most projects procured from more than one supplier, but all suppliers were from the same supplier category (as defined in Table 6.3). IRD's project in Cambodia was one exception, using small traders for a voucher scheme and large traders for competitive bidding and direct purchases. Table 6.3 does not reflect the large-trader element. Similarly, WFP Mozambique made two maize procurements from large traders via ACE in Malawi, as Table 6.3 shows, but two other contracts went to large traders bidding through other means. Likewise, WFP in Malawi used the ACE, but it also procured from FOs, small-scale traders and food processors, which Table 6.3 does not show.

Procurement Approaches

The degree of competition in LRP activities depends to some extent on the procurement approach for purchasing foodstuffs. Derived from Table 3.1, Table 6.4 shows which projects used hard and soft tenders, direct purchases and voucher schemes. For the most part, large formal-sector companies win hard tenders, which tend to be larger and thus to enjoy economies of scale. When using soft tenders or direct purchases, participants compromise their logistical efficiency, for instance, by specifying smaller minimum quantities that might allow smaller market actors to win market share. Soft tenders or direct purchases might be explicitly targeted to, say, FOs in order to promote their ability to function efficiently in the market. Voucher schemes give beneficiaries the responsibility to choose their purchases from approved traders. Under most voucher programs (but not all), there is a fairly high degree of competition among participating vendors.

Table 6.4 shows that eight local-procurement projects used more than one procurement mechanism, with the other local-procurement projects using only one of the four procurement mechanisms. All regional procurement took place through hard tenders. WFP projects covered the gamut of combinations used, except vouchers. In contrast, CRS used vouchers in three of its four projects. Mercy Corps Niger was the only project to use vouchers denominated in volume and weight; the others listed used vouchers denominated in local currency.[92] WFP Mozambique was the only project to procure both regionally and locally. The evaluation team noted no instances of regional direct purchases or regional voucher schemes. Overall, the range of procurement approaches and the geographic scope allowed the exploration of a diversity of LRP options, fulfilling the goal of the pilot project.

[92]A single trader redeemed the Mercy Corps Niger project's vouchers denominated in liters of cooking oil and grams of salt. Wherever direct distributions of maize and cowpeas took place, beneficiaries also received vouchers for these two commodities, immediately redeemable at the stall of the trader, who attended all such distributions. This voucher system thus lacked the element of choice that most observers consider a key justification for the use of vouchers over direct distributions: the voucher served merely as a certificate justifying the bearer's right to fixed rations of these two commodities.

TABLE 6.4: PROCUREMENTS BY PROCUREMENT APPROACH AND PROJECT/COUNTRY

	Project	Procurement approach				Total
		Hard tender	Soft tender	Direct purchase	Voucher purchase	
Local	Bangladesh Land O'Lakes		4			4
	Burkina Faso CRS	1	1		1	3
	Cambodia IRD	6		2	3	11
	Cameroon WFP	3				3
	Guatemala CRS	13				13
	Kenya WV	9				9
	Malawi WFP	10	1	10		21
	Mali CRS	2			3	5
	Mali WFP			46		46
	Mozambique WFP	1				1
	Nicaragua FCF	8		3		11
	Niger CRS				3	3
	Niger MC	9			4	13
	Pakistan WFP			1		1
	Tanzania WFP	12		5		17
	Uganda WV				4	4
	Zambia Land O'Lakes	13		3		16
TOTAL		87	6	70	18	181
Regional	Chad WFP	2				2
	Rep. Congo WFP	2				2
	Mozambique WFP	3				3
	Zimbabwe UMCOR	3				3
TOTAL		10	0	0	0	10

Competition in Contracting

The evaluation team did not identify any evidence of collusion in bidding. Indeed, most hard and soft tenders received multiple bids. For instance, WFP Cameroon issued hard tenders and received nine bids for its maize tender and eight for its bean tender, while WFP Chad's hard tenders received ten bids for cowpeas in Niger and seven for maize in Cameroon. UMCOR Zimbabwe received seven bids for maize, five bids for yellow peas, and three bids for vegetable oil. In Niger, Mercy Corps issued a mix of 13 hard and soft tenders for which 11 received at least nine bids. However, the remaining two tenders elicited only three bids and one bid, respectively. CRS Guatemala's hard tenders received 2 – 3 bids for fortified flour, 2 - 14 for white maize, 3 – 14 for black beans.

Some hard tenders took place via commodity exchanges. Through ACE, WFP in Malawi received 3 – 7 bids per tender. It also launched soft tenders with 3 – 5 bidders. In contrast, competition for Land O' Lakes' tenders in Zambia, conducted through the ZAMACE, was relatively low. Only three of sixteen procurements received more than two bids; six received two bids; seven received one bid. Land O' Lakes tried to increase the number of bids by publishing tenders so as to attract bids from non-ZAMACE members, which resulted in bids from different

actors. FCF Nicaragua made two purchases through BAGSA, but both of these purchases were small relative to other buyers' volumes and the number of bids is not known.

Land O' Lakes Bangladesh faced only three likely processors when designing tenders for the production of its cereal bar for school feeding, a new and unfamiliar product. So it used a two-stage approach. Two of three pre-qualified processors bid in a limited-competition first round. The second round used negotiated prices based on competitive bids and established "indefinite quantity" style contracts that allowed the placing of delivery orders. The two-stage process enabled the processors to build their production capacity, thus ensuring a reliable and timely supply of cereal bars to the target schools and meeting quality standards.

Participants used direct purchases to meet specific goals for which tenders, hard or soft, were inefficient instruments. WFP Tanzania made direct purchases to encourage new groups or those needing capacity building support before competing on the open market. Land O' Lakes Zambia directly purchased high energy protein supplement in order to support the development of a medium-scale, community-based processor. FCF Nicaragua carried out small, direct purchases with vendors offering pinolillo[93] and corn flour, in addition to BAGSA commodity exchange purchases of larger amounts of these commodities.

In other cases, direct purchases allowed capacity building that was an important goal in parallel with obtaining food for LRP beneficiaries. In Burkina Faso, CRS identified FOs able to supply millet, then spent time negotiating with them to establish realistic quantities for each to supply and discussing the price, before reaching a purchase agreement. WFP's P4P invested similar effort in several countries to establish achievable contractual conditions for LRP supplies that would meet WFP's needs. FCF Nicaragua also made some direct purchasing agreements with FOs selected on their ability to deliver.

Where markets are functioning well, voucher schemes allow beneficiaries to choose their own food (within limits) from the local market and allow targeted beneficiaries to use the existing market to do the procurement that participants would otherwise do. CRS Niger ran a voucher scheme in seven markets with 38 approved vendors whom it required to have a registered business and a bank account, which led some traders to open bank accounts. These informal-sector traders operated on a small enough scale to be attracted by retail sales. There is no reason to believe that the voucher scheme generated collusion that raised retail prices because project staff verified that the approved vendors sold at the same price for vouchers and for cash and that they sold at the same price as non-approved vendors in the same marketplaces who sold only for cash. Their incentive for participation seems to have been the significant increase in their sales levels.

Participants may link voucher schemes to public works. When this happens, households receive vouchers in return for work done to create or improve infrastructure. In Niger, this might take the form of erection of barriers to stop shifting dunes or of water-capture structures to limit rainfall runoff; in Cambodia, it might be the digging of irrigation ponds. In Niger, back-of-the-envelope calculations suggested that the benefits from these public works were of the same order of magnitude as the food distributed via the vouchers. Local interests could capture such benefits if not monitored. In Niger, government agents monitored public works, partly for this reason but mostly to ensure that they were well constructed.

Impacts on Program Recipients and Low-Income Consumers

Consumers in the catchment zones of procurement markets may suffer as the extra demand raises prices. However this report has concluded that, though there are some possible price rises in these markets, none is probable.

Consider now the consumer in the distribution market. Although the analysis of market impact due to procurements shows that the impact of LRP purchases was negligible, it cannot be assumed that this will be so for distributions. To the extent that they are geographically localized, targeted LRP distributions are more likely to provoke market impacts than procurements carried out through LRP. It may be supposed that extra food arriving in a limited area might reduce local market prices through decreased demand, perhaps sustainably through the rest

[93] Pinolillo is a sweet cornmeal and cacao-based traditional drink in Nicaragua.

of the season due to ongoing targeted distributions. Thus, in addition to the increased welfare accruing to the targeted beneficiaries of the distribution, their neighbors, the non-beneficiaries, simultaneously received indirect benefits due to prices lower than they would otherwise be in the local market (stemming from the lower demand from beneficiary households). Low-income non-beneficiaries would particularly welcome this.

In Niger, the evaluation team heard beneficiaries of MC Niger distributions explain how the maize and beans they received was like a second harvest, how they did not need to buy food in the local market during the period of distributions, and how market prices for staples had fallen there. Although non-beneficiaries in the village did not receive food aid, they received the lesser advantage of lower prices of staple foods in the market.[94] In Zimbabwe, LRP beneficiaries reported that food distributions generally reduced the amount of piecework they performed on local farms. They also explained that they spent less money on food. Instead, spending was shifted to education and other household goods, such as soap and salt. The voucher system used in Uganda increased food availability in the communities where beneficiaries and low-income consumers lived. It led to traders opening new stores near voucher distribution sites to capture the business of those who had more money to spend on non-staples. The existence of these shops may have made purchases easier and/or may have increased retail competition, to the benefit of beneficiaries and non-beneficiary low-income consumers alike, to the extent that they had the means to purchase from them. The evaluation fieldwork showed that these voucher based shops generally closed when the project finished.

Some project reports comment on the market impact (or its absence) for procurements, but not for distributions. Among those that specifically comment on distributions, statistical analysis finds no significant effect on local market prices due to distributions in Bangladesh, Cambodia, Nicaragua, Niger and Zimbabwe. In Niger, beneficiaries commented on benefits unrelated to price from CRS' voucher scheme: they enjoyed autonomy to choose which commodities to purchase, the quality of those commodities, and consistent, sufficient supply. In Malawi, one retail price spike directly preceding a delivery of maize of less than half the size expected, may have impacted the distribution-zone market, although this seems unlikely and maize prices remained below the government's price floor.

OTHER ASSESSMENTS

Choosing Control Markets

Factors other than LRP purchases cause changes in market prices. Price changes occur due to other exogenous factors, such as seasonality, rainfall deviating from typical seasonality, specific large procurements (including non-USDA-funded LRP), sales from government food reserves, and civil unrest. Without the possibility to control explicitly for these factors using econometric modeling, an alternative technique is to monitor prices for other markets selling the same LRP commodity but not subject to procurement: unless these control markets undergo other different exogenous influences, divergences in their price profiles for the LRP commodity may be attributed to the LRP purchase. This would be most noticeable where traders made large LRP purchases in small markets.

Most projects made an effort to gather enough primary and secondary data to provide a set of controls for analysis. However, for some projects control markets were a luxury. For example, in the Democratic Republic of Congo, the WFP office in the Republic of Congo encountered significant problems even getting price data from the procurement market. For other participants, they were an afterthought to be dealt with through a search to see if secondary data existed: WFP Mozambique found that it had good maize prices for distribution and control markets in distribution zones but lacked bean prices for these markets. Similarly, it lacked good bean prices for procurement and control markets in the bean procurement zones within Mozambique (and it depended on WFP databases for procurement and control markets for maize and bean prices in Mozambique's neighbors).

[94] The evaluation team did not interview local market traders to establish positive or negative impacts of the food aid, of either permanent or temporary nature.

Data Sources

Project data for the analysis of market impact falls into three categories: principally prices gathered by or for the project (primary price data); secondary price data that had been gathered for other reasons by other organizations, usually governmental; and other data collected by or for the project, including various dates of contractual importance and transactional quantities. In addition, the evaluation team independently gathered secondary data, mostly prices, when in the field and from online sources.

The extent and format of projects' primary price-data collection varied according to data availability, the perceived difficulty and cost of collecting data, (particularly data from outside the distribution country, where applicable), the grasp that project managers had of the importance to USDA of the need for price data in procurement, in-house skill sets and competing priorities. A participant implementing more than one LRP project did not necessarily have a single approach to data collection. One participant collected no price data in one country, collected local but not regional price data in another and, in a third, made partly successful efforts to collect price data for a remote regional procurement.

For reasons of logistical ease, most projects gathered data on prices of food aid commodities in distribution markets where they had a presence anyway. In contrast, procurement zones presented difficulties of knowing the lie of the land, the language and the important markets, as well as the organizational problems of sending staff or hiring consultants to gather the data. It was clear that projects in Niger, which saw themselves as implementing local – rather than regional – procurement, had no intention of sending project staff into Nigeria, Benin or Burkina Faso to monitor prices of commodities that clearly originated in those countries.[95] Nor did they try to hire consultants to do this work or find secondary data that might have been more easily available. But they were not alone in this. WFP had an advantage in this respect because, with offices in many countries and the mindset of an international organization, it can more easily arrange logistics for trips to neighboring countries.

Some countries have limited data-collection capacity for secondary food-price data. Republic of Congo is a good example, as is the Democratic Republic of Congo from which the Republic of Congo project bought its rice. Understandably, most countries have stronger data-collection capacities for commodities of national importance so, for example, maize prices are widely available in Sahelian countries, in Central America, and in Southern and Eastern Africa. In contrast, there is a thin market for processed food supplements and so market data for these are few and far between. Price data for salt and cooking oil may be available from the government agency that constructs the consumer price index but not alongside prices for sorghum at the ministry of agriculture, so the project may limit itself to tracking the prices of grains and pulses that constitute the lion's share of the project budget.

To the extent that wholesale and retail markets do not follow the same price trends, wholesale price data are more appropriate for procurement markets and retail data for distribution markets but, as participants discovered, the choice may not exist. Sources of price data in most countries are the ministries with responsibility for agriculture, commerce, trade, planning and finance. They differ in their geographic coverage, their interest in retail or wholesale prices, the degree to which they make prices public and the speed with which they do so. Some charge for their data. Government agencies' agents generally collect data weekly or more frequently, they often supply monthly averages, which is not optimal for assessment of market impact. Ministries of agriculture in the Sahel tend to focus on retail prices, which are best known because of radio broadcasts, but generally there is a parallel collection of wholesale prices in a smaller number of markets by ministries responsible for business, trade, planning or finance (though, with a focus on formal reporting, these ministries may release their data with significant delays). Project staff's instinct was to source secondary data from government agencies when it might have been easier to obtain

[95] Mercy Corps Niger procured its maize through a Niamey-based trader, but he bought the maize in Benin; another Niamey-based trader won the contract to supply cooking oil, but bought it in Burkina Faso. CRS Niger's voucher-based project allowed approved traders to source foodstuffs through their normal supply chains. For six of seven markets, these lay in Nigeria for all commodities other than cowpeas. Low-income consumers in Niger and in Nigeria, Benin, and Burkina Faso who were not targeted for food assistance could have been disadvantaged by price increases due to the purchases. Conversely, surplus producers in the same countries might have gained. However, the evaluation team visiting Niger did not pursue these trans-border issues, limiting itself to impacts within Niger itself.

them from the FAO website (which has comprehensive arrays of wholesale and retail prices), but for reporting it was probably quicker to obtain recent data in-country. In this case, retail prices were more readily available.[96]

The evaluation team found that direct conversations with market actors, project beneficiaries and non-beneficiaries, and other key informants in the field provide a quick and effective way of getting an independent perspective on how markets are affected by different factors, including procurements and distributions.

Trade-offs in Economizing on Data Collection

USDA required PVO participants to gather market prices in procurement markets on the purchase date and also one week before and after. This light, low-cost data-collection requirement may be appropriate to gather data about a single purchase or distribution. However, if a resulting price change extends beyond one week, such collection does not capture the full impact. In addition, if several purchases or distributions take place, market actors' expectations may change in a synergistic way that successive rounds of three data collections may not capture. And the larger the purchases or distributions, the more prominent this synergism may be. Econometric analysis completed by Cornell University as part of the Learning Alliance found impacts over the scale of two months after maize procurement in Zambia, this period significantly exceeding the three weekly observations centered on the purchase.[97]

Prices for Procurement in Other Countries

World Vision's Ugandan voucher-based project collected prices in procurement markets within the country and UMCOR's Zimbabwe regional-procurement project obtained prices in South Africa (where large formal-sector suppliers provide these data relatively easily). However, other projects in which value chains extended across borders into economies dominated by the informal sector did not have systems in place to collect primary data on procurement prices at those sources.[98] Some made efforts to collect these data through secondary sources; others found the task excessive and concentrated on collection of prices in markets relevant to distribution. All procurement had taken place by the time the evaluation team arrived in the field and the team also found the process of hunting down farmers who had sold commodities into LRP value chains in other countries impractical. The evaluation team largely limited itself to interviews with traders in the project countries,[99] and analysis of available secondary data from some producing countries.

Limits to Attribution of Market Impact

Traders may buy agricultural commodities speculatively without having a firm buyer. For instance, WFP Mozambique bought over 3,500 MT of maize from a company in Malawi, but on the date that it won the tender to supply the maize, the company already had more than 4,000 MT in stock that had it assembled without knowing that it would win this tender. It then drew from these 4,000 MT to meet this LRP order. This procurement cannot be ascribed directly to LRP: the company could easily have ended up selling this maize to another buyer. Any market impact associated with the company's purchase of this maize can be attributed to the workings of the market as a whole, but not specifically to the LRP project. Very similarly, traders may meet LRP demand from existing stocks that they happened to be holding when they concluded an LRP deal and that they might have ended up selling to another customer. By way of example, WFP Mozambique bought cowpeas from a

[96] The FAO website (FAOSTAT) provides good historical data on producer prices of most common food aid commodities. However, it's not up to date: in April 2012, the site had price data up to 2009, though some of this consisted of annual average prices, e.g. maize for Kenya and rice for Pakistan. USAID FEWSNET has monthly retail price data collected from government agencies, which it updates monthly for its bulletins. For instance, for the Sahel FEWSNET has prices in about half a dozen major markets in the countries where it has representation, covering major cereals and for diverse other products but not, for instance, cowpeas. These data are not available to the public, presumably because of agreements about data sharing with the government agencies concerned. FEWSNET collaborates with WFP, which should have access to this data and possibly more.

[97] Barrett, C et al. 2011. *The estimated price impacts, timeliness, cost-effectiveness and recipient satisfaction of the local and regional procurement (LRP) of food aid: Land O' Lakes, Zambia*. Cornell University, annex 9, Cornell LRP report, September, 5

[98] Nor did USDA require this data collection.

[99] Commodities were procured as well as distributed within 15 of 18 project countries (local procurement); however, some of these commodities crossed national borders in the value chain leading up to those purchases. It is to these cases of cross-border sourcing to which this paragraph refers. For regional purchases this additional data collection in source countries may also be necessary.

Mozambican trader who met about 30 percent of the order from holdover stocks. LRP demand does not directly cause traders to hold these stocks, even though the LRP order may turn out to contribute to the total demand that justifies the traders' decision to deliberately accumulate and hold stocks as part of the business model in which they assume the risk for holding such stocks as the cost of potential profit. Market impact stemming from food bought as the result of a spot sale or a contract is all that can be assigned to LRP. Looking at it in another way, the impact of procurements that traders make in the belief that they will be able to sell the purchased commodity to an LRP project is not attributed to LRP if the deal with that project then falls through and, similarly, the impact of procurements that traders made without any assurance of an LRP sale cannot be assigned to LRP. Only completed deals within an LRP causal framework count.

Seasonality and Market Impact on Small Agricultural Producers

Market impact of LRP on farmers varies seasonally. When an LRP project procures in such a way that purchases on its behalf take place in the immediate post-harvest season, the project will have an impact on farmers' welfare. Generally, post-harvest selling tails off after 2 – 3 months and for most of the rest of the year traders operating on various scales hold most stocks of agricultural commodities. The dynamic over the course of the rest of the agricultural year is mostly one of sales from smaller to larger traders who meet large, often long-distance, contracts, either with other traders or with projects financed by donors. Thus there can be essentially no LRP impact on farmers outside the immediate post-harvest season and there is little point in assessing such impacts.

Some small agricultural producers are net buyers of food: their harvests do not suffice to feed their households for the entire year but they may nonetheless sell in the immediate post-harvest period to meet pressing needs such as dowries or education fees. LRP projects may have bought some of their food from such farmers; there was no easy way of establishing the extent of this phenomenon. However, there was evidence neither that LRP was specifically encouraging them to sell when they would not otherwise have sold nor that they sold more food than they would have otherwise sold due to increased LRP demand. Indeed USDA made every effort during proposal review, ongoing monitoring, and site visits to ensure that participants were not encouraging smallholder FOs to produce solely for the purpose of meeting pilot program needs.

Commodity Defaults

In the section above on timeliness among procurements through the LRP projects, times taken to procure and distribute foodstuffs are shown to at times involve delays, which are part and parcel of the business world. However, when excessive delays result in a cancelled contract, the delay becomes a commodity default.

WFP suffered more defaults than other participants, mostly because of working with small FOs in the P4P projects. Small producers responded excellently to WFP Mali's forward delivery contracts, in which the price paid included a quality premium, and the contracts also stipulated a floor price.[100]

In contrast, direct contracts did not work as well. To maintain flows of food aid to project beneficiaries, WFP insisted on timely direct contract deliveries, causing some FOs to default, for two reasons:

> *not only because they did not produce the contracted quantities of cereal, but because the delivery dates set in the contracts were too close to the start of the harvest, leaving them little time to ready the crops for delivery to WFP. Sorghum and millet being hardier cereals, they are traditionally left in the fields much later than more sensitive crops like maize.*[101]

In Tanzania, two of twelve small producers who were contracted to supply to WFP defaulted, one because the management of a farmer organization offered prices to its members below the prevailing market price, so they sold

[100] The WFP P4P projects in Malawi and Tanzania also paid more than average market prices, according to their final reports, attributing this to the value addition that FOs undertook in cleaning and other quality improvements to meet WFP contract stipulations. In addition, in Malawi the government-mandated price floor is above market price, but WFP was compelled to pay that price as an international governmental organization. Purchases there were still competitive relative to IPP. In Mali, the price paid to FOs was close to traders' prices, but WFP was able to purchase better quality grain and the additional price went directly to FOs instead of to traders.

[101] WFP Mali Country Office 2011. *Report on USDA-funded purchases 2009 – 2011*. P4P: Purchase for Progress, prepared by H Bishop & P Traoré, 31st August, 14

elsewhere, the other because the farmer organization encountered financial problems that prevented it from delivering the contracted quantity.

It seems that one of the risks of WFP's developmental P4P approach of procuring from FOs is default because of individual farmers' constraints and also the management and financial constraints of the organizations. In the multidimensional balancing act needed to develop the capacity of these organizations, it is probably necessary to accept some defaults as the price of success in other areas.

WFP's LRP contract in Chad did not involve FOs but it did cancel a contract there for an outstanding undelivered quantity of 406 MT of maize that remained undelivered at the end of the project (30th September 2011).[102]

Two quite different examples exist of projects avoiding defaults. World Vision Kenya avoided a supplier breaking its contract by accepting to pay higher prices for maize and beans after the price for this commodity rose steeply. The price paid was still lower than the current market price. CRS Guatemala intended to buy maize and beans from a smallholder cooperative but the group could not provide the quantity and quality required so, after the first procurement, CRS cancelled the contract and contracted with a large trader to supply these commodities.

There was a default at the end of the Zambia LRP project, in which only one-quarter of contracted amounts were provided by a supplier. As the project was ending, Land O'Lakes was unable to contract replacement supplies in time. Rather than the double-rations planned for distribution (100 kg bags of maize), 50 kg bags were provided.

In summary, WFP implements its P4P projects in developmental, rather than emergency, conditions, so the cost of commodity defaults is lower. WFP's experience in Chad, as well as World Vision's in Kenya and CRS' in Guatemala – all in the context of emergency projects – suggests that the exigencies of such projects are more likely to provoke defaults. Where possible, it would seem prudent to focus capacity-building efforts on the production side on projects providing developmental food aid, rather than emergency projects, thus limiting the risk of severing food pipelines. However, bear in mind that none of the project reports – and none of the evaluation team's field visits – documented defaults resulting in food not reaching beneficiaries when it was needed.

Voucher projects do not experience commodity default.

Import Parity Price

LRP participants were required to compare the local price for each commodity to be delivered to beneficiaries with the price on the world market or the "import parity price" (IPP) to ensure that they were procuring at the lowest possible cost. Meeting the IPP criterion meant that participants were not risking raising prices in local markets with food-security problems in their catchment areas. By extension, the IPP approach ensures that participants make the correct sourcing decision between regional and world markets and between local and regional markets.

Most LRP projects procured in accordance with the IPP criterion, but the evaluation team found three categories of procurement where the IPP criterion was not directly met:

1) Implicit IPP: In its self-interest, the private sector does due diligence on IPP as a matter of course.
    1. Vouchers: Traders approved by projects using voucher approaches had every incentive to source the lowest-cost foods to sell to the project beneficiaries redeeming vouchers.
    2. Competitive regional procurements/commodity exchanges: WFP's regional procurements took place through commodity exchanges designed to provide a competitive forum in which to find lowest-cost commodities.

2) Not possible:
    1. CRS Mali calculated IPP for rice but not for cowpeas or millet, on the grounds that:

[102] WFP Chad Final Country Report nd. *Questions/Further Clarification Items*, p.6

There are no parity prices available for millet and cowpeas. In Mali these two products were not imported [in] large quantities during the LRP project implementation period; therefore the prices were not tracked at the national level by the prices' monitoring system.[103]

2. Land O'Lakes Bangladesh explained that IPP for its four primary cereal-bar ingredients were not available and that: *Efforts to collect the information from the Bangladesh Bureau of Statistics, the Ministry of Commerce, and the Trading Corporation of Bangladesh have been unsuccessful. It should be noted that the IPP appears to be sensitive information that is not made available to the general public.*[104]

3. Emergency needs prevail: WFP Republic of Congo performed an IPP analysis that showed that it would be cheaper to source rice from the world market than to buy from the Democratic Republic of Congo. Separately, WFP calculated that it would be quicker to source from the DRC. The urgent need for rice in the Republic of Congo prevailed and WFP was able to access LRP funds for this.

Projects performing IPP calculations appear to have done them correctly. On IPP grounds, projects chose procurement zones where food was low-cost.

Donor and Beneficiary Country Government Market Interference

Over the course of 2009 – 2011, LRP operations were often directly or tangentially affected by government participation in staple-food markets. This took the form of overvaluing the national currency, imposing trade restrictions, buying and selling staples, setting ceiling and floor prices, taxation and regulation of commerce, and corruption. Many of these policies were misguided and deleterious to their countries' economies. Their collective effect is a drag on the efficiency of the food sector in LRP countries. More importantly from an LRP monitoring perspective is that they represent a diverse range of exogenous variables operating on the market, each often difficult to quantify.

Macroeconomic misalignment

Malawi is not alone in having an overvalued exchange rate, but the extent of overvaluation distorts its economy severely, creating a shortage of foreign exchange and a fuel shortage. Maize procured in Malawi for WFP Mozambique arrived late because of the difficulty of finding foreign exchange to buy fuel for trucks to take it from Lilongwe to Beira. Companies in completely unrelated sectors bought grain to export in order to sell it somewhere where they could convert funds to hard currency at a competitive rate. Overvalued exchange rates alter the relative values of tradable and non-tradable goods; the entire economy is distorted and these two examples are small parts of a bigger economic problem. In the specific case of the scarcity of fuel to truck LRP maize to Mozambique, the company responsible eventually found a Beira company with access to fuel in Mozambique to truck much of the consignment albeit at a rhythm dictated by the availability of backhaul freight to optimize round-trip trucking profitability.

Trade restrictions

Governments often put export bans in place when domestic prices of staples rise to historically high levels. Cameroon, Burkina Faso, Mali and Niger have in the past applied export bans to agricultural commodities, particularly staples when their prices are high, but did not impose such bans during the LRP period. However, the Chadian government did impose export restrictions, as did Malawi. During some periods, Malawi allowed exports without the tariffs it used to impose but declared an artificially high domestic price floor that dissuaded traders from buying. Nicaragua imposed an effective export ban on red beans until September 2011. Tanzania has had a maize export ban in place since 2000, occasionally lifted.

In August 2011, Zimbabwe reimposed a 10 percent duty on imported maize meal and 15 percent duty on cooking oil. Guatemala and Nicaragua restrict food imports, though in February 2011 Guatemala authorized imports of white maize, while Nicaragua allowed duty-free imports of maize flour. Mozambique has import tariffs of between

[103] CRS – Mali 2011. *Questions/further clarifications*. 14th November, 1
[104] USDA/Land O' Lakes 2011. Bangladesh Local and Regional Procurement Project: final report on project requirements, 30th September, 14

2.5 and 7.5 percent, with rates rising to 25 percent for wheat and maize flour but the government facilitated the import of cereals during relief efforts and food insecurity situations.

The governments of Malawi, Mozambique, Zambia and Zimbabwe ban imports of genetically modified organisms (GMOs). Kenya lifted its ban in July 2011. South Africa accepts (and grows) such foods and its companies have to certify exports as non- biotechnologically modified to those countries with bans. Subsidiaries of South African companies in countries not permitting genetically modified foods can export to other such countries with no need for such certification.

Tenders issued in southern Africa specified that commodities supplied should be certified free of GMOs, thus limiting the number of countries that could compete.

Grain Reserves, Food Programs, and Price Controls

Many governments intervene directly in cereals markets through parastatal grain-trading companies and/or strategic grain reserves to contribute to reasonable, stable prices of staples. Their operations, however well intentioned, may subvert private-sector operations. Separately, LRP participants must take the impact of these companies and grain reserves' procurements and distributions into account when planning and evaluating their own activities. For instance, Zambia's Food Reserve Agency (FRA) was buying maize from farmers at a higher price than it sold stock onto the market. However, FRA market activity was occurring at the same time Land O' Lakes' procurement took place in July 2011, and in greater quantities. A month later it was making targeted distributions. Malawi's National Food Reserve Agency (NFRA) manages the country's Strategic Grain Reserve, holding maize stocks of over 150,000 MT, much of it five years old and of questionable quality. In February 2011, NFRA sold 30,000 MT to off-load expiring stocks. This sale significantly lowered maize prices: the private sector perceived it as dumping.

Oversight of the Food Sector

In Tanzania, traders pay a fee per sack to local authorities to move staples across administrative boundaries. In Mozambique, domestic trade is governed by trading licenses, extensive inspections, and taxes. In the Republic of Congo, a weak legal system allows petty corruption by officials and road blocks by the police, among other inefficiencies that add to food- marketing costs. Most aspects of these diverse constraints to the food sector apply in all LRP countries.

Domestic price controls & taxation

Governments also set ceiling prices on staples to protect consumers and floor prices to protect farmers. Ceiling prices in Chad were so low that farmers significantly reduced their sales, impeding normal market operations. Floor prices in Malawi limited the effectiveness of the ACE in bringing price discovery to the market. High minimum prices that Zambia's FRA paid to Zambian farmers contributed to rising maize production. FRA's sales of maize at below-market prices also helped reduce maize prices to consumers.

Political campaign with an impact on LRP

Land O' Lakes halted LRP food distributions in Zambia during the period of political campaigns leading up to the 2011 general election in order to prevent possible looting and to avoid candidates claiming credit for the distributions to boost their electoral appeal. This impact on LRP is not formally part of "government market interference" but rather of the wider political process. These political campaigns had no recorded impact on food procurement in Zambia.

Training for market impact analysis

WFP implemented all FY 2009 LRP projects and used its in-house methodologies for assessing its projects' market impacts. In 2010, PVOs implemented most LRP projects. Four PVOs formed the Learning Alliance, which retained Cornell University to develop a methodology for data collection and analysis to measure the market impact of its constituent members' LRP projects. The trainings, including detailed instruction on the data

collection tools, took place in October and November 2010 to prepare the staff of projects associated with the Learning Alliance to implement LRP projects in calendar year 2011. However, a small number of procurements (at least nine) had by then already taken place, leading to the risk of unsatisfactory market impact monitoring.

Staff of some Learning Alliance members did not attend the training and so would have found the questionnaires and methodology more difficult to implement. Having tools and training before beginning procurement is vital to capturing appropriate price data prior to procurements, and to making the process as efficient as possible for project staff.

CONCLUSIONS

Impact of the Pilot

A combination of techniques used to monitor the USDA LRP Project shows that USDA can be confident that its locally and regionally procured food aid had negligible and fleeting impacts, if any, in procurement markets. There were no instances of procurements where the evidence unambiguously suggested that market impact was probable or confirmed. The strongest evidence for market impact allowed the conclusion that market impact was possible. This occurred in one-fifth of the projects. In such cases, at least one of the indicators used suggested that procurement could have resulted in a price rise but in some of these cases that price rise was so small as to be of questionable economic importance and could have been the result of other causes. Alternatively, the timing of a price rise large enough to suggest economic importance by one indicator was not corroborated by another measure. In the other cases, no evidence of a price rise was found.

The analytical techniques used were suited to detecting individual price spikes, rather than increased price variability. However, the limited techniques available detected no increased variability due to LRP. No one interviewed in the field raised increased price variability as a problem (or even a potential problem).

LRP increased the profits made by traders and FOs. However, this did not lead to changes in market structure or conduct, with two exceptions: WV Uganda noted that small traders participating in its voucher scheme set up outlets near communities that received vouchers but they closed these when the scheme finished; farmers in Malawi informed WFP that they intended to intensify their inputs to farming but this was due to the multi-year WFP development efforts in which USDA's contribution played only part.

Lessons from the Pilot defining the LRP framework of market impact analysis

LRP market impact analysis sought to detect price changes due to procurements or distributions of food under the LRP projects. Market analysis needs differed by project, based on the target beneficiary groups, and the populations who need to be protected from possible project-induced harm. Examining this process in the course of this evaluation, a set of lessons learned were assembled on the steps that need to be taken to carry out such analysis. To begin, in the procurement zone(s), the project may have wanted to assess the likely market impact on small farmers, large farmers and traders; in the distribution zone(s), it may have wanted to focus on the impact on beneficiaries, non-beneficiaries and farmers. In addition, the project may have been interested in changes in profits of certain kinds of market actors due to project-induced sales or distributions. In practice, project resources will probably require limiting quantitative analysis to a subset of these populations and the first task is to select and prioritize those groups.

Market impact analysts then needed to identify and eliminate unnecessary analyses. There may be *a priori* reasons to believe that impacts on certain selected populations are negligible. One example noted in this report is the impact of purchases of staples on small farmers more than, say, three months after harvest, by which time most have sold almost all their harvest surpluses, retaining no more than the amount needed to feed their families until the next harvest. In this case, LRP purchases, say, four months after the harvest would raise demand for staples but those benefiting from resulting higher prices were traders, not small farmers. A second example concerns traders who met LRP demand from pre-existing stocks: there could be no causal link between LRP and benefits derived by

these traders from such sales. In neither case is there need for further analysis. In addition, empirical results could justify eliminating, or reducing, further market impact analysis in some areas and concentrating it in others. Where suspected LRP-induced impact proved to be undetectable, projects can then shift resources from analysis of situations where detection is even less likely and into those where detection is more likely, and vice versa where impact *is* detectable.

Price data

Projects need also to assess how to collect price data needed for market impact analysis. Data quality is important: it is better to have clear evidence of market impact (or not) using a limited number of relevant and representative data than hazy indications from a larger sample. The first task is to assess available secondary price data to establish to what extent market impact analysis can depend on these and, consequently, which data remain to be collected. The USAID Famine Early Warning Systems Network (FEWSNET) project has a potential role to play in cataloguing databases and evaluating their quality: it has a strong tradition of collecting, organizing and analyzing developing-country price data.

Some LRP projects sub-contracted collection of primary market data to an agency already collecting secondary price data. This option provided flexibility to negotiate a contract to piggy-back on existing data collection, which in some cases was less costly than starting from scratch. An agency or firm already collecting these data has the flexibility to vary factors such as frequency of data collection, commodities and markets for data that it already collects, and can gather wholesale as well as retail data. The LRP participants who did their own data collection noted the expense and learning curve of this process, and they were not as likely to visit production zones for other purposes. Thus using an existing agency or firm can therefore be more efficient and take advantage of their special staff. Those sub-contracts were best that ensured that the project received the data immediately, rather than on the agency's own schedule –such as monthly.

To ensure the best quality data on which to base market analyses, there are many dimensions on which the data needs and data collection methodology need to be considered. Whether using the Learning Alliance methodology, a subcontractor or their own primary data collection, LRP projects needed to specify details on their data in order to be able to make informed analyses. These specifications include:

1. products (varieties, color, humidity, nitrogen level, possibly including substitutes where appropriate)
2. quality (where quality premiums exist or are to be promoted)
3. market-chain level (farm gate, collection market, production-zone wholesale market, distribution market, etc. which may involve crossing national borders, adding complexity)
4. frequency of data collection (daily, weekly, etc.)
5. sampling (number of prices collected, where, when, how and from whom)
6. frequency of data transfer to the implementing participant (if data collection is contracted out)
7. verification (intensity is dependent on the quality of data received, random checks)
8. incentive structures for reliable data (training and feedback sessions for data-collectors, payment by results, sanctions for low-quality data).

In assessing market impact on different market actors, the question arises of which market-chain level of price data to use and the substitutability of one for another. In particular, if secondary food-price data at the retail level are available for a given location, what error is incurred by using that time series as a proxy for wholesale prices, which would be the appropriate variable for assessing impacts on traders? FEWSNET is well placed to establish to what extent data at different levels on the value chain can be used as proxies for others.

Comparing project-market and control-market prices

The control-market technique offers simple data analysis. It compares price behavior in a market susceptible to project impact (a "project market") with that in a control market that the project should scarcely impact. The Learning Alliance reports in several countries using this method; where parallel markets existed that were reasonably separate from the project markets, comparison to control markets was employed to monitor price impacts. To do so, the implementing participant identifies one or more project markets and others nearby with

similar key characteristics (e.g., with a catchment area similar in terms of production parameters and, most importantly, part of a common well-integrated market system). In principle, commodity prices in all such markets will normally move in unison, or with a well-defined lag. Any difference between them can be compared in time to moments of LRP activity. The most straightforward evidence of impact would be a price peak in the project market that coincides with the project's market activity – but no such peak in the control market. However, the impact may lag if market actors react slowly to the project's actions or even precede the LRP activity if traders know about them in advance.

In practice, the control-market technique may consist of no more than viewing the two price curves over time and looking for salient deviations that LRP activity might have caused. However, comparisons of LRP-induced deviations with others can be more sophisticated, e.g. the technique based on the short-term price elasticity of demand used in this report. The advantages of the control-market technique are that it does not require a familiarity with econometrics to assess impact and that it should be fast enough to allow mid-stream corrections to project activities, as necessary. The weakness of this method is that it may not be possible to pair markets (or groups of markets) optimally: a control market far enough away to have no project impact may have had quite a different level of rainfall or may not be well integrated with the project market, and it may take significant extra data gathering to establish the degree of fit of a proposed pair of project and control markets. Or the control market may be in an awkward location that makes data collection costly, for participants buying regionally the costs of data collection could thereby increase.

Using key informants

LRP participants also discussed prices with key market actors who have their fingers on the pulse of the market and were aware of changing impacts. "Market actors" in this sense include farmers, project beneficiaries and project non-beneficiaries. This included liaising with local and national agriculture ministry actors, such as in Cambodia where the participant made use of some data collected by the ministry. Other participants, such as WFP, reached out to farmers and traders for more complete information, with more or less systemic data capture. The goal is rapid rural appraisal by seasoned analysts who can ask questions about the impacts of factors such as reduced rainfall, closed borders or late LRP deliveries and can weave the answers into a causal framework to triangulate with the results of quantitative analysis. Key informants can also give insights into any changes in market structure and conduct attributable to LRP that can feed into the interpretation of price changes.

Econometric analysis

Multiple linear regression analysis is a sophisticated econometric alternative to the control-market technique. Using this method, the Learning Alliance was often able to indicate the importance and statistical significance of exogenous variables that together determine price levels, including LRP actions. When conditions are propitious, this technique allows powerful insights into the workings of the market. However, it requires data with the same periodicity for each exogenous variable in addition to the price data that the control-market technique requires.

Such econometric techniques are well suited to disentangling the effects of a succession of LRP interventions (purchases or distributions) and the quantification of the impact of each, which the control-market technique can do only crudely. This does not mean that the control-market technique would not detect a market impact due to a cluster of LRP interventions but regression analysis could unscramble the cumulative impact of lagged effects of multiple interventions and show how they attenuate over time. Econometric techniques can also detect changes in price variability due to LRP that control-market techniques would struggle to do.

It would be ideal if the Learning Alliance's econometric analysis for LRP projects, provided by Cornell University, was to be available for any future LRP projects but, given this technique's resource intensity, this seems unlikely. Justification for continued analysis of this type lies in cases where data are easily available, where there is the possibility of answering important operational questions, and where it can contribute to developing an econometric toolkit specific to LRP. The control-market methodology could be accompanied with some regression analysis focused on a small number of carefully chosen projects. This analysis would benefit from the contextual information from project staff and key informants that would inform the interpretation of quantitative results. In

turn, the results would, in principle, provide greater insight into market impacts than the simpler control-market technique provides. If econometric analysis could provide empirical criteria that would suggest when the control-market technique could be used as a good measure of market impact, even in limited circumstances, that would simplify market impact analysis. Co-integration measures of market integration, which capture the effects of oligopoly, government intervention, regional trade regimes, road transport and market information systems might provide such criteria.

There are challenges to the profitable use of regression analysis. First, the accuracy of econometric analysis depends on the quantity and quality of data that capture the flavor of all relevant variables. This often means compromises that employ proxy data of questionable quality collected for other purposes beyond the analyst's control. So it is important that, where possible, this complementary econometric analysis takes place where good relevant secondary data exist. Second, some LRP projects suffered from policy shifts and political events that were evidently difficult to quantify. Therefore, the econometric analysts need to have a good grounding in the policy/political events over the period analyzed so that they can best control for these. Good analysis of this type can usefully highlight the effects of particular policies. Alternatively, their skills should be directed to other projects, where project staff do not anticipate such exogenous variables being important. A third operational limitation of econometric analysis is that, in practice, analysts prefer to wait as long as possible to get most data before undertaking analyses. This is understandable because their models are limited by the shortest time series of relevant data and waiting makes their results more meaningful. However, for projects of short duration, these delays eliminate the possibility of incorporating econometric insights into mid-course corrections to improve project efficiency. Such econometric analysis is more appropriate for multi-year projects; in such cases, econometric analysts should be encouraged to provide periodic briefings that would allow their market impact results to be incorporated into project management. Fourth, the data demands of econometric analysis mean that its proponents are necessarily less nimble in reacting to changing circumstances: it is therefore easier to apply it to development projects than to emergency projects. However, as the commotion of emergency projects may generate more or different LRP market impacts than developmental projects, it is valuable for rapid-reaction econometric teams to find at least some cases in which to obtain all necessary data to evaluate market impact in this context.

Some practical issues

Homogeneity of methodological approach is helpful to allow comparisons across projects and thus generate feedback about the success of LRP approaches. LRP project participants in the Learning Alliance have resulting findings that are comparable, for example. On the other hand, those projects opting out of the Learning Alliance were also allowed to undertake market price analysis in accordance with their standing practices (as in the case with WFP) or in ways that were tailored to their project conditions (such as with UMCOR, procuring regionally in South Africa, and hiring a firm there to undertake the data collection and analysis). A drive for too much uniformity risks diminishing marginal returns and is ultimately self-defeating: structural differences in institutional norms and project challenges limit the payback on investments to harmonize methodologies. Finding middle ground is an empirical task best fine-tuned in the light of operational constraints. Agencies that administer a portfolio of LRP projects may want to develop an LRP market impact handbook and keep it updated. This handbook would provide minimum requirements for the gathering and analyzing of data and for feeding the results of their analysis into project improvements.

It is important to have well trained staff for market impact analysis. Preparation for development projects generally allows adequate time for implementing participants to put personnel with appropriate skills in place. Timelines for emergency projects are more demanding but implementing participants may meet skill requirements in several ways. They may recruit and retain in-country personnel with these skills so they are always available. This may be appropriate in countries with frequent food emergencies. Alternatively, they may move staff to countries as the need arises. Or they may retain a roster of local and/or international consultants who can bring these skills to bear as needed.

Coordinated training would save costs and harmonize approaches. The Learning Alliance may be a suitable institutional vehicle for this. WFP has its own well-developed institutional approach but it would be desirable to maintain good communication between it and the PVOs through their participation in such training.

Access to, and exchanges about, latest developments in LRP market impact field experience are useful. A website or regular e-mailed bulletin would allow real-time diffusion of lessons learned. An online forum or similar ongoing electronic seminar would complement these more formal means of accessing information, providing opportunity for discussion of problems, issues and advances in market impact.

COMMODITY QUALITY AND ACCEPTABILITY

Evaluation question: *To what extent did the commodities purchased under the LRP projects satisfy relevant quality and safety standards?*

Since each of the participants tested food quality, there is little risk that the project distributed food that threatened human health. The evaluation team found no evidence that anything distributed by the field projects ever threatened human health. However, findings regarding the capacities of different local and regional suppliers to provide food of suitable quality are important for decisions concerning whether and how to integrate LRP practices into food aid activities.

Analyses of these data cover the reported defaults (as a result of quality) experienced by the LRP projects. The evaluation team gathered data from participants and test reports provided by them, and met with food safety inspection firms and organizations (some governmental) that carried out testing for the projects. In addition to data from project staff and inspectors, the evaluation team asked traders, warehouse operators, and other stakeholders in the countries visited to assess reasons for observed quality deficiencies and the impact of poor quality commodities on the ability to deliver food aid in a timely manner.

Two complementary requirements enable recipients to fully benefit from food aid. First, the food must be culturally acceptable and conform to their expectations so that they will eat it. Second, it must satisfy applicable standards for human consumption for the same reason and so that it will not harm them. The USDA LRP Project required that food procured under the pilot meet the quality standards of the country in which it was purchased and the recipient country (if different) or, if the country lacked adequate standards, the Codex Alimentarius.[105] The criteria used to determine whether food is fit for human consumption include moisture content; percentage of foreign matter; small, broken, or discolored grains; and the absence of aflatoxin.

ACCEPTABILITY

USDA LRP Project beneficiaries interviewed as part of this research universally agreed that locally procured foodstuffs better met their tastes than in-kind food aid commodities. Of the 48 beneficiaries that were interviewed, 32 said the commodities were of very good or good quality, with two beneficiaries commenting that the commodity was of better quality than that which they could purchase at their local market. Another 15 beneficiaries claimed that the commodities were "ok," "acceptable," or that there was "no problem."[106]

Food recipients were familiar with the appearance of locally procured foods, their storage and food preparation needs, and the resulting tastes and textures. Even though almost all beneficiaries professed that the specific foodstuffs they received were of good quality, difficulties surfaced in isolated instances. Seven of the beneficiaries stated in their interviews that they found the commodities to be of poor or bad quality, citing that the food was damaged, infested or spoiled. Specifically, in Zimbabwe, the beneficiaries preferred beans to the peas they received and had to learn to crush the peas to make them cook more quickly. In Zambia, beneficiaries complained about the time it took to cook the beans supplied and were grateful that Land O'Lakes took steps to change the variety to reduce the cooking time. Some Ugandan voucher beneficiaries remarked on "bitter" maize flour and occasional problems with lower quality flours from some vendors.

In Niger, beneficiaries of the Mercy Corps project stated that they were happy with the maize they received, sourced from neighboring Benin. Maize was not their staple but they were familiar with it and insisted that there was a greater range of recipes for maize than for the millet they normally ate.[107] Elsewhere in Niger, beneficiaries of

[105] Internationally recognized standards for food safety developed by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) and maintained by the Codex Alimentarius Commission.
[106] Data compiled from interviews with beneficiaries.
[107] Mercy Corps provided maize, a staple that was familiar, if not regularly consumed by the beneficiaries, reasoning that the project should procure a cereal that was not produced locally. In addition, a drought factored into Mercy Corps' decision-making regarding the type of cereal it should purchase. Mercy Corps staff noted that if the local staple, millet, was procured instead, there was a possibility that the wholesaler who won the tender

the CRS project expressed satisfaction that the LRP vouchers allowed them to choose their food basket from among familiar staple foodstuffs in proportions that matched their preferences and needs. Refugees in the Republic of Congo said they were glad to have good quality "regional rice" (from their own country, the Democratic Republic of Congo), which they preferred to the Thai rice WFP had given them in the past.

In Cambodia, beneficiaries of the school feeding program were highly pleased with the meal offered weekly through the LRP project—rice, canned fish, and iron-fortified fish sauce—as opposed to the CSB they received the rest of the week. The head teacher at one school said, "Parents are very happy, as they have more food at home now that this program is feeding the kids during the school day. They and their kids don't like the CSB[108]…The children are more active when they have this good lunch meal." In this case, LRP contributed to the dietary diversity of the children and did not compromise on nutrition. The head teacher went on to ask that the program be continued because attendance drops when the meal is not offered, or when CSB is the only meal available. A parent at the school added, "When the kids come home from school now, they're singing and joking and moving, which they didn't do before—because they hadn't had enough to eat."

Recent research by Cornell University as part of the Learning Alliance supports these findings when comparing in-kind food aid from nearby regions with comparable commodities supplied by multi-year assistance programs (MYAPs) in Zambia, Burkina Faso, and Guatemala. The report states, "While finding that almost all food aid recipients were satisfied with the products regardless of the origin, LRP recipients were unconditionally more satisfied, in all three countries and across most criteria."[109]

QUALITY

Food Testing Regulations

The rest of this section deals with the second element of quality: the chemical, physical, and microbial characteristics of the food and covers freedom from impurities and conformity with sanitation requirements including infestation, decomposition, and disease.

The principal means to protect beneficiaries from low-quality food is testing relative to standards.[110] USDA required that LRP foodstuffs be tested according to national food safety standards or the Codex Alimentarius, the canonical set of international standards. Aflatoxin testing of all commodities was required as part of LRP agreements with participants.

Where countries promulgate their own national food safety standards—the majority of cases—LRP projects complied; where countries did not, LRP projects followed the standards defined by the Codex Alimentarius. The Codex Alimentarius serves as a baseline for national laws, executive regulations, or standards in Mali, Uganda, Zambia, and Zimbabwe.[111] Each LRP pilot country had standards, but with varying levels of enforcement and each LRP project had to address issues arising in their own country contexts. In any given country, WFP uses its own or national standards, whichever is stricter.

One participant thought that national testing standards lacked rigor with respect to the range of mycotoxins. USDA only required testing commodities for one type of mycotoxin, aflatoxin, which is consistent with the

might buy some of the millet locally, harming locals who were disadvantaged, but not severely enough to qualify as beneficiaries. Mercy Corps also used some of its funding from its USDA LRP Project grant to restock local cereal banks and, in that case, Mercy Corps gave millet because cereal bank stocks were not likely to be drawn down until after the next harvest when different food security conditions would apply.

[108] Maize is not a normal part of the diet in Cambodia. The children only encountered it through the food aid project.

[109] The Learning Alliance, 2012, "Final Report: A Multidimensional Analysis of Local and Regional Procurement of US Food Aid." Cornell University; prepared for the LRP Learning Alliance, 5.

[110] The alternative approach of encouraging high food quality by providing premiums for this along the market chain was not discussed, but WFP offered quality premiums for food supplied via its P4P program in Mali.

[111] FAO and WHO, 2006, "Survey of national policy and activities related to food safety in countries eligible for the Codex Trust Fund" Geneva, 25.

requirements for in-kind food aid.[112] However, the evaluation team found no examples of food for direct distribution that was not adequately tested prior to distribution. In Burkina Faso, CRS administered three mycotoxin tests beyond those formally required and, as of September 2011, was still evaluating whether the extra tests had been worthwhile. CRS also tested the feasibility and accuracy of training its own teams to administer tests on the spot for moisture, aflatoxin, and other mycotoxins. CRS viewed this as a way to test more frequently from small farmer groups in remote sites. A rapid strip test was also employed, but worked only for aflatoxin and not for other mycotoxins. Using methanol proved too complex for field teams, according to a CRS staffer at the TOPS[113] conference in late 2011. Moreover, CRS felt government pressure to use national labs, and absent confidence in its own field tests, project staff elected to contract with the government for standard testing according to national and Codex standards. Other testing options in the region include private companies, such as SGS, Socotec, and Intertek, but in this case the participant chose to use government labs.

Participant representatives at the Learning Alliance conference were generally sanguine about food safety when the food came from the previous harvest (i.e., was less than a year old), when those responsible had received training in food storage, and when the food had been stored for only a short period.[114]

Laboratory Choice

Laboratory choices varied considerably. Some African countries have only one national laboratory and in others, such as Zimbabwe, even private laboratories were unable to conduct all the required tests, particularly for aflatoxin. However, all of the projects visited by the evaluation team carried out testing as planned; they simply conducted some tests in neighboring countries. In Mali, laboratories existed that could test for aflatoxins but lacked required reagents, so for their project in Mali, CRS sent samples to the government laboratory in Burkina Faso. Similarly, IRD sent Cambodian samples to Thailand. Laboratories in the bigger economies, particularly India or South Africa, were generally able to test for aflatoxins. In contrast, all non-aflatoxin testing took place in the country where the beneficiaries lived; sometimes at a single government laboratory, sometimes at one of several laboratories, private or public. Where there was a choice of certified laboratories, some participants put the testing contract out to tender. For instance, World Vision in Uganda used Kenyan and South African labs. In Guatemala, two wholesale vendors had their own labs and issued certificates to LRP buyers upon testing. CRS also hired an independent inspection company to test commodities at their warehouses in Guatemala.

Testing Rejections

Little food was rejected because of failing laboratory tests, though there were a few cases. In Zambia, according to a Land O'Lakes participant at the November 2011 TOPS conference, test results helped the project to reject 360 MT of maize with high fat levels[115] and traces of chloroform that was then replaced by the supplier. Land O'Lakes' project in Bangladesh also did spot-checks on its completed cereal bars, but only a small amount (2,400 out of over 14 million bars) were held back.

Some rejection of food commodities took place in the field before samples were sent to the laboratory. In Mali, Ministry of Agriculture phytosanitary officers rejected some samples on the basis of physical inspections carried out for CRS. This eliminated unnecessary testing (and in this case, none of the samples that passed the field test failed the laboratory tests).

[112] CRS tested both LRP and in-kind food aid commodities for ochratoxin, fumonisin, and vomitoxin, three additional mycotoxins that can be found in grains, but which tend to pose a lesser threat than does aflatoxin. As a result, testing for these mycotoxins is not required for in-kind of LRP food aid. According to interviews with CRS staff, the goal of testing above and beyond the requirements of the USDA LRP Project was to test the capacity of local labs while also developing their own staff capacity in the field, ultimately to allow on-site testing by CRS team members purchasing locally.
[113] TOPS: Technical and Operational Performance Support at USAID
[114] CRS Mali established that the Parent-Teachers' Association with whom it worked on a school feeding project knew enough about storage to be able to store food for three months with no significant risk. CRS Mali also knew that PTA members were motivated to do so because the food would feed their children.
[115] High fat content is often the result of prolonged storage, and renders the maize unsuitable for processing.

Time Lost

A Learning Alliance conference in September 2011 found that delays attributable to food testing in laboratories were generally not a major constraint to LRP timeliness. Among the vendors interviewed, three vendors reported that the food testing process would last one or two weeks while three other vendors cited ranges of one hour to three days.[116] In Zimbabwe, project staff reported that their contracted laboratory worked well, including that lab's practice of subcontracting with a South African lab for aflatoxin testing. Conference attendees stated that delays in receiving test results did not necessarily delay food distributions, as delays caused by other factors were often the weaker links in the supply chain.

In-country testing times varied from three days to three weeks, depending on the range of tests and the laboratory's workload at the time. Where in-country laboratories did not offer aflatoxin testing, this testing took place in nearby countries and took 1.5 – 4 weeks. For instance, a project in Cambodia sent Cambodian commodity samples to Thailand for aflatoxin testing, which took three weeks. A project in Mali found that it took about two weeks to get lab results once it had resolved initial problems with the testing system. Although a project in Uganda reduced testing costs by using cheaper laboratories in Kenya and South Africa, this took longer.

Testing processed commodities, such as cooking oil manufactured by one large producer, was easier and faster for laboratories to process. In general, vendors were agreeable to the testing; stating that other buyers (including other donors) also required testing to assure quality. However, vendors in Cambodia and Zambia cited the longer time period for aflatoxin testing (when samples were sent to other countries) as an impediment to timely delivery. In Cambodia, one vendor also stated that testing should always be done prior to transport, to avoid having to retrieve and redeliver at their own additional cost. Fortunately, this vendor stated that no tests had ever come back with quality issues, but it was a concern each time they delivered commodities to the warehouse in the province where the project was being carried out.

Some participants experienced start-up difficulties related to organizing commodity quality testing:

- A project in Niger bought lab equipment, intending that its staff would do the food testing, but found that the national laboratory has a monopoly on formal testing. (Project staff used its own equipment and trained its teams to do some internal monitoring.)
- A project in Burkina Faso reported initial delays due to a one-off need to negotiate a contract with the laboratory.
- In Cambodia, a project sought IFFS to augment the nutritive value of the rice-based lunch meal in its LRP school feeding program. None of the branded samples that were taken for testing met the Cambodian national standard for protein content—even though they were on shelves all over the country—so the participating organization approached a small national company known for its peppers and fish sauces and asked them if they would be willing to fortify their fish sauce for this project. The project then sole-sourced the IFFS from that company and tested it (again) before distributing the sauce to schools. The testing process took 10-12 days. Despite this delay, project staff reported that delays in other parts of the supply chain ultimately determined the timing of food distributions.

Sampling

A sampling methodology was a part of each testing regime. The sampling location varied by project and depended, in part, on how food was procured (direct transfers or vouchers) and who conducted the testing. In Guatemala, testing was conducted en route to the participant warehouse; in one project in Niger, testing was conducted at the participant warehouse; in Uganda, testing was done at the procurement point; in another project in Niger, testing was conducted at the market where voucher redemption took place; and for WFP's P4P projects in all countries, testing was done before the food reached the WFP warehouse, with an extra early test given to small farmers'

[116] Compiled from interviews with vendors during site visits.

foods. Neither this aspect of sampling operations nor the proportion of commodities tested generated any controversy. The participants all contracted testing before taking possession of commodities or before making final payments to the vendors, and followed aflatoxin testing methods rigorously.

However, issues sometimes arose about who would do the sampling and about sample weights:

- After initially having assumed that its staff would do the sampling and testing in-house, the CRS project in Burkina Faso negotiated a package deal with the national laboratory that included sampling and testing. Despite the high cost of government sampling, CRS recognized that the laboratory had strong buy-in and found it particularly professional. Individual producers brought their commodities to a central location where laboratory staff took samples.

- A voucher scheme in Cambodia had a government agency test foodstuffs from 10 percent of its approved vendors weekly. Since government staff was not able to travel to the field/project sites on a frequent basis, project staff took samples for the tests and sent them to the government laboratories. Results for most tests were returned in a few days; aflatoxin tests sent to Thailand were returned in three weeks. Apart from the insufficient iron-fortification of the fish sauce mentioned above, no negative results were returned.

- A project in Niger used a team composed of a national laboratory staff member and its own staff to draw samples from the food stocks of traders approved for its voucher scheme. A project in Mali, like the one in Burkina Faso, had originally assumed that it would do its own sampling (and testing) but later arranged for government phytosanitary officers to take samples from approved vendors at voucher fairs.

- When a Malian project sent samples to the national lab in Burkina Faso, the Burkinabè laboratory did not accept the sample weight that its Malian counterpart specified for aflatoxin testing. The Malian lab specified 1 kg samples, but the Burkinabè lab told CRS these were too small and that it should send 2.5 kg samples instead; the project provided the samples as requested and tests were run as contracted.

Voucher Quality Testing

LRP voucher programs provided beneficiaries with vouchers redeemable for food through approved vendors. This distribution method potentially stimulates the market by spurring competition among multiple vendors and ensures that the food is available at the best possible prices. The vouchers are usually denominated in local currency, but one LRP project in Niger denominated vouchers in the commodity rations for which they were to be traded.[117] Within limits, currency-based vouchers give beneficiaries the choice to select the food they want from among the approved vendors' food stocks. However, although the vouchers correspond to a given monetary value *a priori*, it is unclear as to how much of an approved vendor's stocks a beneficiary will buy nor the split between, say, maize and beans (which depends on beneficiary residual household stocks, dietary preferences, etc.).

From a sampling perspective, the uncertainty about which of the food stocks held by a given vendor a voucher recipient will buy makes it much more difficult (and expensive) to draw samples that will adequately ensure the quality of food beneficiaries receive. The benefit of the vendor and commodity choice inherent in the voucher system must therefore be compared with the added expense and reduced precision in sampling from among commodities which may or may not be purchased by beneficiaries from approved vendors. Because it is too late to sample once the beneficiary has redeemed the vouchers, participants generally sample the entire stock that approved vendors offer for sale even though only a small portion of that food may go to voucher holders (with the rest bought by those paying cash). In this case, sampling the stock from which voucher holders may only purchase a small portion either (a) increases sampling costs relative to programs that sample only the food that beneficiaries receive (by requiring a larger sample to maintain statistical power) or (b) reduces the statistical power of the tests if the tester bases the sample size only on the (uncertain) quantity that voucher holders are expected to purchase; thus, only a small portion of the food sampled may be that which is exchanged for vouchers. Moreover, the

[117] Vouchers that are redeemable for a fixed ration size and/or a specific food product are more appropriate when there are market surpluses but little competition, or when the program aims to address a targeted nutritional issue.

proportions of the commodities exchanged for vouchers, or the precise vendors that beneficiaries will utilize cannot be known precisely before redemption. Samples are thus inevitably statistically weaker. Another factor to consider, however, is that testing of the entire stock of approved vendors has a spillover benefit of protecting individuals who are not voucher recipients; however, this approach is likely to be expensive and perhaps impractical to implement..

The time required to obtain test results also becomes an issue in voucher programs that sample from existing stocks for sale from vendors' stores. It may take 1.5 to four weeks to deliver samples to a laboratory (either in the capital city or another country) and receive the test results back. By this time, beneficiary households may have already received vouchers and made their purchases. Test results may identify a vendor and a residual stock of contaminated food and thus protect potential consumers thereafter, but cannot be preemptive in doing so.

The LRP participants took steps to ensure commodity safety in voucher programs. Weekly samples of vendor stocks, such as that carried out by Cambodia's project, established commodity quality trends independent of voucher distributions. A project in Mali managed the inspection and testing of millet, rice, and cowpeas at voucher fairs where the local agricultural service reviewed vendors as they registered, and rejected unacceptable commodities on the spot. In Uganda, World Vision sampled from 20 vendors in two regions where vouchers were distributed, and test results revealed no problems.

In another case, a project in Niger fielded a team consisting of a national laboratory staff member and project staff to take samples from 20 vendors randomly selected from 38 LRP-approved vendors over the course of three distributions. Approximately twice a month, these vendors brought their stocks to a given redemption market where the project would collect samples. In this case, several factors alleviated concerns about the sampling dilemma that vouchers create. First, the testing of rejections was useful in detecting any remaining substandard stocks, as in the World Vision Uganda case above. Second, although project staff took samples from more than half of the approved vendors, the vendors were aware that they could be randomly selected for sampling at any voucher redemptions. One participant in Niger cited this "fear factor" of testing rejection and consequent de-listing as having made vendors more vigilant about the quality of their stocks, though this was not heard in other site visits. Third, in 2011, it was easy for traders in Niger to offer foodstuffs that were less than one year old and thus, less tainted by the effects of poor storage, which was considered the greatest potential health hazard because older stocks did not exist in the aftermath of the drought of 2009. Fourth, with decades of experience in shopping for their staple foods, the beneficiaries generally welcomed the opportunity to choose their own food and apply visual criteria to avoid lower quality products (though this amateur scrutiny does not fully replace laboratory analysis).

Project Design and Food Safety

Partly due to the short duration of the USDA LRP Project, the LRP projects involved limited storage of food by participants or recipients. Suppliers typically delivered commodities to project warehouses/schools close to the anticipated distribution dates. This led to fewer food quality issues related to shelf life or storage and also reduced storage and fumigation costs.

LRP vs. In-Kind Food Aid Quality

Both LRP and in-kind foodstuffs can be of poor quality. The Learning Alliance conference in September 2011 posed the question: Is more due diligence for LRP food safety being done than for transoceanic in-kind food aid?[118] The extent of testing has potentially large implications for the cost and timeliness of food aid deliveries. Replacing a boatload of Title II CSB, for example, can pose management headaches given that volumes are so great and that food quality problems may only become apparent when the shipment is delivered to the port or other site near proposed beneficiaries. In contrast, local procurement can potentially enable participants to react

[118] The additional mycotoxin testing for CRS, although an isolated case, is beyond the standards for in-kind food aid.

more nimbly in rejecting small quantities of low-quality food when problems become apparent, and in finding substitutes.

A 2011 U.S. Government Accountability Office (GAO) study noted several concerns about in-kind food aid quality. First, the U.S. government and participants track damages and losses, but do not track key food safety indicators all along the supply chain.[119] Quality problems such as high humidity or nutrient deficiency may not be noted under the damage and loss indicators in this system. The packaging of food aid products is also a source of quality concerns as commodities are handled multiple times throughout the supply chain, and stored in uncertain conditions, and packaging quality is not always high enough to prevent contamination, according to the GAO report.[120] While these problems may be infrequent, the lack of comprehensive data on quality issues for in-kind food aid means that the extent of the problem is not known.

However, the same GAO study provides some insights as to the scope of the problems, with data up to 2010. It explains that, in September 2009, after a decade of industry self-certification of food quality, USDA's Federal Grain Inspection Service (FGIS) resumed its quality assurance inspections of blended and fortified U.S. food aid.[121] "FGIS discovered that considerable amounts of food aid samples were not, in fact, meeting specifications as indicated by their certificates of analysis." The report goes on to cite examples from 2009 and 2010, including failure rates for particular tests across CSB samples: "more than 9 percent of all CSB samples collected and tested by FGIS failed to meet the acceptable specification and discount ranges for fiber content; more than 7 percent failed to meet specification and discount ranges for the standard plate count test; and more than 5 percent failed to meet the specification and discount ranges for vitamin A content.[122]

Capacity Building

There are training opportunities to improve LRP food quality at various stages along the supply chain. A project in Burkina Faso noted that "the quality of the food commodities received by consumers was linked to the timing of trainings [of the food producers]. To ensure high quality products, trainings should be conducted prior to the growing season in order for farmers to implement improved techniques throughout the production cycle."[123] One project in Niger trained vendors on storage to improve the quality of the products of which they eventually took possession. Training should ensure that food processing units, e.g., hammer mills in southern Africa, operate under Hazard Analysis and Critical Control Points (HACCP) principles. WFP has trained smallholder farmers and small- to medium-scale traders in quality standards as well.

Examples of capacity building abound from the LRP projects. One project's training of food manufacturers in Bangladesh was directed toward meeting high quality standards in the production of cereal bars for students in its LRP program. Project staff in Burkina Faso were impressed that the Burkinabè national laboratory included a strong training element in its sampling work. There was a consensus at the Learning Alliance conference in September 2011 that local capacity and infrastructure exists to conduct testing across all of the LRP countries, but more capacity building is needed. The most sustainable ways to improve food safety and quality are to: (1) increase government capacity to conduct tests, (2) ensure standards are formalized for all commodities, and (3) raise awareness among program participants on how to properly store food commodities.

[119] GAO Report, GAO-11-491(2011), "International Food Assistance: Better Nutrition and Quality Control Can Further Improve U.S. Food Aid." 37-42.
[120] Ibid, 38.
[121] Ibid, 30.
[122] Ibid, 30-31.
[123] Catholic Relief Services, "LEAP Burkina: local education assistance procurement," 2011

CONCLUSIONS

1) Recipients of LRP food aid generally highly preferred locally and regionally sourced foods over foods sourced from elsewhere. They found it more familiar and suited to their tastes and food preparation procedures. The few recipients with complaints about food provided by LRP projects focused on the variety of the food they received and its implications for preparation time and cost. Locally procured food may also improve the efficacy of food aid if recipients are more likely to eat it as opposed to less preferred foods from outside sources (e.g., locally procured foods vs. CSB in the Cambodia school interviews).

2) LRP participants assured quality control systems for food aid that ensured that almost all food reaching beneficiaries was of good quality in a wide range of challenging environments. This was partly due to short storage times and partly to good oversight of storage and handling. The few exceptions noted above were not injurious to health. Participants worked with government and private testing laboratories, in-country and in neighboring countries, with relatively minor start-up costs and delays that did not constrain the food pipeline, generally. While refinements of these details might improve the systems in place to ensure food quality, the fundamentals of their quality control procedures were sound.

3) One exception was the testing of food for voucher schemes. As food is only transformed into "food aid" at the point of purchase by the beneficiary, testing in voucher programs is necessarily incomplete or very cumbersome. Additional training for approved vendors, stricter criteria for participation, or capacity building on quality aspects of their operations might have been useful. In some cases, beneficiaries were also encouraged to report suspect commodities. Randomizing testing, as in the Uganda example, showed some promise as a means to ensure quality at a reasonable cost, as did sampling to establish quality trends among vendors, engaging partners (e.g., government agricultural services) to draw samples and test quality, or conducting initial testing in the field with trained project staff as samples were simultaneously sent to qualified laboratories.

FOOD AID MODALITY TIME AND COST COMPARISON

Evaluation question-- *In what situations (e.g., market characteristics, procurement location, destinations, aid objectives) did LRP deliver food aid in a more timely manner than can in-kind transfers from the U.S.? How cost-efficient was LRP relative to in-kind transfers, and what factors contribute to the relative cost-effectiveness of the two modalities to providing food aid?*

DEFINITIONS AND METHODOLOGY

As with the comparison among LRP approaches, for this section the evaluation team identified functionally equivalent points in the timelines of procurements for both LRP projects and in-kind shipments and gathered data from LRP and in-kind participants for these key dates in the procurement life cycles. These key milestone dates were:

- **Start point** – The start point for LRP hard or soft tenders is the date the participant issues the tender. For LRP direct contracts, the start point is the date on which the participant begins discussions with the supplier. For LRP voucher programs, the start point is the date on which the participant begins the search for suppliers/vendors. The start point for in-kind shipments is the date when FSA/KCCO issues a solicitation for commodities.[124]
- **Midpoint** – The midpoint of any of the LRP approaches that use contracts (i.e., hard or soft tenders and direct contracts) is the date the contract is signed. The midpoint for LRP voucher programs is the date on which the participant certifies a vendor or announces a voucher fair. The midpoint for in-kind food aid shipments is the date on which a freight contract is awarded or the date the purchase order is awarded to the commodity vendor, whichever comes later.
- **Endpoint** – The endpoint of the procurement process for LRP projects that deliver food and for in-kind food aid is the date that commodities arrive at the delivery endpoint. The delivery endpoint is the location, typically a warehouse, near or within a project's distribution zone, from which commodities are dispatched for distribution. For LRP vouchers, the endpoint is the date of the first voucher-based purchases or the date of the voucher fair.

The evaluation team collected a dataset of 212 in-kind shipments against which to compare the 191 local and regional procurements. The dataset contains variables on quantity, commodity category, country, region, and project response type (i.e. emergency or development) and allows for viewing the data from different angles in the comparison. For cost comparisons, the dataset includes 194 in-kind shipments in cases where total cost is compared.

For time comparisons, in-kind food aid participants (PVOs and WFP in project countries) provided data on the dates for procurement for 196 shipments. In 67 cases, only total time (tender date to delivery date) was made available; for the remainder (129 cases), total time as well as contract time and delivery time were provided, and are compared in this chapter.

[124] The evaluation team worked closely with USDA to select the date in the in-kind food assistance program lifecycle that corresponded functionally with the initiation of a tender in the LRP projects. USDA and the evaluation team agreed upon the date that FAS/KCCO issues a solicitation, rather than the call forward date, since call forwards (now called "sales orders" in the WBSCM system) involve an additional step in which sales orders are consolidated into purchase orders. These purchase orders are then included in the solicitations for commodities and freight that are issued through WBSCM. There is no analog for that consolidation process in the LRP projects, so, in order not to overstate the time needed for procurement for in-kind food aid, the later date (when the solicitation is issued) was selected and accorded with USDA.

TABLE 8.1: CHARACTERISTICS OF THE COMPARISON DATASET

	Number of In-Kind Shipments	Number of Local and Regional Procurements
Total Number of Cases	212	191
Number of Cases with Complete Time Data	129	191
Number of Cases with Complete Cost Data	194	191
Number of Cases Specified by Emergency or Development	176	191

Pre-positioning warehouses for USG in-kind food aid are located in several strategic sites around the world. While pre-positioning has been in use for many years, sites and capacity have been expanded in recent years. Pre-positioning is thought to reduce delivery times, and food destined for pre-positioning sites can also be diverted during transoceanic shipment to countries experiencing extreme food insecurity, allowing for flexibility of food aid distribution during crises. In certain circumstances, this method has the potential to reduce time to deliver food aid in critical situations of food insecurity. However, it would appear to involve greater cost in transport, storage and handling in the worldwide sites. Data on pre-positioning from USAID's Office of Food for Peace (FFP) was not made available to the evaluation team, and the comparisons in this section do not take these shipments into consideration.

The analysis compares LRP projects' procurements to comparable (in terms of commodity category and region) in-kind shipments that occurred within a three month window around the time of the local or regional procurement. The reason for this type of comparison (as opposed to commodity specific comparisons (e.g., wheat to wheat, sorghum to sorghum, or lentil to lentil) is that the commodities available in developing countries (e.g., varieties, genetically modified or not) are not always, or even often, the same within LRP or from U.S. in-kind food aid. Agricultural producers base their choices about which varieties to plant and to market on many factors, among them local preferences and agricultural conditions, local laws, nutritional considerations, and availability of inputs. For this reason, the commodities available from the U.S. are usually quite different from those available in the recipient countries. To address these issues, the analysis grouped commodities into the categories of unprocessed cereals, milled cereals, FBFs, pulses, and oils.

TIME COMPARISONS

The evaluation compared the elapsed time required to procure commodities for the 191 local and regional procurements with the elapsed procurement time for the 196 in-kind food aid shipments. However, there are 67 shipments for which the contract date (midpoint) was not made available, so that only total time is known for those shipments. When the evaluation team makes comparisons based on contracting and delivery time, these shipments are excluded from the comparison. However, in cases where looking at total time reveals useful patterns, those findings are included in footnotes to the tables.

Comparing the total procurement time between the two food aid modalities provides a simple, bird's eye view of the relative time performance. The comparison begins by showing development projects and emergency projects to explore the possible effects of these two types of responses on procurement times. Response type is directly relevant to time efficiency: speed is paramount in emergency response projects, while for development projects participants may plan for an extended procurement time in order to pursue development objectives, e.g. strengthening the capacity of local agricultural producers and markets. In addition to increasing access to food in the short run, such development projects aim also to improve food security over the long run. Procurements with longer durations under development programming are still timely if the food arrives when it is needed.

Emergency and development subsets are then analyzed by region and by commodity category. Splitting the data into region of project implementation assumes that distance will have an influence on how much time it takes to procure a commodity, especially in the delivery phase when distance is a factor. Regions of analysis include Asia, Central Africa, East Africa, Latin America, Southern Africa and West Africa. Commodity category might also have an impact on timeliness if handling and reconditioning take longer for some commodities as opposed to others. Commodity categories studied include unprocessed cereals, milled cereals, FBFs, pulses, and vegetable oils.

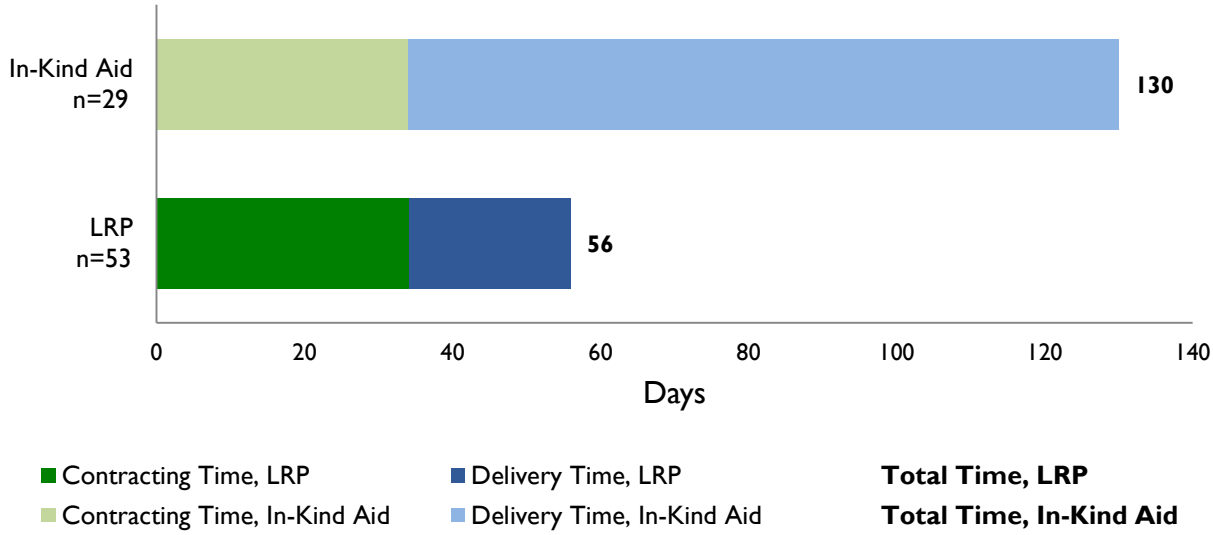
Relative Time by Food Aid Modality and Response Type

This section compares the two food aid modalities on the basis of the total elapsed time of the procurement process, from the start point to the endpoint, while also examining contracting and delivery phases individually. There are programmatic reasons that procurements for emergencies may take less time than those for development projects. Since speed is of the essence in responding to an emergency, participants may choose the quickest feasible procurement approach. Development projects, on the other hand, are more predictable giving participants a wider choice of feasible procurement approaches and the opportunity to pursue other objectives with procurement, e.g. using procurement to build the capacities of farmers' organizations or other suppliers. Consequently, the analysis separates these two types of procurements, comparing emergency local and regional procurements to emergency in-kind shipments, and development local and regional procurements to development in-kind food aid shipments.[125] Consistent with expectations raised by the preceding discussion, average elapsed procurement times were longer for LRP development projects and in-kind shipments for development projects, than times for comparable emergency projects.

Food procured for emergency in-kind food aid programs took on average 74 days longer to arrive at the final delivery endpoint than commodities purchased locally or regionally (Figure 8.1). This is 2.3 times longer overall for in-kind food aid than for LRP in emergencies.

[125] For 36 of the in-kind shipments, participants did not specify whether the project for which it received in-kind food aid was for emergency or development response. For 67 in-kind shipments, participants did not provide the midpoint date in the procurement timeline. These cases are therefore excluded from the analysis presented here. After removing these cases, emergency procurements for in-kind food aid programs total 29 cases, while through LRP the total is 53 cases. These totals are shown in Table 8.1.

FIGURE 8.1: AVERAGE TOTAL TIME BY FOOD AID MODALITY, FOR EMERGENCY PROJECTS, IN DAYS



Looking at these procurement times by contracting and delivery phases,[126] the contracting periods were the same for LRP and in-kind purchases, at 34 days. But in the delivery phase, LRP averaged 22 days while in-kind shipments averaged 96 days. Shipping in-kind food aid from the U.S. took 4.4 times longer for these shipments than the average procurement through LRP. LRP delivery times were faster than those of in-kind food aid because LRP approaches procured food closer to where it was needed, thus reducing the transport distance and delivery time. For example, an in-kind shipment of rice to northern Republic of Congo was first shipped from the U.S. to Pointe-Noire in the southwestern part of the country, and then transported by train to the east and finally by barge up the river to the north. A regional procurement of rice, on the other hand, required only truck transportation from neighboring Democratic Republic of Congo to the Republic of Congo from where it traveled by barge up the river to the delivery endpoint.

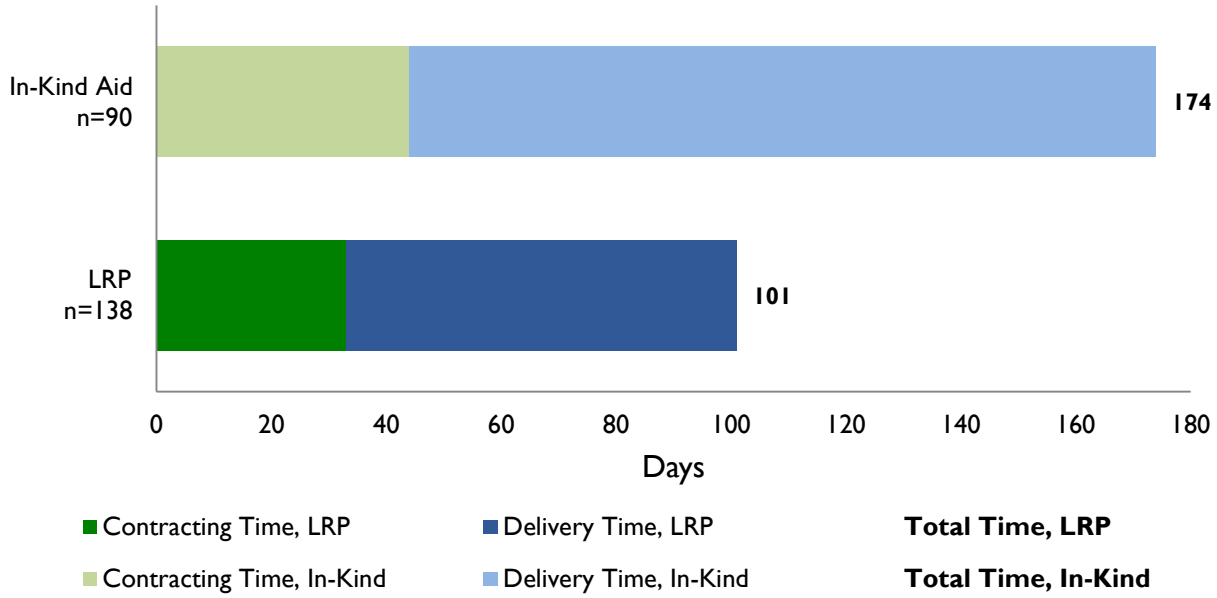
In addition to shipping times, in-kind shipments must clear customs in the port of entry and may then need to cross international borders to reach the delivery endpoint. Clearing customs and crossing borders consumes additional time, as related in site visits to projects in Zimbabwe and the Republic of Congo. Regionally procured commodities can also encounter customs clearance difficulties, as commodities also cross borders. Three of the four LRP participants that procured regionally noted that clearance processes were time-consuming, and one said that the clearance delays affected commodity delivery.

Aside from the data collection on timeliness and cost-effectiveness, in-kind participants were not directly targeted for interviews as part of the evaluation. However, some offered insights during communications with the evaluation team that are included in this report. On other occasions, the LRP participants also received in-kind shipments, and provided information on procedures and challenges for both modalities. Some in-kind participants noted that port traffic in discharge ports was extremely high and availability of inland transport vehicles or trains was not sufficient to meet demand during peak season, creating temporary blockages at the discharge port. Participants of both in-kind and LRP modalities encountered difficult inland transport during certain times of the year, as roads and other transportation infrastructure in some parts of the developing world are not passable during the rainy season or during other hazardous weather conditions.

[126] The number of cases ("n=" in the graphs) here and in the remainder of the tables in this chapter represents the net number of cases used in the analyses, after removing those in-kind shipments for which the evaluation team received incomplete data.

For in-kind as for LRP, food aid shipments for development projects have longer durations than do emergency shipments; however, LRP development programs still procured in 29 fewer days than did in-kind food aid for emergencies. Figure 8.2[127] below shows that procurements for development projects receiving in-kind food aid took on average 73 days longer than those using food purchased locally or regionally.

FIGURE 8.2: AVERAGE TOTAL TIME BY FOOD AID MODALITY FOR DEVELOPMENT PROJECTS, IN DAYS



For development projects in the evaluation data, LRP contracting time averaged 33 days. This was about the same as LRP contracting time for emergency projects, at 34 days. However, for in-kind shipments, the contracting phase averaged 34 days for emergency projects and 44 days for development projects.

Delivery time was also longer in development projects than in emergency projects, for both in-kind and LRP food aid. The delivery phase in the LRP development projects averaged 68 days, compared to 130 days for delivery of in-kind shipments.

Relative Time by Region and Response Type

LRP's timeliness advantage for emergency projects is greatest in West Africa and Latin America (71 and 79 days faster than in-kind shipments, respectively) (Table 8.2).

[127] After removing the cases without the midpoint date and those that did not specify emergency versus development, development in-kind food aid programs total 90 cases, compared to 138 cases through LRP.

TABLE 8.2 AVERAGE TOTAL TIME[128] BY FOOD AID MODALITY AND REGION, EMERGENCY PROJECTS, IN DAYS

Region	LRP	In-Kind Aid	Difference
Asia	53	*	--
Central Africa	101	130	29
East Africa	52	121	69
Latin America	41	120	79
Southern Africa	60	117	57
West Africa	49	120	71

** In-kind participants with emergency shipments to Asia did not make time data available for the evaluation. As the evaluation sought data on shipments parallel to those in LRP projects, the search was limited to Pakistan only – as that was the only LRP emergency project in that region.*

The difference between in-kind and LRP total times was shortest for Central Africa, but still favors LRP by 29 days. Four of the seven purchases in this subset of LRP projects were regional, explaining the longer time duration compared to other LRP projects. Emergency procurements through LRP for Southern Africa were over eight weeks faster than comparable in-kind shipments. For East and West Africa, LRP projects were able to procure nine to ten weeks faster than in-kind food aid programs.

For development projects, procurement for in-kind food aid programs took only 11 days longer than LRP procurements in East Africa (Table 8.3). WFP's P4P project in Tanzania was among the projects in that region, with 17 of the 30 procurements made in East Africa. That project included significant time for capacity building with farmers' organizations, which resulted in the somewhat longer procurement times for LRP. Still, LRP food aid was quicker to arrive than was in-kind aid. In the other regions with development projects, procuring for in-kind food aid programs took considerably longer than LRP. LRP was approximately 7 weeks faster for West and East Africa, 11 weeks faster in Asia, 13 weeks faster in Southern Africa, and 19 weeks faster in Latin America. However, for the LRP cases, a limited number of projects are available for the comparison in each region. This means that the comparison rests on the particular choices of those development projects (one in Latin America, and two each in the other regions). Caution must be used when interpreting these results to apply more broadly to local and regional procurement outside of the USDA LRP Project.

[128] The LRP average total times are based on 53 emergency procurements; for in-kind, the average total times are based on 38 emergency procurements. That figure includes all in-kind cases for which the evaluation team received start and endpoint dates, irrespective of midpoint dates. This allowed for a larger n for this analysis. The only cases excluded here are those for which participants did not specify whether the shipment was for emergency or development purposes.

TABLE 8.3: AVERAGE TOTAL TIME[129] BY FOOD AID MODALITY AND REGION, DEVELOPMENT PROJECTS, IN DAYS

Region	LRP	In-Kind Aid	Difference
Asia	51	127	76
Central Africa	*	333	--
East Africa	115	166	51
Latin America	11	143	132
Southern Africa	89	179	90
West Africa	134	182	48

** There are no LRP development projects in Central Africa against which to compare, as LRP projects were all emergency response.*

The difference in elapsed procurement time in Latin America is the most dramatic in the evaluation data but reflects only one project, a development LRP project in Nicaragua, which made fast procurements from local suppliers. This was a unique model as it included frequent, contract deliveries and the purchase of some perishable commodities, and therefore does not accurately represent the differences that might arise from a more representative sample of procurements in Latin America.

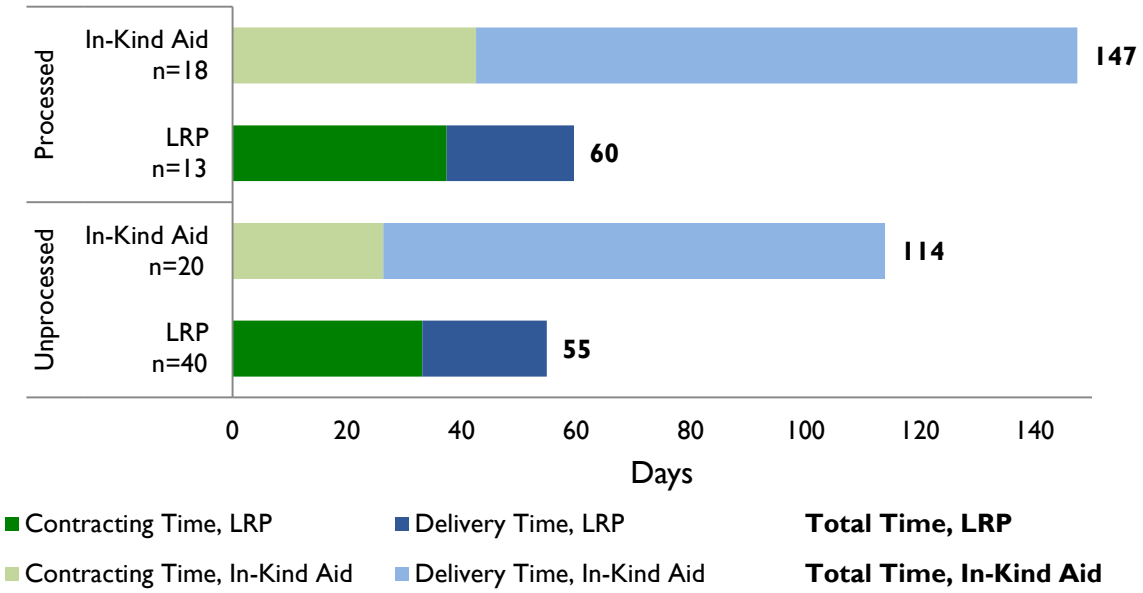
Relative Time by Commodity Processing and Response Type

This comparison separates the procurements into processed and unprocessed commodity categories. This stratification examines whether LRP or in-kind food aid is more time efficient when providing processed or unprocessed commodities. For example, processed products may be packaged differently than unprocessed commodities and may require more effort in handling, thus increasing delivery times relative to unprocessed products.

For emergency projects, processed commodities took longer to procure than unprocessed commodities for both in-kind and LRP food aid (Figure 8.3). Total procurement time for unprocessed commodities purchased for in-kind shipments was more than twice as long (114 days) as the total time required to procure similar commodities in LRP projects (55 days).

[129] The LRP average total times are based on 138 development procurements; for in-kind, the average total times are based on 129 cases. That figure includes all in-kind cases for which the evaluation team received start and endpoint dates, irrespective of midpoint dates. This allowed for a larger n for this analysis. The only cases excluded here are those for which participants did not specify whether the shipment was for emergency or development purposes.

FIGURE 8.3: AVERAGE TOTAL TIME BY COMMODITY PROCESSING, EMERGENCY PROJECTS[130], IN DAYS

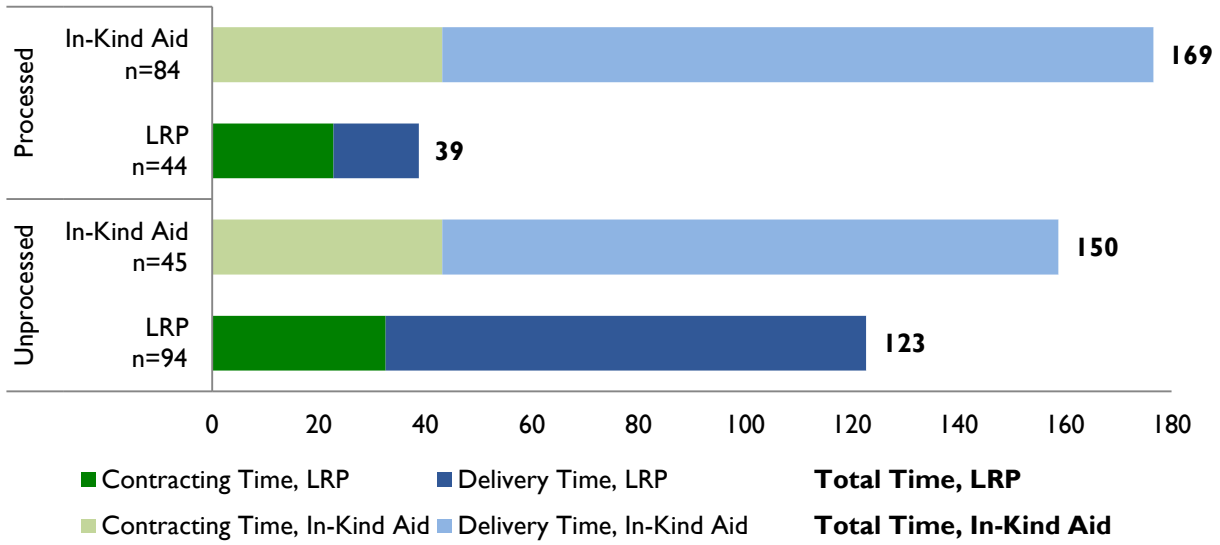


For processed foods, local and regional procurement times averaged 60 days compared to 147 days for in-kind shipments. Total time for processed foods in emergency LRP projects did not differ significantly from the time required to procure unprocessed foods. For in-kind shipments, however, procuring processed foods took, on average, 33 days more than procuring unprocessed foods.

Total time for development projects showed a somewhat different pattern than emergency projects. As in emergency projects, in-kind shipments of processed foods took longer than those of unprocessed foods but the difference (169 days versus 150 days) was not nearly as pronounced (Figure 8.4).

[130] The LRP average total times are based on 53 emergency procurements; for in-kind, the average total times are based on 38 emergency procurements. That figure includes all in-kind cases for which the evaluation team received start and endpoint dates, irrespective of midpoint dates. This allowed for a larger number of cases for this analysis. The only cases excluded here are those for which participants did not specify whether the shipment was for emergency or development purposes.

FIGURE 8.4: AVERAGE TOTAL TIME BY COMMODITY PROCESSING, DEVELOPMENT PROJECTS[131], IN DAYS



Comparing food aid modalities, procuring for in-kind food aid programs took longer, on average, than did LRP projects to procure both processed and unprocessed commodities. However, the difference for processed commodities (130 days) was much larger than for unprocessed commodities (27 days).

However, development project procurements of unprocessed commodities through LRP took 123 days compared to 39 days for processed products – a difference of 84 days. This is mainly due to the capacity building focus of development LRP projects such as WFP's P4P projects in Tanzania, Mali and Malawi, which procured unprocessed cereals over longer time frames. Nearly three-quarters (72%) of unprocessed cereals procured in development LRP projects were procured through direct purchases and soft tenders, rather than hard tenders. Soft tenders and direct contracts were used in projects with a focus on capacity building objectives which tended to require more time than did buying from established suppliers.

Relative Time by Commodity Category and Response Type

The overall patterns for processed and unprocessed commodities hold up when commodity categories are disaggregated as well (Table 8.4). That is, procurements for in-kind food aid programs take longer, on average, than procurements of similar commodities for LRP projects. The sole exception is in the case of unprocessed cereals procured for development projects, in which LRP food aid is ten days slower than in-kind, for reasons of capacity building as discussed above.

[131] The total number of in-kind cases for this comparison is 129, which includes all cases for which total time data were available.

TABLE 8.4: AVERAGE TOTAL TIME BY FOOD AID MODALITY, COMMODITY CATEGORY AND RESPONSE TYPE, IN DAYS

Commodity Category	Emergency Projects			Development Projects		
	Modality	Total Time	Difference	Modality	Total Time	Difference
Unprocessed Cereals	LRP	59	35	LRP	151	(10)
	In-Kind	94		In-Kind	141	
Milled Cereals	LRP	112	20	LRP	31	152
	In-Kind	132		In-Kind	183	
FBFs	LRP	49	107	LRP	65	101
	In-Kind	156		In-Kind	166	
Pulses	LRP	50	68	LRP	60	101
	In-Kind	118		In-Kind	161	
Vegetable Oils	LRP	51	80	LRP	37	129
	In-Kind	131		In-Kind	166	

This chart illustrates that procurements made via LRP arrive at their respective final delivery points faster than those made via the in-kind modality in most cases.

COST COMPARISONS

This section compares the two food aid modalities – LRP and in-kind food aid – on the basis of total costs needed to procure commodities. Total costs include commodity costs and TSH as previously defined. TSH costs include the administrative costs (e.g., costs of printing and distributing vouchers, training vendors and beneficiaries, and monitoring) uniquely associated with voucher programs. The analysis compared 191 local and regional procurements with 194 in-kind shipments for which the evaluation team had complete cost data.[132] Average costs per metric ton are used for each comparison. Average costs are calculated by multiplying the cost per MT by the total tonnage in each category and then dividing this total cost by total tonnage for each category.

The first comparison separates the data by commodity category to control for the significant differences in commodity and TSH costs across commodities. Comparing LRP costs to those of in-kind food aid without first separating them by commodity category would average costs across categories and risk masking how other variables might affect procurement costs.

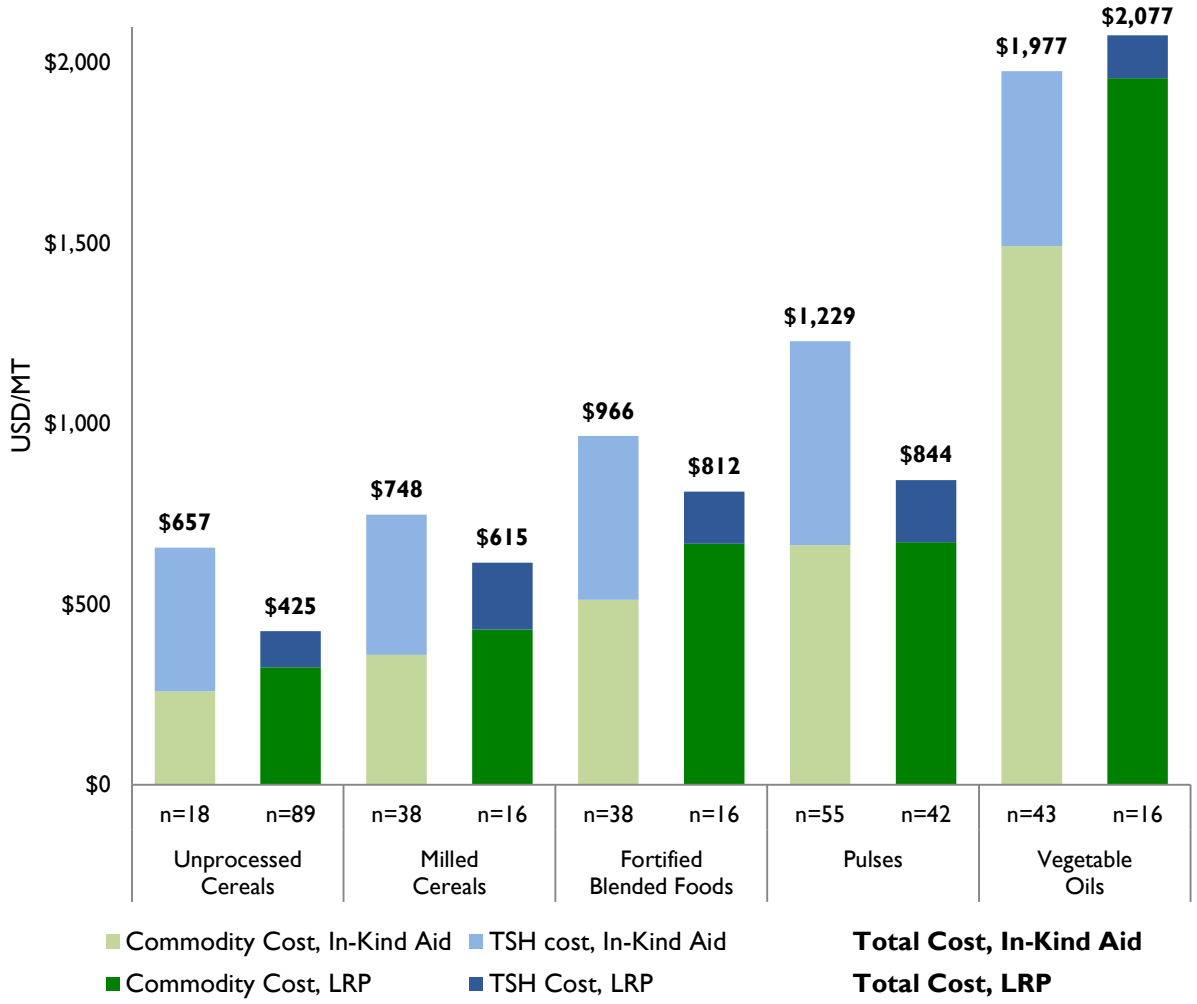
Subsequent comparisons subdivide the data further by project response type and then by region of project implementation to examine how these factors might affect costs.

[132] In spite of repeated attempts, the evaluation team was unable to obtain complete cost data for 15 in-kind shipments. In particular, these shipments lacked data on TSH costs. The cost analysis excluded these observations to avoid a downward bias in estimates of in-kind procurement costs. In the graphs and tables that follow, two in-kind shipments of commodities that do not fall within the standard categories (unprocessed cereals, pulses, etc.) are also excluded. As such, the total number in each table and graph is 192 in-kind shipments. Similarly, the total number of LRP cases is 179 after the 12 cases of "Other" commodities are excluded.

Relative Costs by Food Aid Modality and Commodity Category

Average commodity and TSH costs for LRP and in-kind food aid programs, by commodity category, show that in-kind food aid is less expensive when only commodities are considered, but more costly overall because of higher TSH costs (Figure 8.5).

FIGURE 8.5: AVERAGE COSTS BY FOOD AID MODALITY AND COMMODITY CATEGORY, IN USD/MT



For all five commodity categories, average commodity costs for LRP were higher than were in-kind commodity costs. However, in-kind food aid's transoceanic shipment contributes considerably to overall costs, and for four commodity categories, overall costs for LRP were significantly lower. For LRP projects in the evaluation dataset, TSH costs account for 21 percent of the overall cost. For the in-kind shipments, on the other hand, TSH makes up 49 percent of the overall costs (Table 8.4).

Purchases through LRP projects cost less per MT than did in-kind food aid for unprocessed cereals, milled cereals, FBFs and pulses. Total costs per MT for in-kind food aid shipments were lower for vegetable oils, but by a very small margin.

Relative TSH Costs by Food Aid Modality and Commodity Category

As noted above, TSH costs represent a greater proportion of in-kind costs than they do for LRP purchases (Table 8.5). This pattern is consistent across all five commodity categories. The ratios of TSH to total costs for in-kind food aid vary considerably across commodity categories while they are relatively stable for LRP projects.

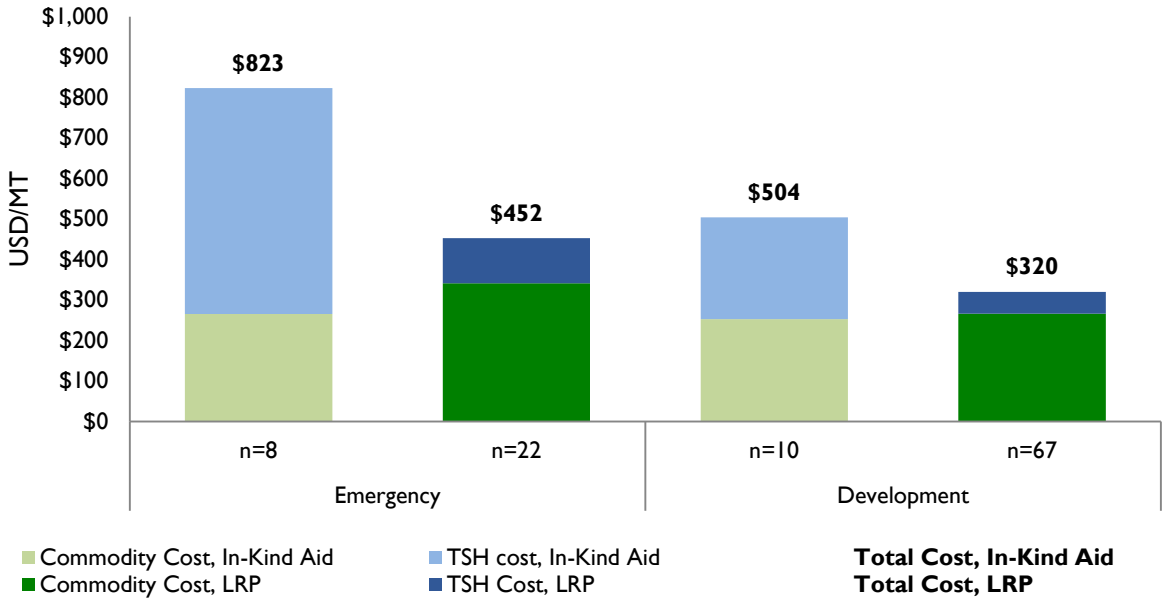
TABLE 8.5: AVERAGE TSH COSTS BY FOOD AID MODALITY AND COMMODITY CATEGORY, PROPORTION

Commodity category	Proportion of TSH to total cost (%) LRP, all projects	Proportion of TSH to total cost (%) In-kind, all projects
Unprocessed Cereals	23%	61%
Milled Cereals	30%	52%
FBFs	18%	47%
Pulses	20%	46%
Vegetable Oils	6%	11%
Overall proportion	**21%**	**49%**

Relative Total Costs by Food Aid Modality, Commodity Category and Response Type

Viewing these costs within the category of unprocessed cereals, total procurement costs were higher in emergency projects than in development projects, for either food aid modality (Figure 8.6).

FIGURE 8.6: AVERAGE COSTS OF UNPROCESSED CEREALS BY FOOD AID MODALITY AND RESPONSE TYPE, IN USD/MT



Commodity costs for unprocessed cereals procured through LRP are higher than for in-kind emergency food aid. However, high TSH costs for in-kind shipments mean that the total costs for these emergency procurements are 82 percent higher than similar procurements through LRP. For development projects, total costs for in-kind shipments are 58 percent higher than procuring unprocessed cereals in the LRP projects.

Both emergency and development pulse procurements cost more overall for in-kind food aid programs than for LRP projects (Table 8.6.). The costs of pulses for in-kind shipments were 150 percent of LRP costs for emergency projects and 142 percent of LRP costs for development projects. However, there were few in-kind pulse shipments for emergencies against which to compare LRP; costs for the nine emergency in-kind shipments for which the team had data may or may not represent pulse purchases overall.

TABLE 8.6: AVERAGE COSTS OF PULSES BY FOOD AID MODALITY AND RESPONSE TYPE, IN USD/MT

Response type	Food Aid Modality	Number of Procurements	Total Cost (USD/MT)	Difference	In-kind as % of LRP
Emergency	LRP	15	$870	$439	150%
	In-kind	9	$1,309		
Development	LRP	27	$807	$339	142%
	In-kind	39	$1,146		

Looking at overall costs in emergency food aid, LRP costs for processed commodities exceeded those of in-kind shipments for milled cereals and FBFs. For development projects, LRP costs were lower than in-kind for the same two categories of commodities (Table 8.7).

TABLE 8.7: AVERAGE COSTS OF PROCESSED COMMODITIES BY FOOD AID MODALITY AND RESPONSE TYPE, IN USD/MT

Commodity Category	Emergency Projects			Development Projects		
	Modality	Total Cost	Difference	Modality	Total Cost	Difference
Milled Cereals	LRP *(n=2)*	$1,205	($617)	LRP *(n=14)*	$391	$406
	In-Kind *(n=4)*	$588		In-Kind *(n=26)*	$797	
FBFs	LRP *(n=5)*	$1,235	($166)	LRP *(n=11)*	$633	$306
	In-Kind *(n=5)*	$1,069		In-Kind *(n=25)*	$939	
Vegetable Oils	LRP *(n=6)*	$2,336	($2)	LRP *(n=10)*	$1,862	($35)
	In-Kind *(n=4)*	$2,334		In-Kind *(n=30)*	$1,827	

In emergency procurements, FBFs were 16 percent more expensive through LRP than through in-kind food aid, but the number of cases of FBFs in emergencies is small and may not represent typical costs. In-kind shipments were also less than half of the cost of LRP for emergency purchases of milled cereals, but once again, the number of cases is small – just two procurements of rice for the Republic of Congo. The number of procurements from development projects is more robust, and there is less difference between costs. LRP has the cost advantage for

milled cereals and FBFs among development projects, but is more expensive than in-kind food aid for vegetable oils.

Relative Costs by Food Aid Modality, Commodity Category and Region

In-kind shipments of unprocessed cereals were more expensive (in terms of total costs) than procurements by the LRP programs in all geographic regions. Table 8.8 shows the variation in unprocessed cereals costs across regions and the difference between costs of LRP and in-kind shipments.

TABLE 8.8: AVERAGE COSTS OF UNPROCESSED CEREALS BY FOOD AID MODALITY AND REGION, IN USD/MT

Region	Food Aid Modality	Number of Procurements	Total Cost	Difference	In-kind as Percentage of LRP
Asia	LRP	1	$356	$176	149%
	In-kind	7	$532		
Central Africa	LRP	3	$750	$88	112%
	In-kind	6	$838		
East Africa	LRP	15	$316	$486	254%
	In-kind	1	$802		
Latin America	LRP	6	$544	*	*
	In-kind	-	-		
Southern Africa	LRP	15	$312	$93	130%
	In-kind	2	$405		
West Africa	LRP	49	$472	$240	151%
	In-kind	2	$712		

In-kind shipments of unprocessed cereals were particularly expensive relative to LRP in East Africa, though there are only 18 total in-kind cereals shipments, one of which was to East Africa. Particularly for those regions, the small number of in-kind shipments does not provide a strong basis for generalizations of in-kind costs by region. The comparisons, therefore, are not as robust for unprocessed cereals, as for pulses (below).

Comparisons between in-kind shipments and local and regional procurements of pulses across regions have more observations in three of the regions (Table 8.9). For East and West Africa, in-kind shipments were much more expensive than LRP pulse purchases – 147 percent and 157 percent of LRP costs, respectively. For Latin America, in-kind and LRP costs were similar, with in-kind costs only 104 percent of LRP costs.

TABLE 8.9: COSTS OF PULSES BY FOOD AID MODALITY AND REGION, IN USD/MT

Region	Food Aid Modality	Number of Procurements	Total Cost	Difference	In-Kind as Percentage of LRP
Asia	LRP	-	-	*	*
	In-Kind	13	$906		
Central Africa	LRP	2	$1,224	$ (87)	93%
	In-Kind	3	$1,137		
East Africa	LRP	8	$727	$525	172%
	In-Kind	14	$1,252		
Latin America	LRP	8	$1,213	$ (89)	93%
	In-Kind	12	$1,124		
Southern Africa	LRP	11	$793	$604	176%
	In-Kind	5	$1,397		
West Africa	LRP	13	$553	$553	200%
	In-Kind	8	$1,106		

**As there were no pulse procurements through LRP in Asia, this comparison cannot be made.*

The small number of observations in Central Africa provides little basis for meaningful comparisons, but do show a slight (7%) cost advantage for in-kind pulse shipments. In East and Southern Africa, in-kind costs were over 70 percent higher than LRP project purchases with a moderate number of cases. In Latin America, LRP costs were 7 percent higher than those of in-kind pulse shipments. Procurements of pulses in West Africa were half the cost of in-kind shipments of pulses to the same region.

For the processed commodities by region, FBFs have too few procurements overall to make strong comparisons between in-kind and LRP costs. The limited data do reflect lower costs for in-kind shipments of FBFs to Latin America relative to LRP, but in East and Southern Africa, LRP projects procured FBFs for about two-thirds of the cost of in-kind food aid.

Oils exhibited greater variation in cost differences across regions than do unprocessed cereals. In Latin America and West Africa, vegetable oils purchased for in-kind shipments cost about three-quarters of the cost of LRP projects in those regions. In Asia, however, LRP projects procured oils at a lower average price than did projects relying on in-kind shipments. The small number of observations, however, makes it difficult to determine whether the observed differences across regions are statistically meaningful (e.g. reflect more competitive sources of vegetable oils in the two low cost regions relative to U.S. markets).

Milled cereals costs were also quite variable across regions with in-kind shipments costing less than local and regional procurements in West, Central and Southern Africa and Latin America. In Asia and East Africa, milled cereals were less expensive through LRP than through in-kind shipments (Table 8.10).

TABLE 8.10: COSTS OF MILLED CEREALS BY FOOD AID MODALITY AND REGION, IN USD/MT

Region	Food Aid Modality	Number of Procurements	Total Cost	Difference	In-Kind as Percentage of LRP
Asia	LRP	3	$457	$179	139%
	In-Kind	2	$636		
Central Africa	LRP	2	$1,204	$ (181)	85%
	In-Kind	4	$1,023		
East Africa	LRP	1	$520	$279	154%
	In-Kind	13	$799		
Latin America	LRP	5	$1,302	$ (529)	59%
	In-Kind	10	$773		
Southern Africa	LRP	3	$335	$ (4)	99%
	In-Kind	3	$331		
West Africa	LRP	2	$779	$ (23)	97%
	In-Kind	6	$756		

However, for milled cereals procurements, there are very few observations on which to base comparisons. Overall, the indicative cost variations between processed and unprocessed commodities in Tables 8.7 through 8.10 reinforce the finding that processed commodities were more cheaply acquired through in-kind shipments, than through LRP.

FIGURE 8.7 LRP AND IN-KIND COMPARISON CASE STUDY: CAMBODIAN SCHOOL LUNCH PROGRAM

Cambodia's school feeding programs provide an illustrative comparison between LRP and in-kind modalities. IRD provides lunches in rural Cambodian schools to encourage attendance and improve nutrition. Through the McGovern-Dole International Food for Education and Child Nutrition program, IRD receives CSB and vegetable oil through in-kind aid. With funding from the USDA LRP Project, IRD substituted a once-weekly rice-based meal of canned fish, vegetable oil and iron-fortified fish sauce. Table 8.11 compares the costs (commodity and TSH costs) for the two programs based on the ingredients and quantities in the lunch recipes.

TABLE 8.11: SCHOOL LUNCH COST COMPARISON, CAMBODIA

Commodity	LRP			In-kind		
	Average total cost USD/MT	Recipe quantity (MT)	Quantity * Cost/MT	Average total cost USD/MT	Recipe quantity (MT)	Quantity * Cost/MT
CSB				$906.65	0.0001	$0.09
Rice	$418.99	0.0001000	$0.04			
Vegetable oil	$1,458.77	0.0000100	$0.01	$1,892.20	0.0000138	$0.03
Canned fish	$2,041.47	0.0000300	$0.06			
IFFS	$1,798.52	0.0000050	$0.01			
Total cost			**$0.13***			**$0.12**

** The total of $0.13 is due to rounding.*

The cost per student per day is $0.12 for the CSB-based meal (in-kind) and $0.13 for the rice-based meal (LRP). Though LRP lunches were 9 percent more expensive, IRD was able to procure canned fish – an animal-based protein source –economically in Cambodia. Providing a similar lunch through in-kind food aid would have cost much more: three times more than LRP or $0.39 per student per day**. Students preferred the rice-based meal and many asked for that meal to be repeated daily in place of CSB. Parents and teachers said the children ate the entire rice-based meal, but often only ate a partial CSB meal.

*** The figure of $0.39/day comes from a parallel calculation of canned fish, vegetable oil and rice provided through in-kind food aid, from those procurements in the evaluation dataset. Iron-fortified fish sauce is not included in this "recipe," as no such procurements were made through in-kind food aid during the time period in question.*

ADDITIONAL FACTORS

As in the cases of the intra-LRP comparisons on time in earlier chapters of this report, climate, infrastructure and regulatory matters can interrupt or delay commodity deliveries. This is true for both in-kind shipments and local and regional procurements. Gathering information about these factors from the evaluation site visits, the team was also able to speak with in-kind food aid participants in some instances, though less extensively than with the LRP participants, to learn about their experiences with food assistance projects.

One Cameroonian respondent said adverse weather and inadequate transportation infrastructure impeded food delivery in-country during the rainy season. "The secondary roads… are poorly maintained. This resulted in relocation of distribution sites and some beneficiaries from certain villages were obliged to [go] more than five kilometers to receive their food." An LRP and in-kind participant in Zambia noted the advantage of working with local suppliers if anything were to go wrong: "Everything was being procured from within the country. So that even if we have challenges with the suppliers, we could sit on a round table… [with them], and see the problem and learn how to solve it." A Burkina Faso LRP and in-kind participant reported on the need to be able to "meet

deadlines and make adjustments for delays."[133] In the in-kind project, the participant reported a shortage of in-country transport vehicles due to a political crisis in a neighboring country which caused transport delays; delivery of the in-kind commodities took more than twice as long as that of the parallel LRP project, despite the longer start-up time experienced by the LRP operation. Being able to work directly with suppliers in-country is an advantage when trying to resolve problems with any aspect of a food aid delivery. Often, an in-kind participant has few options when problems arise. For example, if there are problems with a shipment of commodities for a USDA in-kind food aid program, participants pursue their own claims against carriers once the title is transferred at the U.S. loadport. This process can take months or years, with no guarantee of reimbursement. With LRP, the participant is generally able to act quickly to replace or modify a shipment, and it often withholds payment until successful delivery, so defaults do not represent a loss.

Other cost considerations include the process of clearing customs and paying taxes. Participants using the in-kind modality frequently must subcontract with a clearing agent at the port to ensure commodities are cleared without issue. Import taxes paid by the traders, penalties due to any delay in arrival or in excessive off-loading times further impede the process and result in hefty costs passed on to participants in many cases.[134] Through bill of lading freight contracts place delivery time enforcement penalties on shipping agents rather than on in-kind participants. Non-through bill of lading arrangements are less expensive and provide opportunities for local transport companies, but also increase risk and can add challenges for participants receiving the commodities.

Two additional food assistance approaches that in-kind participants often use are monetizing commodities and pre-positioning food for assistance in emergencies. Instances of these approaches were excluded from the current dataset: monetization shipments because of differences in methods that could influence cost and time calculations, and pre-positioning because the evaluation team did not have access to relevant data. Because pre-positioning data are not included here, the evaluation results may understate the speed with which in-kind food aid *can* be delivered by the USG. On the other hand, pre-positioning incurs additional costs related to warehousing so it is also possible that the costs for emergency response through pre-positioning are greater than those found in the evaluation analyses.

In-kind shipments and LRP pilot projects shared the goal of providing food aid to needy populations. But in many other ways the two modalities differ greatly. In-kind food aid has been a well-funded, worldwide activity for over 50 years, with many permutations and innovations. Development and humanitarian industry leaders have developed skills, systems and methods to effectively and efficiently transfer billions of dollars of commodities to targeted beneficiaries everywhere around the world. For most of the LRP PVO participants, the USDA-funded LRP projects were their first experience with LRP. The experience, networks, and systems they have developed since the pilot began will likely serve them well in the future, as food assistance modalities are tested and refined. However, several admitted that the learning curve was steep. And since the pilots were of small size and duration, the systems the participants put in place were temporary and would need to be strengthened to ensure costs could be managed appropriately over time. It is reasonable to expect that experience will hone these systems and improve time and cost-effectiveness outcomes.

CONCLUSIONS

1) Time comparisons between in-kind and LRP demonstrate the advantage LRP generally has with regard to speed of procurement. This advantage was evident across commodity categories, regions, and whether the project was for emergency or development purposes. First and foremost, in-kind shipments are slower because of transoceanic transport; other factors can include customs and port clearance, as well as inland transport (and possibly additional customs clearance at international borders). Contracting times were not

[133] Upton, Joanna, 2011. "Local Food for Education: A comprehensive evaluation of the Local Education Assistance and Procurement (LEAP) project, piloting local purchase for school-feeding in Burkina Faso." Project report submitted to USDA, 2011.
[134] If the shipment is done via through bill of lading, some of these difficulties are bypassed. However, most in-kind shipments do not use the through bill of lading.

significantly different between local and regional procurements and in-kind shipments. It is the delivery phase where in-kind takes appreciably more time than LRP.

2) Timeliness, however, is not only the duration of the procurement process, but also the arrival of the food aid when it is needed. For both LRP and in-kind food aid, when emergency needs can be forecast, commodities can be scheduled for delivery to ensure that food arrives on time to meet critical needs. In a rapid-onset crisis, however, the much shorter procurement time of LRP projects (56 days on average for LRP versus 130 days on average for in-kind) made LRP a more appropriate choice. With development projects, the difference in time for procurements through in-kind and LRP was less pronounced. Procurement was quicker with LRP than with in-kind shipments (101 days on average for local and regional procurements versus 174 on average for in-kind shipments) for most commodity categories; for unprocessed cereals in development projects, in-kind was the quicker modality, but this was the only time comparison that favored in-kind shipments.

3) To control for large differences in the market costs of different commodities, the evaluation based the cost comparisons on industry-standard groupings of similar commodities. In-kind shipments generally cost more for unprocessed cereals, milled cereals, FBFs, and pulses than did LRP food aid; LRP projects were more costly only for vegetable oils, and only by a negligible amount per MT. These findings echo those in several other studies, cited elsewhere in this report (e.g., Barrett, et al, 2012). Where LRP has the cost advantage, the relatively high in-kind transport costs account for most of the advantage. Unprocessed cereals and pulses are the most frequent commodities purchased in the LRP projects, and represent the greatest total quantity.

4) In-kind shipments incurred similar commodity costs for emergency and development projects. LRP, on the other hand, had greater variation in commodity costs across the two response types. This can be attributed, in part, to the range of procurement approaches used by LRP to achieve its ends, such as using direct purchase or soft tenders with targeted suppliers to increase their market participation. Similarly LRP projects used vouchers in some markets to ensure that vulnerable households had access to available commodities. The competitive tendering that dominates in-kind purchases in the U.S. results in a more stable set of prices for the same commodities, as the market is large and highly integrated.

5) Within each region, total procurement costs follow the pattern of costs by commodity: LRP food aid was generally less expensive for unprocessed cereals and pulses across all regions, and more expensive than in-kind food aid for processed commodities across regions. The difference was greatest for milled cereals ($617 more expensive per MT), and least for vegetable oils ($100 more expensive per MT). In comparing the regions, Latin America and Central Africa LRP projects tended to have higher costs, while in East and West Africa, in-kind costs were somewhat higher.

6) TSH costs were a greater proportion of overall costs for in-kind shipments than for LRP and highly variable by commodity type. In emergencies, TSH costs for in-kind shipments represent an even greater proportion of overall in-kind costs, particularly for unprocessed cereals. This had a strong effect on costs for in-kind shipments in emergencies. For LRP, the TSH costs were more stable, only varying two percentage points between development and emergency procurements. Overall, LRP costs for TSH represented a much smaller proportion of total costs than they did for in-kind shipments. This evidence suggests, too, the possibility of greater use of LRP for emergency procurement to take advantage of both time and cost advantages. However, the effect of commodity category on cost is still a factor and response analysis had to consider the cost and time efficiency of options based on the commodities to be procured.

OVERALL CONCLUSIONS

The USDA LRP Project tested an array of models of LRP programming. Participants used response analyses to make decisions about the most appropriate procurement approach to support food-insecure populations in a range of environments while reducing the likelihood of adverse market impacts. Participants' reporting and this evaluation provide USDA with qualitative experiences and quantitative data on how project approaches fared and lessons learned for the future. This section presents general conclusions for the major chapters of the evaluation report. A set of final conclusions draws from across those chapter themes.

Timeliness

1. *Procurement Approaches*

Of the individual procurements examined for the evaluation, vouchers had the shortest average total time[135] of all the procurement approaches for LRP projects – 44 days on average in emergencies, compared to 58 days for hard tenders used in emergency responses. For development projects, vouchers were again the fastest approach, at an average of 43 days' total procurement time, compared to 66 days for hard tenders. The relative speed with which vouchers can get food into beneficiaries' hands makes them an appealing approach when speed is of the essence and market conditions are favorable. Given the small number of voucher projects examined for the evaluation, however, it was difficult to determine the conditions under which they are faster than other procurement approaches.

Among the LRP approaches, in 45 of 53 procurements for emergencies, participants chose to use hard tenders. In site visit interviews, participants told the evaluation team that they preferred larger, established traders; PVOs requested lists of approved traders from WFP in two countries to help to ensure good supplier performance in emergency LRP projects. Participants used a wider variety of procurement approaches for development projects, choosing soft tenders and direct contracts in 75 of 138 (54%) development project procurements. These approaches often serve to build capacity in small suppliers and thus add time to the procurement process - 82 days on average for all soft tenders and 137 days for direct purchases. Participants successfully planned for the longer time required to pursue development objectives and the evaluation team learned of only one brief pipeline break among the projects.

2. *Local vs. Regional Procurement*

Participants chose local over regional procurement in most situations. In fact, local procurements accounted for 95 percent of all LRP project procurements. Local purchase was by far more frequently chosen over regional procurement, and carried a distinct time advantage – 51 days for local procurements versus 76 days for regional procurements – because of the additional transport time among the regional procurements observed. Local procurement also supported producers in the project country, and could therefore be used to meet project timelines and development goals, when applicable.

3. *Additional Considerations*

Climate, infrastructure, and regulatory concerns can and do influence food aid procurements - in-kind food aid deliveries as well as those through LRP - and had to be considered on a case by case basis. These external factors affect timeliness and had to be taken into account during response analysis and in ongoing project decisions.

4. *Emergency and Development Response Types*

Emergency LRP projects, on average, procured in 45 fewer days than did development LRP projects. Emergency and development projects contracted their procurements in approximately the same time but the average delivery

[135] Total procurement time was equal to contracting time to delivery time.

time for development projects was nearly three times longer (22 days for emergencies, vs. 68 days for development projects).The procurements with most elapsed time were development projects with capacity building incorporated into their project designs. Such procurements were designed to build the capacities of less experienced suppliers, those without tendering experience, or those who need support in meeting commodity quality standards. The longer average procurement timelines of development LRP projects, therefore, reflect project design rather than poor performance regarding time efficiency.

Cost-effectiveness

1. *Emergency and Development Response Types*

Procurements for emergency projects often had higher total costs than procurements for development projects – 41 percent higher for emergency procurements of unprocessed cereals. Pulse purchases for emergencies were 8 percent higher than those for development projects. In emergency projects, the need to get food to beneficiaries in a timely manner may give participants less flexibility in choosing the most cost effective procurement options (e.g., procurement approach, supplier, market timing). Consequently, procurements for emergency projects generally experienced higher commodity and TSH costs than development procurements.

2. *Commodity and supplier selection*

Participants considered cost in their selection of commodities and sources, and reported IPP as benchmarks in their procurement markets. In site visits the participants reported using IPP to decide whether to procure in local or regional markets, with the aim of conserving project funds and purchasing under the best competitive conditions. WFP staff consulted with their partner offices in potential procurement countries to access IPP; for the other participants interviewed, this process was more challenging when they did not have partner offices they could consult.

3. *Local vs. Regional Procurement*

Local procurement was deemed the best alternative in the great majority (95%) of LRP projects, providing foods beneficiaries knew well while maintaining low costs. Purchasing regionally in well-integrated, surplus markets and from larger-scale, more established suppliers can be an economical option that also "does no harm."

Lower average TSH costs for local procurements generally gave these purchases the cost advantage over regional procurements, in terms of total costs. Based on only four observations of regional purchases, for instance, commodity costs for locally procured unprocessed cereals were 38 percent higher than for those procured regionally. However, regional purchase TSH costs were nearly double those of local procurements ($164/MT for regional versus $86/MT for local). Because of the difference in TSH costs, total costs for unprocessed cereals were just $16 more per MT for local versus regional purchase.

4. *Procurement Approaches*

The experience of six voucher projects in the USDA LRP Project suggests that it is a relatively low-cost procurement approach. Voucher purchases take place at the retail level and can have higher commodity costs at times, but that was not generally true for LRP voucher projects where vouchers were among the lower cost approaches for most commodities. LRP participants used voucher programs in areas with greater market integration and where food availability was less an issue than was access. Very low TSH costs for vouchers contributed to keeping overall costs for these procurements low relative to other approaches.

Hard tenders incurred higher than expected commodity costs under the USDA LRP Project. Typically hard tenders should experience relatively low commodity costs because they procure competitively from larger, established suppliers. However, among the LRP projects, the 88 hard tenders had similar to or higher average total costs compared to the other procurement approaches for the two commodity categories with sufficient observations for comparison (unprocessed cereals and pulses). However, the fact that 85 percent of the emergency

procurements were hard tenders (and thus higher cost because of the urgency of the need) makes it difficult to attribute the higher cost to the procurement approach.

Participants used soft tenders and direct purchases to support market participation among FOs or other targeted groups. These were more costly than other approaches for milled cereals, but cost less for pulse procurements.

TSH costs varied with procurement approach. Voucher programs had no explicit TSH costs but did have operational costs specific to vouchers (e.g. printing and distributing vouchers, and training vendors and beneficiaries in their use). These costs were relatively low compared to the TSH costs incurred under non-voucher procurement approaches. As a result, overall voucher programs were relatively low-cost.

Market Impact

1. *Market Impact Analysis*

The 20 LRP projects had negligible and fleeting impacts, if any, in the markets from which they procured food aid. A combination of techniques used to monitor the LRP projects found no "probable" market impact in procurement markets. Where data were sufficient for evaluation, the analysis concluded that 15 projects were "unlikely" to have caused any impact and that 3 had "possible" market impact. The last two projects had "unlikely" market impact for two of the commodities they purchased, and "possible" market impact for another. Therefore the strongest evidence for market impact allowed the conclusion that market impact was "possible" in one-fifth of the field projects.[136]

2. *Impact on Producers and Suppliers*

Projects utilized a variety of types of producers and suppliers: FOs, small-scale traders, large-scale traders and the government. FOs may not currently be the most efficient suppliers of food to the market but the LRP projects encouraged them to pool resources, achieve economies of scale, and collectively increase the value-added they draw from their labors. This also supports longer-term positive impacts on food security for the areas these farmers can help to feed. WFP and CRS used local procurement built capacity with FOs to supply the market in Burkina Faso, Malawi, Mali and Tanzania. This approach provides multi-year opportunities for technical and managerial development of the organizations, to which LRP contributed over the course of one or two years. These projects did experience a higher default rate than other types of projects, highlighting the trade-off between long-term institutional development and short-term supply of food to LRP projects.

Large, formal-sector traders, often using commodity exchanges, reported perhaps fewer benefits from among the respondents queried in site visits. Most reported that they were already supplying donor-funded food aid projects (such as WFP and several regional and national support projects) so supplying LRP projects did not significantly increase exposure. Also, as part of a pilot, the LRP projects made procurements that were relatively small for the large formal sector suppliers, so the additional income did not have as much impact. Similarly, FCF in Nicaragua purchased some food through BAGSA, but traders were not as interested in supplying the small quantities sought by the project. However, the manufacturers who worked with Land O'Lakes in Bangladesh did experience significant capacity building, and are now producing similar bars for retail sale.

Smaller traders benefited as well. One such example is IRD Cambodia's work with a local producer of IFFS. Though no brands available in retail markets passed the nutrition content testing required by national regulations, the IFFS producer was able to improve the protein content, meet the nutritional needs of the children benefiting from the project, and offer a product substantially better than the others on the market. Small traders interviewed

[136] The evaluation team classified each outcome as "confirmed", "probable", "possible" or "unlikely". At one extreme, "confirmed" corresponded to a clear pattern of market impact demonstrated by empirical criteria; at the other, "unlikely" represented the opposite: a complete absence of market impact. Between these extremes, market impact was "probable" if at least one source of evidence suggested it and no others contradicted this; it was "possible" if at least one source of evidence suggested it, even if others contradicted this. For some projects, data availability limited analysis to certain commodities.

for the project said that participating in the LRP projects increased their exposure to donor-funded procurements and programming. Some respondents, such as in Uganda and Niger, noted the positive impact on their bottom-line from participating with the LRP projects. The Nigerien respondents reported significant increases in sales and noted they had hired staff to deal with the extra sales. Some had opened bank accounts which they would not have done without the project. Those in Uganda mentioned reinvesting their LRP profits and also improving record-keeping. Voucher schemes are of little interest to large-scale traders because they do not generally want to spend time dealing in retail quantities to individual householders, but small-scale traders have an incentive to fill this niche, and three projects procured through small-scale traders via voucher schemes.

3. Impact on Project Recipients and Low-Income Consumers

Statistical analysis from projects reporting on market impact in distribution zones found no significant effect on local market prices due to distributions in Bangladesh, Cambodia, Nicaragua, Niger and Zimbabwe. In site visit countries, data from a simple survey of non-beneficiary market shoppers also showed no impact on prices.

Project recipients interviewed during site visits reported that the LRP food aid was necessary and helpful for their households. In Niger, beneficiaries receiving vouchers stated that they enjoyed the autonomy to choose which commodities to purchase, the quality of those commodities, and the consistent, sufficient supply. In other sites, LRP beneficiaries reported that food distributions generally reduced the amount of piecework they performed on local farms, and allowed more time to be spent on production on their own plots of land. Respondents also cited spending less money on food, instead shifting spending to education and other household goods, such as soap and salt. The voucher system used in Uganda increased food availability in the communities where beneficiaries and low-income consumers lived. It led to traders opening new stores near voucher distribution sites to capture the business of those who had more money to spend on non-staples.

Food for work participants in Guatemala and Cambodia said they valued the results of the infrastructure projects they carried out in their countries. In fact, in Guatemala nearly everyone participated in the food for work activities, though only a percentage were required to participate. In Cambodia, the irrigation ponds improved the conditions for rice cultivation, on which the majority of residents depend. The ponds and the voucher scheme also offered an alternative to leaving the village for day labor.

4. Host Country Government Market Interference

Over the course of 2009 – 2011, government participation in staple food markets directly or tangentially affected LRP operations in several countries. The government actions included overvaluing the national currency, imposing trade restrictions, buying and selling staples, setting ceiling and floor prices, taxation and regulation of commerce, and corruption. Though the LRP projects generally involved small purchases relative to market size, and were therefore less vulnerable to effects at a national level, some of these issues bore directly on field projects' operations. There are infrequent examples in the data of effects from government interference, as when political considerations in Zambian elections interfered with commodity deliveries. From the perspective of monitoring efforts, these acts of government interferences also represent a diverse range of exogenous variables operating on the market, each often difficult to quantify.

5. Evaluating Market Impact

LRP market impact analysis sought to detect price changes due to the projects' purchases or distributions, and is specific to population groups for whom the projects wish to "do no harm." Accurately collecting, interpreting and utilizing market impact data proved challenging for the LRP projects at times, and some targets of the survey research – notably market vendors – were said to have been fatigued by the requirements of data collection. Resulting data quality is admirably strong for some LRP projects, and thinner and weaker for others. Establishing methods for collecting and analyzing these data was important for the pilot and will be vital for ongoing efforts in LRP to meet the standard of "doing no harm." All LRP projects collected time series data, a process that was challenging in terms of time and effort and in terms of the quality and comparability of data across projects. With the Learning Alliance, a set of PVOs pooled resources to collect data and conduct analyses in a parallel fashion.

Response analyses also helped participants choose from among various methods for given sets of conditions by providing a framework within which to capture and utilize data at a level that fits conditions and assures an appropriate level of vigilance. Good secondary data was available in some markets. In others, however, using control markets may provide a testable level of confidence about potential impacts of LRP in which differences between treated and control markets can be compared in time to moments of LRP activity. Participants also used interviews with project beneficiaries as part of their data collection strategies, to understand the perspectives of those whose welfare is directly affected by changes in market prices.

It would be ideal if the Learning Alliance's sophisticated econometric analysis for LRP projects, provided by Cornell University, were to be available for any future LRP projects but, given this technique's resource intensity, this seems unlikely. There were also challenges to the profitable use of regression analysis, particularly in (a) the rigorous requirement for high quality data with robust time series data and in (b) quantifying contextual impacts – as from policy shifts and political events – into the regression. This type of analysis would be best used in cases where data was easily available, where there was the possibility of answering important operational questions, and where it could contribute to developing an econometric toolkit specific to LRP. It would have been prudent to accompany the control-market methodology with some regression analysis focused on a small number of carefully chosen projects.

Commodity Quality and Acceptability

1. *Recipients of LRP food aid always preferred it to foods sourced from elsewhere.*

Beneficiaries found LRP food aid more familiar and suited to their tastes and food preparation procedures. The few complaints recipients voiced about food provided by LRP projects focused on implications for preparation cost and time when they received unfamiliar varieties of familiar commodities.

2. *LRP participants instituted quality-control systems.*

Actions implemented by LRP project participants ensured that food reaching beneficiaries was of good quality in a wide range of challenging environments. This was partly due to short storage times and partly to good oversight of storage and handling. Participants worked with government and private testing laboratories, in-country and in neighboring countries, incurring relatively minor start-up costs and delays that rarely constrained the food pipeline.

3. *The testing of food for voucher projects was a challenge.*

One exception that was a challenge was the testing of food for voucher projects. The numbers of approved vendors and commodities across a voucher program made adequate sampling for testing difficult and expensive. Participants who instituted additional training for approved vendors, stricter criteria for participation, or capacity building on quality aspects of their operations experienced no quality-related issues with vouchers. Participants used other approaches to successfully manage the costs of monitoring food quality in voucher projects including randomized testing, sampling to establish quality trends among vendors, engaging partners (e.g., government agricultural services) to draw samples and test quality, and conducting initial testing in the field with trained project staff while simultaneously sending samples to qualified laboratories.

Local and Regional Procurement Compared to In-Kind Food Aid

1. *Timeliness and Cost Comparisons Overall*

LRP has a clear advantage in terms of timeliness, whether for emergency or development projects, and across commodity categories and regions. First and foremost, in-kind shipments take longer because of transoceanic transport; other factors can include customs and port clearance, as well as inland transport and additional customs

clearance at border crossings. Across all commodities, procurement approaches and response types, the average procurement time for LRP was 56 days compared to 130 days for in-kind shipments.

2. *Transport, Storage and Handling (TSH)*

TSH costs were a greater proportion of overall cost for in-kind (49%) than for LRP (21%), and highly variable by commodity type. In emergencies, TSH costs for in-kind shipments are an even greater proportion of overall costs, particularly for unprocessed cereals. This had a strong effect on costs for in-kind shipments in emergencies. For LRP, the TSH costs were more stable, only varying two percentage points between development and emergency procurements.

This evidence suggests that LRP is a viable option for emergency projects to take advantage of both time and cost savings. However, the effect of commodity category on cost was still a factor and a choice among procurement approaches should rest on a response analysis that considered the cost and time efficiency of options based on the commodities to be procured.

3. *Commodity Categories*

For all five commodity categories, average commodity costs for LRP were higher than in-kind commodity costs. However, in-kind food aid's transoceanic shipment contributed considerably to overall costs, and for four commodity categories, procurements through LRP projects were significantly less expensive overall. The total costs associated with LRP were lower than with in-kind food aid for the following commodities: unprocessed cereals ($657/MT for in-kind and $425/MT for LRP), milled cereals ($748/MT for in-kind and $615/MT for LRP), FBFs ($966/MT for in-kind and $812/MT for LRP) and pulses ($1,229/MT for in-kind and $844/MT for LRP). Total in-kind costs were slightly lower ($100/MT, or 5 percent) for vegetable oils. Where LRP had the cost advantage, the high in-kind transport costs were the deciding factor. LRP projects procured much more frequently from among the unprocessed commodity categories, while in-kind participants procured much more frequently from among the processed commodities categories. Whether this pattern emerged from explicit decisions about cost effectiveness or not, it does suggest that LRP and in-kind participants are often selecting the most appropriate procurement modality from a cost efficiency perspective.

4. *Procurement Approaches*

In-kind shipments incurred similar average commodity costs for emergency and development projects. LRP, on the other hand, had greater variation in commodity cost across the two response types. This can be attributed, in part, to the range of procurement approaches used by LRP to achieve its ends, such as using direct purchase or soft tenders with targeted suppliers to increase their market participation. The competitive tendering that dominates in-kind purchases in the U.S. resulted in a more stable set of prices for the same commodities.

Overarching conclusions

The USDA LRP Project encouraged responses tailored to conditions on the ground in each of the 20 sites, and no two of the field projects were the same. However, some patterns among the approaches do emerge among the participants and projects. These patterns, described briefly below, do not cover all of the LRP projects from the pilot, nor do they capture all of the issues that may be relevant across multiple LRP projects. They do, however, show some of the range of project types demonstrated in the field and also provide lessons learned from the USDA LRP Project. Three such models are described below.

Fast emergency responses

Procurement costs for emergency projects were generally higher than for development projects, as in Central Africa's regional purchases. Import parity prices in these cases were higher than locally available commodities, but

purchasing regionally avoided any possible harm that might have been caused by purchasing in local markets that may have been widely affected by crisis and therefore driving up local prices.

Where surplus markets or surplus commodities exist, these fast emergency responses were not more expensive – as in Pakistan, where WFP's purchase of government surplus wheat in the recipient country was both economical and fast. CRS' project in Guatemala also procured very quickly, though commodity costs in Latin America were typically higher.

Slower projects with capacity building and targeted purchases

A set of development-oriented field projects also tended to incur greater than average procurement costs but pursued development objectives in addition to procurement objectives by aiming to build producer capacity and market participation. Examples of this model are seen in WFP's P4P projects in Mali, Tanzania and Malawi; Land O'Lakes' development of manufacturer capacity in Bangladesh; and FCF in Nicaragua, which improved the nutrition and dietary diversity of school children while supporting small producers and traders in distribution zones. The intent of such activities, in improving capacity of local producers and suppliers, was to have an overall and long-term effect of contributing to countries' abilities to minimize food insecurity.

Voucher programming in well-integrated markets

Six of the 20 LRP projects used voucher programs. Although this number is not large and the data are thin, the projects stand out as having particularly short procurement times and low procurement costs. Participants successfully implemented vouchers projects in emergencies as in the case of Mercy Corps' and CRS' projects in Niger. In development programming, participants were able to include innovative components tied to local needs such as World Vision's work linking returnees in Uganda to social support networks; IRD's food for work scheme in Cambodia that resulted in the construction of irrigation ponds in a drought-prone province; and CRS' efforts to empower parent-teacher associations to purchase locally in Burkina Faso.